



# THE BILL KOCH YOUTH SKI LEAGUE PARENT/LEADER MANUAL



Dorcas D. Wonsavage  
November, 2005

## For the Love of Our Children

There is hardly a higher calling than raising children. The experiences children have growing up come from choices, behaviors, and attitudes of adults in their lives, and these experiences become the very foundation of the rest of their lives. By exposing our children to cross country skiing, we can help build in them a love of health, sport, nature, winter and freedom that will enhance their lives.

A love of skiing will be a lifetime friend for our children. Free heel skiing lets the body find fluidity and efficiency over snow. Under our own power we glide and float through whiteness. Who says people can't fly?

A love of health will give our children a standard for mental and physical fitness. Nordic skiing requires we use our whole bodies, strengthening our cardiovascular systems in addition to our muscles. The simplicity and purity of the XC motion allows each skier to focus on the mind-body connection.

A love of sport, competitive or recreational, opens the door to fun, play, and joy. Positive skiing experiences for all our children is paramount. Not everyone can come in first, but everyone can challenge him or herself, learn from experiences, encourage each other, and celebrate together.

A love of nature connects our children to the world. When we ski, we work with nature; we dress and wax for the day, we choose trails and routes that make sense in the conditions, and we strive to move efficiently through the landscape. As our reward, we witness nature's beauty and power: in the woods, on mountain tops, over frozen lakes and rivers, and above us in the storm, stars or sun that occupy the sky.

A love of winter allows our children to live fully all year long. Many people insulate themselves from winter, but skiers revel in the snowy season. They get outdoors, they make their own warmth, they breathe deeply, and they sleep well at night.

A love of freedom leads children to self-expression, respect for others, and curiosity which will enrich every aspect of their lives. There is something liberating about donning skis and floating over the snow... *Free the heel and the mind will follow!*

All for the love of our children.

Kate and Bill Koch

(right): Bill signs warm ups at the  
2003 New England Bill Koch League Festival, Putney, VT



## The Bill Koch Story

'Kochie' was born June 7, 1955 in Brattleboro, VT, and grew up in Guilford, in southeastern Vermont. He and his younger brother, Fritz, used to race the school bus to The Putney School. Originally, Bill was a nordic combined skier, terrific in the cross-country portion and pretty good in ski jumping. But, when he was just age 16, he just missed the 1972 Olympic Team - he would have been the alternate. So Bill decided to focus on cross-country skiing. Four years later, at the 1976 Winter Olympic Games in Innsbruck, Austria, he was the Olympic silver medalist in the 30-km race. And his name became a household word, forever associated with the sport of cross-country skiing.

After rocketing to success, though, his skiing was hobbled by an asthmatic condition. But he returned for the 1979 season, competed in the 1980 Olympics in Lake Placid, NY, and then, with Coach Mike Gallagher's approval, took off the 1981 season so he could try something different. When the first World Cup season was staged in the winter of 1981-82, Bill won four races and captured that first official World Cup title. Bill was back on top.

Prior to 1981 there was only one technique in cross-country skiing, the "diagonal stride," in which both skis stay in prepared tracks. But while competing in a race on a frozen river in Scandinavia at the end of the 1980 season, Bill was surprised to see a Swede, Bjorn Risby, go sailing by him with a different technique. Risby had one ski in the track, but was pushing off to the side, like a speedskater, with his other ski. The technique was faster. Risby won the race and Bill decided he had to learn the technique, which was known as "the marathon skate" or the "Siitonen Step," named for Finnish fireman and ultra-distance racer, Pauli Siitonen. He perfected the technique in the Winter of '81, then jolted the international community in '82 when he used it to win in Le Brassus, Switzerland.

From 1982 to 1985 there was huge controversy over the skating technique. Norway, the Soviet Union, and several other countries claimed it wasn't "Traditional", while Gallagher and then Canadian Coach, Marty Hall, led the opposition with the counter-argument, "How traditional are fiberglass skis and kevlar poles?" They also pointed to the central element of racing - the idea is to go from Point A to Point B in the fastest time. Controversy raged. Almost every race was a verbal battleground as Norway - which had the political muscle - tried to have "skating," made illegal. Some races were designated "free" and any technique was okay. Other sites produced machine-made snow berms, or installed netting alongside the tracks to prevent the side-step. Finally, at the 1985 World Championships in Seefeld, Austria, outside Innsbruck (coincidentally, the same site where Bill had won his 1976 Olympic medal), the issue was decided by the weather. There had been little snow that winter, so when the Championships began, organizers were unable to set machine-made tracks, lest they churn up dirt and create a kick waxing nightmare. They had to leave the tracks un-set. Every race became a skating race. Then and there the final agreement was made - half of all races would be "free technique" ( freestyle, or skating), half would be "classic" (diagonal stride, skis striding in machine-set tracks). Even relays would be 50-50 - the first two legs classic, the last two skating. At that point, tracks were still left in during "Freestyle" races, so skiers could choose to skate or to classic. Only later were Freestyle races groomed without tracks. Coincidentally, Bill didn't compete in 1985, but he was in Seefeld, serving as race analyst for ABC-TV with Al Trautwig.

“I didn’t invent skating,” Bill is always meticulous to say, “but I did help popularize it.” In the United States Koch put the sport of cross-country skiing on the big stage twice. Once when he collected his Olympic medal in 1976 and again in 1982 when he made Europeans realize that skating could be used at any distance, not simply long distance races. The sport has never been the same.

Growing up in southern Vermont, Bill loved to ski and jump and play on skis. He was on his skis every chance he got, even skiing to school. Each year Bill skied a little more and raced a little faster. When the snow melted, he ran, biked, and hiked with his ski poles with the dream of one day being the best skier he could be. That dream took him all the way to the Olympics, a silver medal, and an overall World Cup win. And he took that dream back to Vermont, where he continues to share his dream and his love of skiing with everyone he meets. In New England we are honored to call our youth ski program the Bill Koch Ski League. He is an inspiration to all skiers, young and old.

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Paul Robbins, a freelance writer in Weathersfield, Vt., was nordic correspondent for the U.S. Ski Team in 1982 and has covered every Winter Olympics since Lake Placid in 1980.



## **The New England Bill Koch League Mission Statement**

The mission of the New England Bill Koch League (NEBKL) is to introduce young people to the lifelong sport of cross-country skiing with all of its recreational, social, fitness, and competitive opportunities.

### **The Bill Koch League Teaching Philosophy**

The New England Bill Koch League believes that children should have the opportunity to have fun while learning to cross-country ski. The NEBKL believes in creating a safe and healthy environment where children can develop physically, psychologically, and socially. All NEBKL activities and competitions are designed to teach each young athlete to participate to the best of his or her respective abilities.



### **NENSA and the NEBKL**

The New England Nordic Ski Association (NENSA) is the parent organization of the New England Bill Koch League -- Bill Koch League skiers are the youth skiers of NENSA. NENSA provides support for BKL members and club leaders in the form of annual membership benefits, insurance, and a range of educational and competitive programs for individuals and clubs. BKL District Chairs form the BKL Committee of the NENSA Board. One of the members of the BKL Committee is a NENSA staff member oversees NENSA's youth programming.

### **The NENSA Mission Statement**

It is the mission of the New England Nordic Ski Association to implement educational, recreational, and competitive programs at all levels of cross-country ski racing. NENSA works to create and sustain a vital and active skiing community in New England, and to provide the support structure necessary to bring athletes to their highest potential at regional, national, and international events.

## Acknowledgements

The BKL Manual began first as a project by the US Ski Association in 1990-1992. Working for USSA with a grant from the Olympic Job Opportunities Program, Dorcas D. Wonsavage oversaw the first draft, which was never published. We are indebted to Luke Bodensteiner, USSA Nordic Executive Director, for graciously allowing NENSA to access these materials. In 1999, edited by then NENSA Executive Director, Fred Griffin, the New England Bill Koch League Manual was finally printed. Since then it has gone through two more revisions as BKL parents and leaders have requested more information.

In an effort to make the BKL parent/leader job easier and more fun, this Manual has grown to address many aspects about cross-country skiing, how to teach it well, make it safe, and make it fun. Many thanks go to: Zoe Erdman, Zach and John Caldwell, Michael Soules (Teaching), Mary Anne and Jim Levins, Carol VanDyke (Mini Marathons), Judy Geer (Ski Fests) and Frank Edelblut (Temperature Guidelines), Phil Savignano, Donna and Morgan Smyth (Games), Caroline Mathes (Nutrition), John Farra (photographs, Fun Ski Fests), Fred Griffin (Editor, 1st edition, Coaching Multi-levels and ages, Stretching), and Paul Robbins (history).

But first and foremost, we thank the BKL parent/leaders who, winter after winter, organize their kids and clubs, and inspire, motivate, teach and play on skis with their kids. The parent/leader is first to introduce children to nordic skiing, so they are the most important source of information - and thus, so must be this Manual.



The New England Bill Koch League is the largest, and best, cross-country ski program for young people in the United States. Whether a child loves the adventure of cross-country skiing, of playing with friends on skis, or wants to grow up to be a ski racer, the New England Bill Koch League has something for him or her. This Manual is designed to assist you in setting up a Bill Koch League club. It provides guidelines and resources to meet the needs of a first-time organizer or of a person who is seeking to revitalize an existing club. We recognize that every club will evolve differently; every club should and will develop its own character. And yet there is a common ground. Every child in every BKL club across the region should leave his or her club activity with the same sense of how much fun it is to cross-country ski. That's a tall order, but don't let it intimidate you. Children know how to have fun on skis. Everything you read about working with children in this Manual is directed at helping you help this to happen.

Some clubs and some groups of young skiers within a club will want to be involved in the competitive side of cross-country skiing. The Manual will show you how to integrate competition into club activities, and how to organize and execute successful racing events at the club level. But remember, competitive activities must be securely grounded in the recognition that *success is defined by effort, not victory*. Whether it is a learning activity, a game, or a competitive event, each child should be taught to compare his/her progress against his/herself. The bottom line is that everyone who works hard is a winner. The primary goal for this age group is that they have fun, so that they want to make skiing a way of life as they become adults.

## **The Purpose of the NENSA Bill Koch League Manual**

The purpose of the NENSA Bill Koch League Manual is:

1. To provide assistance in creating or revitalizing a BKL Club
2. To provide a learning model and plans for assisting children in learning to ski
3. To provide games and non-competitive events to assist with learning by doing and make skiing fun
4. To provide a guide for setting up competitive youth ski programs
5. To provide a variety of informational resources for all aspects of introducing youth to cross-country skiing

The BKL Parent/Leader Manual focuses primarily on BKL Clubs and beginning skiers, ages 3-13. Advanced youth skiers, ages 14 and older, or the serious racer looking for a structured development program should contact the NENSA Program Office.

NENSA Administrative Office  
New Gloucester Hall  
49 Pineland Dr. Suite 301 A,  
New Gloucester, Maine 04260  
phone 207-688-6503  
info@nensa.net



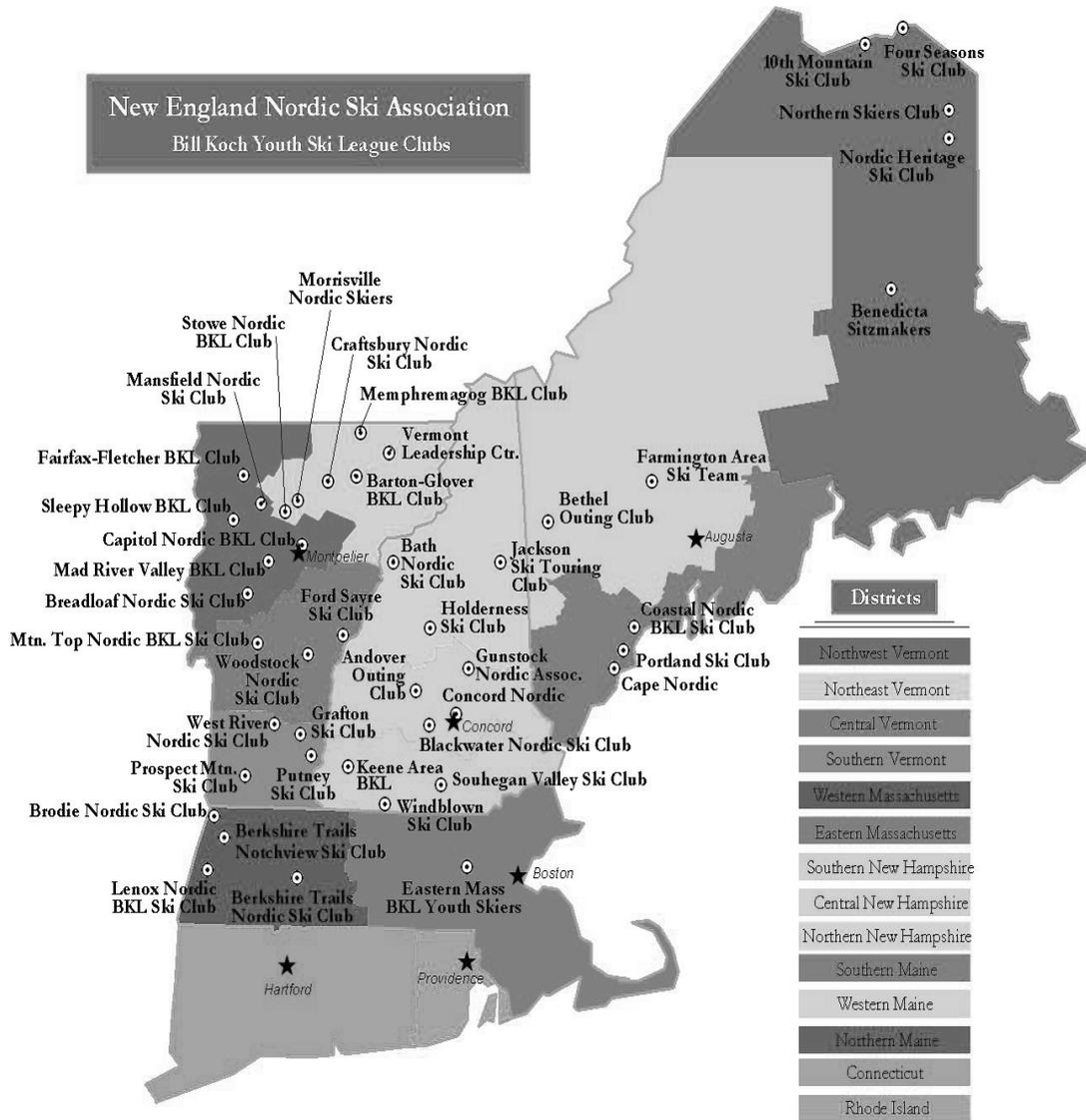
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# New England Nordic Ski Association

Bill Koch Youth Ski League Clubs



Credit: Poppet Boswell, Putney Ski Club

## **Chapter I**

### **Starting Up: Beginning or Reviving Your BKL Club**

In this section you will learn how to lay the groundwork for a successful BKL Club

## Starting a Bill Koch Club

Creating something where nothing has existed is challenging. For that reason, this Manual walks you step by step through the process of starting a Bill Koch League club. But you need to be aware that there is help available from a number of other resources as well.

### Where To Get Help

#### NENSA Administrative Office

The NENSA Administrative Office is a great general resource and should be your first call any time you have questions. The club registration and membership forms you will need to file are available at the NENSA Office, as is the New England Bill Koch League Manual. NENSA staff is on hand to supply you with contact information concerning the Chairperson for New England Bill Koch League, BKL District Chairs, and other BKL Club Leaders, along with basic advice such as how to timeline your start-up efforts with other clubs in region. Festival information is continually updated at the NENSA Office as well. You can contact the NENSA Administrative Office by phone: 802-654-7498, fax: 802-654-7830, or email: [info@nensa.net](mailto:info@nensa.net)

#### NENSA Website

The NENSA Website, [www.NENSA.net](http://www.NENSA.net), is loaded with information about cross-country skiing in New England, much of it pertinent to youth skiing. In addition to a BKL page, the NENSA website will have information about upcoming clinics and camps for BKL leaders, parents, and children.

#### New England Bill Koch League Personnel

The NEBKL is staffed by volunteers whose love for the sport has led them to work for its success. NEBKL is structured in this way:

- New England Bill Koch League Chairperson: heads the New England BKL Committee
- BKL District Chairpersons: constitute the BKL Committee and represent the clubs in their area.

The Districts in New England currently consist of:

Northern Maine - NOME

Western/central Maine - WEME

Southern Maine - SOME

Northern New Hampshire - NONH

Central New Hampshire - CENH

Southwest New Hampshire - SWNH

Northeast Vermont - NEVT

Northwest Vermont - NWVT

Central Vermont- CEVT

Southern Vermont - SOVT

Eastern Massachusetts - EAMA

Western Massachusetts - WEMA

• BKL Club Leader: within each district there are a varying number of clubs. Each club has a club leader. The NENSA Office can send you contact information on all of the people listed above, including club leaders. Or you can find a list of Club leader contacts at the NENSA website. They will share their experiences with you and help you with any questions you might have.

## **The Role of The Club Leader**

The BKL Club Leader plans, organizes, and directs BKL activities at the local, or club level. Skillful leaders appreciate the benefits of delegating responsibility, so not all of the tasks listed below need to be done directly by the leader him/herself— but all come under the broad job description of a BKL Club Leader:

- plans or supervises planning of indoor and outdoor activities of the club
- arranges the schedule and meeting place for club sessions
- involves and coordinates parent's participation in the club
- supervises/assists with enrollment and registration at the local level
- registers club with NENSA
- provides liaison with District Chair and NEBKL Chairperson
- conducts and evaluates club sessions
- awards prizes or patches at end of season

## **Recruiting Volunteers**

### **You Don't Have To Go It Alone**

Successful BKL Clubs tend to have one leader or co-leaders, but clubs are organized and run by a host of volunteers working under the leader's direction. Many volunteers will be parents of club members, but help can be found within the skiing, fitness, and service communities wherever you live.

### **Where to Look for Help**

- town recreational departments, or YMCA/YWCA, or service clubs, eg. Lions, Rotary, etc.
- high school cross-country ski program(s); if your area has a high school x-c ski team it can be an invaluable resource. Many high schools skiers love to work with younger children and many of them will have younger brothers and sisters— if you are fortunate you may end up recruiting parents, instructors, and skiers in one contact.
- ski shops, sporting goods stores, x-c areas may all be interested in supporting a local BKL Club
- NENSA Administrative Office can provide you with the names of local NENSA members
- teachers and physical education instructors in particular in elementary and middle schools
- local fitness centers and outing clubs

### **The Mental Side To Recruiting**

The first step in recruiting is understanding exactly what it is you are doing and what it is you are not doing. You are **not** selling anything. You are **not** asking for money. You are **not** being bothersome or imposing on people. You **are** providing a service to your community. You **are** giving people an opportunity to become involved in working with children in fun and exciting ways. You **are** giving parents the chance to join in with their children in a health-affirming activity. You **are** giving businesses and service clubs a new means of interacting with their community.

Be happy in your work. Feel good about the good things you are doing. You are engaged in helping others. When you feel comfortable with this, you are ready for the next step.

## How To Recruit

The formula is tried and true. In order of effectiveness, the best ways to recruit people are:

- Personal contact
- Telephone
- Letter
- Flyer/Advertisement/Public Service Announcements
- Email

Make your contacts positive in tone. Get right to the point:

“I’m interested in starting up a cross-country ski program for children. I’m looking for some help to get things underway. Don’t worry about knowing how to ski. All you have to do is to like kids!”

Don’t be afraid to talk about the sport. Its elements are compelling:

“Cross-country skiing is terrific fun—and it’s an activity that can involve the whole family. It’s safe. It’s recreational, but offers competitive options for those who want them. It’s educational and healthy and environmentally sensitive—you’re not going to find a better lifetime sport.”

Have a brochure or flyer to leave behind. It should have your name and phone number, of course, but it should also have the date and site of your informational meeting. An informational meeting is your next step because once you’ve recruited a pool of potential volunteers you’ll need to educate them and organize them.



## Club Organizer's Meeting

This is the first watershed moment in your efforts to start a BKL club. This is when you turn a collection of individuals into an organized team. What follows below is a sample agenda for your Club Organizers meeting. Do your homework so that you have preliminary information to facilitate discussion at every point.

### I. The Reason for the Meeting

A. Introduce guests/volunteers

B. Explain the New England Bill Koch League and its parent group, NENSA

1. distribute printed materials
2. explain BKL Philosophy

C. Discuss starting a club; determine the will of the group

D. Outline Club Needs

1. choose facilities, indoor and outdoor
2. inventory jobs and people to fill them
  - a. membership
    - 1) recruiting/promotion
    - 2) tracking/database management
    - 3) signing membership forms, liability release forms, collecting money
  - b. officers/leadership roles
  - c. coaches, instructors, chaperones,
3. cross-country equipment for kids and parents; loans, rentals, special deals, etc
4. accessories, eg, waxes, first aid, game equipment, bibs or banners; trail markers, etc.
5. grooming— how, who, when, where, with what?
6. travel: car pooling?
7. financial
  - a. club fees/NENSA fees and what they will cover
  - b. sponsorship from local businesses and clubs
  - c. competition fees/awards
  - d. fundraising possibilities: car washes, bake sales, etc.

### II. Planning the Club Program

A. Outline goals

B. Assign Duties

C. Compile list of Action Items and time-line their completion (who does what by when)

## **Recruiting Skiers**

You've organized a working group. Everyone has assignments— things to check on and things to do. Of all the tasks which lie ahead, the single most important job is to find children. It's pretty straightforward. No kids, no club. But before you begin to talk to people you need do some planning. Be aware that there are three primary gates through which kids enter BKL and three basic reasons why they do so.

### **Where the Kids Come From**

They come to BKL clubs through:

- their parents
- peers who are in BKL
- their school and/or youth group or club

### **Why the Kids Come**

The reasons they come (and stay) are:

- because it's fun and exciting
- because it's a cool thing to do outdoors in winter
- because their friends do it
- because their parents share a love of winter and cross-country skiing - there is support at home

### **Targeting Kids for Your Club**

Be aware that you will need to have the permission of those in charge of school and community groups before you approach the children involved in them. You should probably start with the principals of elementary or middle schools, but be prepared to talk to the school board, especially if you plan to use school grounds for club activities. Try looking for skiers in:

- youth groups, eg, boy/girl scouts, church groups
- school clubs
- summer and fall sports teams
- recreational centers
- dance, gymnastic, swimming programs
- through parents

### **Promoting Your Club**

No matter how many adults, children, and groups you contact personally, you— or your club's publicity committee— still need to be able to promote your club, and to advertise its initial meeting and subsequent events, in a wider arena. This means employing available mass venues, such as:

- newspapers: use for Press Releases (see below) and Public Service Announcements (PSA's)
- radio: PSA's and maybe a local interview show
- schools: daily announcements, posters, school tv channel
- local tv channels
- NENSA website
- community bulletin boards
- local businesses

### Sample Press Release

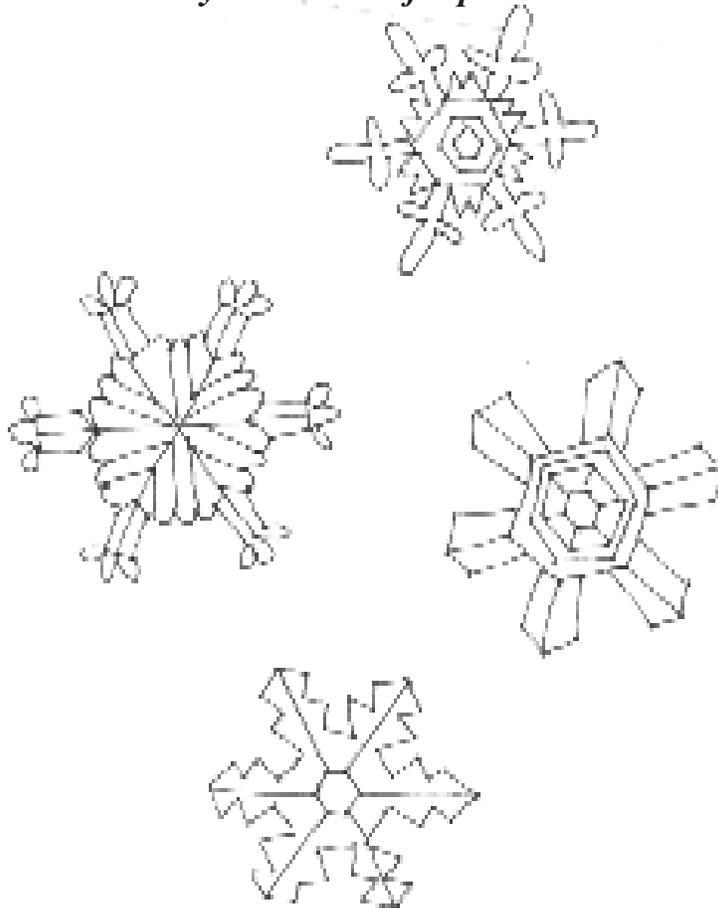
Newspapers appreciate the personal approach. If you want your news release to make it to the paper when and where you want it, you need put in the hand of the sports editor. What follows is a sample press release for a club's first meeting with children. It can be modified in any number of ways. If you are still waiting for snow, you might want to just hold an information meeting followed by dryland games and sign-ups for the club at the end.

Photocopy the following page, fill in your information, and fax it to your local radio stations and newspapers.

### What Parents Need To Know Well Before Practice

- time and place of practice
- any special costs
- special transportation needs, eg carpooling
- special services you might require of them
- clothing and food/water needs of their children (cc the Clothing and Nutrition chapter for them)

***Getting The Word Out Early - Before the First Snowfall!  
is the key to a successful promotion!***





**FOR IMMEDIATE RELEASE (or)**

For release \_\_\_\_\_  
(Date to be released)

Contact Person \_\_\_\_\_  
(your name)

Phone \_\_\_\_\_  
(home and work phone numbers)

Email \_\_\_\_\_

**XC Ski for Kids Day**

The \_\_\_\_\_ is sponsoring an XC Ski-for-Kids Day, on \_\_\_\_\_.  
(ski club name) (date)

Children ages 13 years old and younger are invited to attend.

This \_\_\_\_\_ introduction to \_\_\_\_\_ country-skiing will be held at \_\_\_\_\_.  
(length of time, eg. 90minute) (site)

on \_\_\_\_\_ at \_\_\_\_\_.  
( day/date) (time)

Instruction will done by \_\_\_\_\_, coaches for the \_\_\_\_\_.  
name(s) (touring center/club)

Activities will include cross-country skiing, ski games, and some waxing and equipment hints.

Children should be dressed appropriately for the weather and should bring their own ski equipment if possible. There will be some equipment available for loan on a first-come, first-served basis. To reserve this equipment call \_\_\_\_\_.  
(phone number)

Parents and any interested cross-country skiers in the community are encouraged to attend, to watch, or to help with the program.

There will be a short information session before/after the clinic outlining the \_\_\_\_\_ Bill Koch League Club schedule for the coming winter.  
(club name)

Sign-up for the club is possible at this time.

In case of bad weather the clinic will be held at \_\_\_\_\_. For more  
(alternate site)

information, contact \_\_\_\_\_ at \_\_\_\_\_.  
(name) (phone number)

## **Chapter II**

### **Teaching & Training Young Children**

In this section you will learn how to create a positive and effective learning environment in which children can have fun learning to ski

## Teaching Children

In this section the Children's Bill of Rights and the BKL Teaching Philosophy are reviewed. The roles of the Club Leader and parents in implementing sound teaching practice are examined. You are introduced to the guiding principle of BKL instruction: **Learning By Doing**. A compendium of "Do's" and "Don't's" summarizes much of what you need to remember when working with children.

### Centering Instruction Around The Child's Needs

#### Children's Bill Of Rights

- The right to participate in sports regardless of ability level
- The right to participate at a level appropriate to individual skill development
- The right to qualified guidance/leadership relating to present participation and future development
- The right to participate in a physically, psychologically, and emotionally safe environment
- The right to an equal opportunity to strive for success
- The right to play as a child not as an adult
- The right to proper preparation for an activity or sport
- The right to decide when and where they wish to participate
- The right to be treated with dignity by all involved
- The right to have FUN through sport

### Bill Koch League Teaching Philosophy

The New England Bill Koch League believes that children should have the opportunity to have fun while learning to cross-country ski. The NEBKL believes in creating a safe and healthy environment where children can develop physically, psychologically, and socially. All NEBKL activities and competitions are designed to teach each young athlete to participate to the best of his or her respective abilities.

### What It Means

The leader-teacher-coach/athlete relationship is a privileged one. The capacity for healthy growth and the potential for joy are enormous. But it is equally true that there are few times in the life of young people when they are more vulnerable to disappointment, frustration, and feelings of inadequacy than when they are participating in sports. Children need to learn and perform in an encouraging environment. In the New England Bill Koch League we believe that skills are learned, not driven home. Attitudes are nurtured, not dictated. Club practice and club activities should be welcoming places.

### Learning By Doing

In the remainder of this section and in forthcoming sections you will be given a number of instructional guidelines along with lists of Do's and Don'ts. These are to assist you in building your club program. But don't lose sight of the one thing you need to know to instruct young people to ski successfully. Everything you read and everything you do as Leader/Coach/teacher needs to be underscored by the fundamental understanding that the vast majority of children **Learn By Doing**. Learning by doing should be your primary teaching style— though you will need to make adjustments for children who learn differently.

## **Aptitude Areas vs. Skills/Techniques**

Aptitudes are talent areas. The development of aptitudes leads to the formation of skills. The aptitude areas involved in cross-country skiing are balance, coordination, agility, ability to imitate, flexibility, strength, and feel for the snow. Aptitudes are not developed and refined through teaching, they are learned, and they are learned by doing. In general, they are best learned and developed by children unconsciously in games, in the form of fun-play with peers.

Skills/techniques involved in cross-country skiing are herringbone, snowplow, double-pole, step-turn, etc. They are most effectively learned through the ongoing process of imitation and self-application, imitation and self-application, and as components of games which highlight a particular technique. Actual instruction— that is point-by-point teaching, is frequently the least effective way to teach technique. The younger the child and the less experienced the skier, the more this is true.

What this means in simplest terms is that children who develop their aptitude areas through play and exposure to others who ski well, will ski better than children who are “taught” to ski. The first group of children will intuitively grasp the rhythm and flow of the sport. They will be able to release themselves to the speed that is their natural gift. When the time comes they will assimilate technique, and integrate it smoothly into their skiing style.

The child who is “taught” to ski will tend to see the sport in terms of mastery of a repetitive series of wooden movements. They will tend to ski mechanically and struggle for speed rather than releasing themselves, relaxing themselves to it.

In short:

The development of aptitudes is the primary mission of BKL instruction.

The refinement of technique is of secondary importance.

## **The Role of the BKL Leader/Teacher/Coach**

### **Effective Leadership**

There is no single method that will work for everyone who coaches and leads children, but effective leaders/teachers/coaches share some traits and skills. They have:

- knowledge of what they are teaching
- a fundamental empathy for all levels of students
- some understanding of what it takes to motivate people

### **Individualization**

The best leaders/teachers/coaches recognize that every group is a heterogeneous collection of individuals. Insofar as is possible, they modify methods of instruction, and levels of expectation, for each member of the group, depending on his/her skills, talents, and personal goals. Ideally, each member of a group should have their own program. While this isn't always practical, the thinking behind it is critical— Think About The Individual even when you are teaching a group.

### **Separation**

A leader/teacher/coach has to separate the children from the sport. There are no skiers at a BKL

session. There are young boys and girls who ski. Some serious young athletes need to be reminded of this every day. If they aren't, their self-esteem becomes tied up in what they do on skis, not who they are. "I was no good in the game we played. I am no good." is the path their reasoning follows. The coach must never stop sending the message that all children are winners just by the act of participating

### **Relationship**

Healthy relationships between leader/teacher/coach and athlete should have a basis in friendship, trust, mutual respect— athletic performance and especially athletic outcomes should in no way affect coach/athlete relationships; the most gifted skier should receive no more time, or respect, or attention, or encouragement than the most athletically-challenged. There is no "first-string" or "second string" in life. Superior athletic skills are in no way wedded to superior character. The bottom line is that a coach cannot provide emotional or psychological rewards to an athlete based on talent or development of skills.

### **Modifying Teaching Styles to Match Learning Styles**

While "Learning By Doing" works well for most children most of the time, some children (and adults) will require more specific information, or additional modeling, or additional support to learn what is being taught. Watch for children who are confused and look to you for more help, watch for children who are just going through the motions but don't have a "feel" for the activity, and of course, watch for the children who just aren't getting it.

Whenever possible keep groups to no more than 10 children and have an assistant on hand who can give more direction or additional modeling to someone who isn't mastering the lesson. You may also want to have the assistant work briefly with the whole group while you give the one-on-one or small group instruction to the children who aren't learning by doing.

*Make special considerations for special children.* This is a sport that parents of kids with disabilities are drawn to, because it is supposed to be non-threatening. Make every effort to consider each child's perception of the sport, the weather, the group size, competition and the anxiety it can create in them. Give children who do not feel comfortable a chance to free ski or visit the slalom or jump hill, until they are ready to regroup. And/or in drills, let them work only 7 minutes if the rest of the group needs 15 minutes. On a longer ski, let them lead - never let them be last. This highlights the need for one or more parent/assistants to help the leader at every meeting.

### **Learning by Watching**

ALL children love to see themselves on video. Video-taping can and should be a part of many learning activities. Be careful of over-analyzing the skiers. Let the kids do the analysis once you've made your point. Encourage them to ask questions as well.

### **Leadership Style**

The best leader/teacher/coach commands and empowers. To create a safe and effective teaching environment, boundaries must be set and standards of behavior must be established in a fair and consistent way. These messages must be sent firmly, clearly, right from the start from a calm and decisive standpoint. But mixed in with the "command message" should be a "covenant message."

This means that when safety and proper behavior are observed then flexibility, friendship, mutual respect can flourish at the heart of the teaching/learning relationship. Children can provide their input on many matters as leader/teacher/coach and children work together to create a supportive, safe, and nurturing learning environment. Safety and discipline cannot be compromised, but the iron hand needs to be slipped inside a velvet glove.

### **Teaching Thoughts, Teaching Questions - by Michael Soules**

Effective teaching boils down to:

- 1) making observations
- 2) interpreting those observations (making sound decisions based on motor development and motor learning information - and from the child's feedback!)
- 3) making decisions based upon one's interpretations

- Know the children's names - know the children's names - know the children's names. No excuses.
- Young children can only take in so much information; young, young children take in less.
- General feedback is good; specific feedback is better. "Good job" is nice, but "much better weight shift" is better.
- Be prepared to give feedback right after giving feedback.
- Monitor the number of "tries" a child makes.
  - Do you teach the way YOU learn? If so, what about the children who learn differently from you?
  - Where does critical thinking on the children's part come into play? Are there things we know that we want them to discover?• Are all the kids using the same kind of equipment? How do you know?
- ***Make special considerations for special children.***
  - Ask the children how a practice/lesson went: Well? not so well? why?
  - Ask yourself if the lessons flow from one to another- why or why not?
  - Have an Emergency Medical Plan; bring other people in on it.
- There are times when, unfortunately, kids must be removed from class. Follow-up is important.
- Have the day end on a good note. Bring up behavior concerns at the beginning of a practice.

## The Responsibilities and Roles Of Parents

It is difficult to think of a sport that lends itself to family involvement more easily and thoroughly than cross-country skiing. Parental participation is a cornerstone of the NEBKL. It is not a coincidence that the children who stick with cross-country skiing are those whose parents come to ski with them, or come to watch them ski or watch them race. Without the cooperation and involvement of parents on all levels a BKL Club is hard-pressed to succeed.

### Responsibilities of Parents

- to transport children to and from club activities— be part of a car-pooling team if possible
- *to be sure children have the proper equipment and clothes, snacks and water*
- to be supportive and encouraging
- to participate in club activities as much as possible
- to encourage the efforts and progress of all skiers— not just their children
- to assist the club leader/coach in encouraging safe, responsible behavior
- to assist the club leader/coach in encouraging respect for others
- to assist the club leader/coach in encouraging respect for the environment

### Parent's Role in Club Activities

- to never force a child to race
- to remember that children ski for their enjoyment— not for their parent's
- to encourage their children to measure their own progress and not to compare themselves against other children
- *to teach their children that success is measured by effort, not victory*
- to congratulate and encourage all children
- to never publicly question a club leader's or race official's judgment

### Do's and Don'ts for Anyone Working with Children

#### Do:

- be flexible, patient, enthusiastic, supportive
- create a "safe" environment for children where their efforts are praised and where their failures are never ridiculed
- let children ski as much as possible every practice
- keep variety/creativity at the heart of every practice
- explore new terrain and skiing sites
- make adjustments to plans during practice relative to weather and children's interest
- provide only **brief** verbal instruction
- look in the children's eyes. Their eyes will tell you when you are talking too long
- give positive feedback from first moment to last
- watch each child for signs of fatigue, chill, or injured feelings
- ask the child, what does it feel like to them?
- encourage skiers to focus on their development and not on the progress of others.

- encourage respect for the environment
- insist that good sportsmanship, respectful conduct, and appropriate language are necessary to be part of your group
- teach that effort is the measure of success
- encourage each child to say something positive about his or herself before, during, but especially after a practice or a race

**Don't**

- be sarcastic for any reason; there's always a more effective approach
- create a "stage" where one skier is on display
- give long explanations
- let the children get cold.
- force an unwilling child to participate
- allow children to treat each other in verbally, psychologically, or physically abusive ways.



## Training Children

### Let's Play!

In the 'olden days' - when all parent/leaders walked to and from school, in the snow, uphill, both ways - after-school time was free, un-adult-erated play time. No carpooling necessary, we went to the empty lot and made up games of stick ball. We biked all over town, without helmets. We were locked outside the house until mom called us for dinner, or until it was too dark to see, and we built forts and imagined ourselves as Blackbeard and his crew storming the boys' fort and ransacking it for stale Fig Newtons © and slingshots. We had no adult controlling the development of our bodies, minds and behavior – it was allowed to happen naturally.

Nowadays, after-school play is controlled by adults, mostly out of necessity. It usually requires mom's car and an adult-organized sport, led by an adult. Bob Bigelow, who played for U. Penn's Ivy League championship basketball teams ('73, '74, '75) and the NBA for four years, is the author of the book Just Let the Kids Play. He points out that "When adults set up structures and systems for their children they looked at the only models they knew: varsity high school, college and professional sports. With adults at the helm, youth sport programs grew exponentially." But with the inclusion of adults in organizing childhood exercise we made several mistakes:

1. We organized their play to be like the adult play we remembered in high school, college and pro teams;
2. We demanded adult-like physical and emotional responses to the sport;
3. We took the games, the play, out and put the drills and the competition in.

Not only is their childhood lost, but so is an integral part of their physical, mental, and emotional development. Without the chance for their bodies to learn necessary physical skills, or their minds to discover a love of sport, it's no wonder so many of kids drop out, burn out, and leave sport, exercise, and general health and fitness, as fast as they can. As Bigelow points out, "An estimated 70% of children who play a youth sport end up quitting that sport by the time they are 13. It is perhaps in their name that we need to fight the hardest."



So what was childhood like? How did we play? Does anyone remember? The BKL Parent/Leader Manual is designed to remind you why we played, and how to do it again with kids on skis. The New England BKL program is designed to contribute to our participants happy, healthy childhood, and, whether they become a world-class athlete or a poet laureate, they have been exposed to the appropriate amount of physical exercise, group play, individual support, and given the appropriate time to fall in love with the sport, the season, the out of doors, for their level development.

## Growing Up Should Be A Game

“Childhood is the most physically active state of human development. Children like to play games and participate in physical activity and sports, and they certainly like to compete. . . . Coaches often become role models, and children dream of surpassing the achievements of Michael Jordan, Kurt Browning, Joe Montana, Tara Lipinski, Carl Lewis or Nadia Comaneci. It is, however, a grave mistake to submit children to the training programs of adults.”

In Preface to his book, Total Training for Young Champions, Tudor Bompa, Ph.D., bridges the gap between research and application, and between the hit or miss variety of youth sport to a long-term approach to children’s physical development and training. Bompa’s research supports the core philosophy of the New England Bill Koch League – that all kids should have fun while learning to cross-country ski, that they should do so in a safe and healthy environment, where they can develop physically, psychologically, and socially, and where they can participate to the best of his or her respective abilities.

“Children are unique at each stage in their development, with differing physiological capabilities at each stage of growth. The physical and psychological changes (at times abrupt) that occur at each stage are accompanied by critical behavioral transformations. It is important for anyone working with children to be well informed regarding all the physical, emotional, and cognitive changes they go through during the development stages, and to structure training that is best suited at each stage.” (Bompa, p. ix)

### Physiological & Psychological Development Initiation Phase, 6-10 Years Old

- Anaerobic capacities are limited; children have low tolerance for lactic acid accumulation
- Body tissues susceptible to injury; bone ends still cartilaginous and calcifying
- Attention span is short; children are action oriented - be varied and creative.
- Participation and fun should be emphasized over winning.
- Emphasize multilateral development – run, jump, catch, throw, bat, balance, roll, in a low-intensity environment.
- Provide every child adequate time to develop skills and equal playing time.
- Positively reinforce children who are committed and self-disciplined; reinforce improvements in skill development.
- Encourage flexibility, coordination, balance.
- Promote experiential learning - provide children opportunities to design their drills, games, activities, encourage creativity and imagination.



There is indeed a time when coaches should increase the volume, the intensity, the specificity, the focus of an athlete’s training program. But for skiers that is not until they have shown the biological,

mental and emotional preparedness to accept that level of training. This usually – usually – begins at ages 14-18, when kids are J2, J1 and OJs (in the U.S. ski nomenclature). For now, as Bill Kochers, they need to go through the “Initiation” or “Romance” phase, and learn the basic physical skills so they are ready to accept the next level of training.

“From early childhood to maturation, people go through several stages of development, . . . For each development state there is a corresponding phase of athletic training: Initiation (prepuberty), Athletic Formation (puberty), Specialization (postpuberty), and High Performance (maturity). While each development stage roughly corresponds to a typical age range, it’s important to understand that training programs must be designed according to the athlete’s stage of maturation, rather than chronological age. Children of the same chronological age may differ by several years in their level of biological maturation. Moreover, while an early maturing child may show dramatic improvements initially, often a late maturer will be the better athlete in the long run. Therefore, it’s important to look beyond the short term achievements, and let children develop at their own pace.” (Bompa, ix)

### ***Everyone is an Athlete at Some Time in Their Life.***

- Two children, the same chronological age, could be as far as two to six years apart, physiologically.
- *In your class of 10 year olds, there are kids who are biologically 6 years old and biologically 13 years old.*
- Do you ignore the “6 year old” and lavish attention on the “13 year old”?
- *Only 25% of kids who excel as juniors are still in their sport, and doing well, as adults.*



Consider Michael Jordan, who was cut from his high school varsity basketball program as a sophomore. Jordan grew six inches between his sophomore and junior seasons in high school, kept growing at UNC and went on to become perhaps the greatest player in the history of the game. “I had no idea all this would happen,” his father told the Chicago Tribune in 1990. “If I had, I might’ve pushed him too hard and screwed it up. As it is, everything happened very naturally.”

Robert Malina, retired director of the Institute of the Study of Youth Sports at Michigan State University, concurs. “Early identification of ‘talent’ is no guarantee of success in sports during childhood let alone during adolescence and adulthood. There are simply too many intervening variables associated with normal growth, maturation and development and the sports system itself.”

### **Time For Romance**

One such variable is learning to like the sport. In 1985 Dr. Benjamin Bloom collaborated with other researchers from the University of Chicago on a study to understand how world-class talent was developed. The 120 subjects in their study included concert pianists, sculptors, tennis champions, Olympic swimmers, research neurologists and mathematicians. Their results showed that successful individuals have similar learning and development phases, which they called the

Initiation, Specialization, and High Performance phases. Bloom noted that these same phases had been identified as early as 1929 by educational researcher, Alfred North Whitehead. Whitehead divided learning into three distinct phases: Romance, Precision, and Integration. The BKL years encompass the Romance Phase, which “is characterized by play, exploration, fun, and a time when children learn fundamental skills and develop a love for their chosen field, be it sport, music, art or academics.” (Gibbons, “Development of Excellence”). It is also a time when their first teachers and coaches inspired in them a love of the sport or activity, taught them the value of hard work, and provided many opportunities for success and provided immediate rewards.

### **Periodization of Training**

Bompa, Total Training for Young Champions, p. 22

#### MULTI-LATERAL DEVELOPMENT PERIOD

- Initiation Phase
  - o 6 to 10 years old
  - o Pre-puberty
- Athletic Formation
  - o 11 to 14 years old
  - o Puberty

#### SPECIALIZATION PERIOD

- Specialization
  - o 15 to 18 years old
  - o Post-puberty and adolescence
- High Performance
  - o 19 years old and over
  - o Maturity



Also noted in their research, was that when a seemingly talented athlete reached a plateau, or was having a hard time improving, often it was because one of these Phases had been ‘skipped’ or missed for some reason. The athlete needed to go back and ‘do over’ the physical and mental aspects of that phase, before they could progress forward. In one case, a swimmer who had swum competitively since the age of five found that she needed to take time off to swim ‘for fun’ and find the joy of swimming.

### **The Initiation/Romance Phase – age 6-10 years old**

Children in the Initiation phase should participate in low-intensity training programs, in which the emphasis is fun.” The programs should focus on overall athletic development and not sport-specific performance.” (Bompa, Total Training for Young Champions, p. 23)

This is the age group the BKL program covers. Our program is meant to support the research by:

- o Making it “SO cool!” - the romance of the sport
- o Learning by Doing - less talk, more action
- o Learning through Games – a developmentally appropriate way to encourage

- o physiological development and fitness, self-confidence, and self-esteem
- o Keeping it safe, fun, and warm – if not, stop and get some hot chocolate.

As a Bill Kocher reaches the J3 level, then, if their ‘biological age’ indicates, they may be ready for the next Phase:

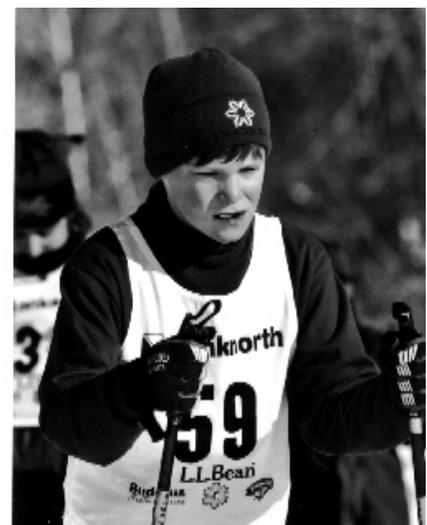
### **Physiological & Psychological Development Athletic Formation Phase, 11-14 Years Old**

Bompa, Total Training for Young Champions, p. 25

- Remember – variances in performance may be the result of difference in growth. Rapid growth spurts may explain lack of coordination.
- Progressively, moderately, increase volume and intensity of training.
- Continue to encourage a variety of sports, to improve multi-lateral base.
- Design drills to introduce fundamental tactics and strategies, and reinforce skill development.
- Refine and automate basic skills learned in Initiation Phase; introduce more complex skills
- Emphasize flexibility, coordination, balance.
- Emphasize ethics, fair play.
- Provide all children opportunities to participate at a challenging level.
- Emphasize developing core strength, as well as extremities.
- Continue developing aerobic capacity; a solid endurance base
- Introduce moderate anaerobic training – no 200m or 400 m sprints; less than 80meters or greater than 800meters
- Improve concentration; introduce more complex drills, help them develop strategies for self-regulation, visualization; introduce formal mental training.
- Structure fun competitions that reinforce skill development, not winning.
- Provide time for play and socializing with peers

Here it is appropriate to moderately increase the intensity of training during the athletic formation stage of development. Variation in performances may be the result of differences in growth! Note that even as they complete the Bill Koch League and move into the J2 age group, the emphasis is still on developing skills, not winning, and it is still good to provide lots of time for play and socializing.

Hereafter, the remaining phases of **Specialization (or Precision)** – age 15-18 (Juniors) - and **High Performance (or Integration)** - age 19 and over (Collegiate, U23, Elite club programs, National/Development Team) require distinctly different types of training and focus. However, the athletes can only be successful if the proper training and preparation has been accomplished at the BKL level.



These are the stages that we remember the best; but they are not what we should put our kids through until they are ready. Our job is to prepare them for these levels of physical focus – if they choose. And if they don't, we should have instilled in them an appreciation and a desire to pursue a lifetime of health and fitness.

**Everyone Should Train Like a Bill Kocher**

Whether a child will become a world-class athlete or a Nobel poet laureate, each should begin with a happy, healthy childhood in order to lay the groundwork to be a happy, healthy adult. If a child is forced to specialize, to skip a phase or more of emotional and physical development, success may occur, but will be short-lived.

**Comparison Between Early Specialization & Multilateral Development**  
(former East) German Study, Harre, 1982

**Early specialization**

- Quick performance improvement
- Best performance achieved at 15-16 years because of quick adaptation
- Inconsistency of performance in competitions
- By age 18 many athletes burned out and quit the sport
- Prone to injuries because of forced adaptation

**Multilateral program**

- Slower performance improvement
- Best performance at 18 and older, the age of physiological and psychological maturation.
- Consistency of performance in competitions.
- Longer athletic life.
- Few injuries

And yet, you'll notice that even at the high performance level, elite athletes still maintain a small percentage of multi-lateral, or non-specific training.

**Ratio of Multilateral to Specialized Training for Different Ages**  
T.O. Bompa, Total Training for Young Champions, p. 6



Multilateral Development, age 6-15; Specialized Training, age 15-19; High Performance , age 20-24+

## MultiLateral Training is Appropriate -

1. for all youngsters – it's active time outside with friends, a chance to enjoy winter, and the best of each season;
2. for all healthy kids – skiers, actors, soccer players, artists, kendo yellow belts, and chess players
3. for all ages - Thomas Alsgaard never specialized; cross-country skiers at all levels cross-train – they continue to explore other sports; its helps you keep an open mind and a sense of humor!

### “I Hope I Get a Purple Ribbon”

The Bill Koch League philosophy is that every child should have the opportunity to participate and to have a successful, rewarding experience.” Every child should be rewarded for doing their best. The title of an early film about the Bill Koch League was titled, “I Hope I Get a Purple Ribbon”. But how can we continue to encourage this, when our American culture focuses everything on the winner?

Perhaps the first step is understanding how we became a nation for whom ‘winning isn’t everything, it’s the only thing.’” Former Olympian and coach, Richard Taylor, takes a chapter in his book, No Pain, No Gain? Athletes, Parents and Coaches Can Reshape American Sports Culture, to look at the effect of our history on American culture, and thereby on the American view towards sport. He considers the effect of Puritanism, and the American Revolution, the British motto – that “the war was won on the playing fields of Eton”, and our choice of heroes like Teddy Roosevelt. We’ve been a nation of independent fighters for over 200 years, used to winning and heaping attention and money on the winners. Most of us – coaches, leaders, parents - were raised, indoctrinated by this - that competition is the only way to measure success, and just participating is not enough to be proud of. Rough stuff to put on children when they are still in the midst of developing self-esteem, confidence and self-respect.



But recent studies are giving us a different perception of competition. In a business study comparing the results of competition versus collaboration in the workplace, it was found that the competitive approach did not necessarily produce higher performances in the business world. If being less competitive will produce more money, even an American company will try it. And in sport another study measuring children’s attitudes and task approaches noted that Norwegian children were markedly less competitive, more collaborative than American children (Alfie Kohn, “No Contest: The Case Against Competition” (Boston: Houghton Mifflin, 1992). Taylor points out,

“Norwegians grow up in a less competitive culture than Americans but routinely perform at significantly higher levels in world cross-country ski competitions.... I will suggest that our unquestioning faith in competition has not only put us into contest with our fellow athletes, it has led us into an essentially adversarial relationship with both the body and the terrain as well. When competition is confused with combat and conquest, the body, the athlete, loses.” (Taylor, No Pain, No Gain? p. vi)

Collaboration is integral to play. The concept of competition for this age group is still being assimilated and understood.

### **Snow Play**

Remember playing outside until Mom called you in to dinner? Remember falling down, getting snow down your neck, and laughing, making snow angels, igloos, and tunnels until your snow pants were soaking wet? Remember coming in breathless from a game of tag? Introducing an outdoor, winter activity to beginners is about having fun, with friends, playing games, being outside, in the snow. Skiing is a means, not necessarily the reason, for being outside in the snow. The Bill Koch Youth Ski League should make those memories come true for your skiers, this winter and every winter.



### **Bill Koch League Teaching Philosophy**

- The New England Bill Koch League believes that children should have the opportunity to have fun while learning to cross-country ski.
- The NEBKl believes in creating a safe and healthy environment where children can develop physically, psychologically, and socially.
- All NEBKl activities and competitions are designed to teach each young athlete to participate to the best of his or her respective abilities.



## **Chapter III**

### **Age Sensitive Development of Youth Skiers**

By Stuart Kremzner

In this section you will learn about age specific training of BKL skiers

## Age Sensitive Development of Youth

“Training is most effective when it stimulates maturing abilities rather than those already matured”(Drabik,1989)

Teaching youth skiers skills and ski movement patterns can be optimized with the application of some basic motor learning principles. Improving their overall athletic development can also be optimized if we integrate the principles of ages sensitive development. Age sensitive development refers to periods of time in a youth's life where they are much more receptive to developing certain fundamental neuromuscular skills(balance, timing, rhythm, coordination, and speed of movement). If the child is stimulated with a given element in this receptive time they will develop this skill much more rapidly. When this is done there are very rapid biomotor and physiological adaptations of children when stimulated/trained at highly receptive age ranges. The largest amount of neuromuscular development in youth occurs between the ages of 3 and 16 is in the nervous system. This is the optimal period for balance, rhythm, motor engram, speed and power development. These are known as the child's golden years. Since the nervous system controls all of the functioning of our muscles, we have a great deal to benefit from this. For example at ages 9-10 females are much more responsive to balance training. If we develop and train these elements the body adapts at a far more rapid rate in this dimension.

Why would we train youth in this manner versus conventional means? The major reason for application of these principles is it will lead to much greater advancement and development of foundation abilities in youth athletes. **When we train athletes in more receptive periods we make gains in months that would normally take years at an different age.**

It will optimize:

- Neuromuscular Development
- Physiological Development
- Strength Development
- Injury Prevention
- Rapid development of foundation abilities of youth
- Increased Neuromuscular
- plasticity

An increased focus on the neuromuscular development of youth athletes will improve the foundation skills of:

- Balance
- Rhythm
- Coordination
- Agility
- Speed

### History

Throughout the 1960's and 1970's a great deal of empirical research was conducted in Eastern Block countries on the development of youth athletes. Data was extensively gathered on the

efficacy of different methods of training. Through the application of different coaching/training methods of youth athletes over many years much was learned about the neuromuscular physiology of youth athletes. New theories were developed, tested, and refined. This led to major advancements in training theory and methodology for youth.

### **Skill Development and Motor learning**

Development of a motor skill is dependent upon several variables 1) the complexity of the skill 2) one's base level of learning, and 3) the level of motor development one has. For a skier to learn a complex skill it takes about 2 years, perfection takes an infinite amount of time. Simple skills take about 2-3 months to learn.

“The acquisition of a skill does not occur at once , but rather through three phases: During the first phase, on the basis of a poor neuro-muscular co-ordination, useless movements occur. A nervous irradiation, or the dispersion of nervous impulses beyond the normal path of conduction stimulates supplementary muscles. The coach should not misjudge the lack of neuro-muscular co-ordination As insufficient talent potential, but rather as a physiological reality; 2-The phase of tensed movements; and 3- The phase of establishing a motor skill through an adequate co-ordination of the nervous processes. Thus, the skill or the dynamic stereotype is formed.” (Krestovnikov, 1951 in Bompá, 1990)



The fourth level of skill development is the mastery of the skill which is “characterized by performing fine movements with high efficiency as well as the ability to adapt the skill to eventual environment changes” (Bompá, 1990). Learning of the skill takes a great deal of time and practice i.e. thousands of repetitions. This is what takes the skill from a cerebral level, (thinking about the technique as you do it) to the cerebellular level (having the motion become automatic or reflexive).

Due to neural factors it is important for the coach to know how to manipulate the neural load for skill development. Since skiing has such a large balance component manipulating the proprioceptive load variables is a good means of teaching/improving balance, hence accelerating the learning process. One way to improve one's balance is to increase the proprioceptive load by removing one of the elements of balance. One's balance consists of neuromuscular feedback, our visual field, and vestibular motor feedback. Removing one of those factors increases the load on the other variables. Hence doing balance drills w/ eyes closed will create a higher load on the other senses. Another means of training this is to change the feedback characteristics of the environment hence the environment is constantly changing, an example of this would be to do balance drills on the sand, snow, or in bare feet (but not in the snow!). Last but not least you can try to force the athlete out of balance through the tossing of a ball, or pulling on the torso or limb with a theraband. Contrasting drills and proprioceptive loads can improve the speed of balance and skill acquisition.

### **Motor Skill/Technique Development**

The Golden Years of neuromuscular development are from 6-13 years of age. This is the optimal period for motor engram development and patterning of motor skills. This is not to say that at later ages this does not happen, but the acquisition of motor skill will just take longer at older ages.

### **Sensitive Periods of Coordination Training**

- Balance-10-11 males, 9-10 females
- Movement Adequacy-8-13 both sexes
- Kinesthetic Differentiation-(ability to correctly estimate differences in form, timing, distance, and strength modulation) 6-7, then 10-11
- Reaction Time-8-10
- Rhythmic Motion-9-10 males, 7-9 females
- Spatial Orientation 12-14
- Synchronization of Movements in Time-6-8

*Table 1. Motor Abilities Developmental Periods (Drabic)*

Age	6-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17
F-Female	F	M	F	M	F	M	F	M	F	M
<b>Balance</b>			H		H		FM	FM	FM	FM
<b>Rhythm</b>	H	H		H	H					
<b>Movement</b>			H	H	H	H				
<b>Synchronization of Movements in</b>	H	H								
<b>Coordination</b>			H	H			H			
<b>Kinesthetic</b>	H	H			H	H				

**Practical application of these training principles is very simple. Below are the basic guidelines:**

- For optimal adaptation need to have 2-3 sessions per week
- Many of the exercises can be used as a warm-up
- The exercises are best done when well rested
- Sessions only need to be 15-30 minutes long

The key is to keep it fun! Whether these exercises are integrated into the warm-up or workout it is best to keep the kids moving the whole time. Intersperse high level activity with stretching or flexibility rest phases. The following chapter will have examples of workouts and exercises.

Basic games that can be used are:

- Simon Says
- Follow the leader
- Most number in time
- Relay races

**Speed, Power and Strength Development in Youth**-Development of speed, power and strength in youth are all neuromuscularly based, hence the same concepts above apply to the development. Many of these drills and exercises overlap hence a drill for rhythm can also be used for power, for example single leg hops or jumping rope develop rhythm and power, not to mention upper and lower body coordination.

Speed and power training can develop the following foundation abilities:

- Limb velocity
- Reaction time
- Frequency of movement
- Improvement in Anaerobic Efficiency
  - Amount Of Glycogen Stored in Muscles
  - Ability to Produce Energy in the Absence of O<sub>2</sub>
- Ability to perform work when internal environment is disturbed (fatigue, high body temperature, high lactate)

*Table 2. Age sensitive development ranges (J. Loko, T. Sikkut, R. Aule)*

CAPACITY	STATIC STRENGTH	POWER		RUNNING SPEED
		LEGS	ARMS	
Boys	13-16	13-17	13-17	12-17
Girls	11-13	10-12	10-13	10-13

**Table 3.** Sensitive Periods in Development of Youth Motor Abilities (Adapted from Guzalowski, 1977)

Age	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17
F-Female M-Male	<b>F</b>	<b>M</b>								
Absolute Static Strength	L	L L		H L M			M		H L	H
Speed	H H	H H	M L	H			H		L L	
Speed-Strength	L		H	H L H			L M	M		
Static Strength Endurance	M		H	M	H		M M H			H
Dynamic Strength Endurance		M	H	H	H H				M	
Anerobic Endurance		L H	M	M H H		H		M		L
Flexibility	L		L H		M		M H H			H H

**Strength Training**

Strength Training in Children mainly affects neurogenic mechanisms due to the lack of hormonal support, hence there is no benefit to doing a conventional weight program or the lifting of heavy weights.

The major gains from a body weight based strength program in youth are:

- Rate coding
- Rate Synchronization
- Rate of force Development
- Improvement of inter and intra-muscular coordination

There are many types of strength development, for youth the most important are improvement of muscle balance(Development of antagonist and high risk muscle groups, strengthening of stabilizer, synergist, and neutralizer muscle groups) and core strength. This will provide a great strength base which will reduce the risk of injury no matter what sport the child does later in life.

Incorporating these elements into youth development models will provide a fantastic foundation for any young athlete.

**Development of Physiological Base**

Most importantly children need to be active. Having a structured endurance training plan prior to being an J3 has little to no benefit beyond the child having regular physical activity. Regular activity

i.e. being physically active 2-3 days a week is important for the development of capillarization of muscle tissue, increasing of mitochondrial density, heart stroke volume, and oxygen carrying capacity. Below one can see some data acquired:

**Table 4. Endurance Run Until Refusal Tests** (Adapted from Frolov, Yurko, and Kabachkova, 1974)

<b>Age</b>	<b>Sex</b>			<b>After 1 Year</b>		<b>After 2 Years</b>	
				<b>Training</b>		<b>Training</b>	
3	M	258	254	740	476	1196	583
3	F	246	235	620	389	1121	572
4	M	466	460	1502	622	1776	716
4	F	370	384	1146	480	1479	711
5	M	608	594	1765	690	2656	787
5	F	458	452	1249	676	1865	786

**Endurance Training of Youth Guidelines:**

- 7-11 Years old 30 mins of endurance training per week, in 5-20 min sections.
- 12-15 Years old 60 mins of endurance training per week in 10-30 min sections.
- When increasing the amount of training, increase volume first then intensity.

Youth athletes hold a tremendous amount of potential waiting to be expressed and released. As coaches with the proper working knowledge we can act as catalysts to assist and optimize this process. We'd all love to see the children we coached make the Olympics some day, but as youth coaches it is important to realize that we are one step of many in the process of athlete development. Laying a general foundation for the development, enjoyment, and process of training is one of the more important factors in the success in sport. Most importantly a passion for the process of physical activity needs to be developed, this will come from a fun, dynamic environment that the coach and parents can create.

## **Chapter IV**

### **Planning For Practice**

In this section you will learn how to plan for effective and fun BKL practice sessions

## **Planning For Practice**

In this section the elements which go into safe and effective practice are detailed. A sample outline of a club's first practice of the season is developed.

### **General Considerations**

Everything begins with advance planning. How often, how long, and where the club meets are decisions that need to be made by the club leader with input from volunteers and parents. Similarly, group size and supervision are issues that need to be addressed in advance by the club leader and helpers and then adapted to site, activity, and weather. Clear communication on all counts between the club leader and parents is vital.

### **How Often To Practice**

The vast majority of BKL Clubs meet at least once a week. Most attempt a weekday, after-school practice and a longer weekend session. Some offer a second weekday practice just for their experienced skiers/racing group. Unless it is catastrophic, weather should not affect your practice schedule. Even in times of poor snow there is work to be done on equipment and trails and there are many games that can be played indoors and out.

### **How Long To Practice**

A typical weekday session lasts 60 - 90 minutes. Darkness and busy schedules are less a factor for weekend sessions and they can extend to 2 hours, or even longer for some of the older children—especially if you are planning a ski tour or special activity. But if children are tired or weather is not cooperating—never be afraid to cut the planned session short, move indoors, watch a movie or engage in other activities. Pay attention to the children!

### **Where To Practice**

Long before snow falls you need to obtain permission to use a site. It is important to have a site that is not too easy or too difficult for your skiers' abilities. An ideal site might connect fields with wooded trails and rolling terrain.

If you are fortunate, you will have more than one site lined up. Skiing in a variety of locations keeps everyone mentally fresh, and certain sites will adapt more readily to specific activities. Weather and snow conditions can make one site preferable to another as well. Many a day the winds that drive skiers from open areas are blissfully absent in the woods. If you are video-taping you may want a loop, or need terrain specific to the activity you are filming, eg, downhills.

Being able to gather in and disperse from a heated building is a tremendous asset, but practices are managed throughout the winter all over New England without a facility. More parents, more vehicles, and a little more teamwork are required, but a building-less practice can come off in fine fashion.

Some potential sites include: cross-country centers, schools, parks, golf courses, recreational areas. Sites should be groomed prior to the arrival of the children. Parents should have plenty of advance notice as to where and when the practice will be held.

## Temperature Guidelines for Practice

### Temperature Guidelines for BKL Programs

<u>Temperature</u>	<u>Racing</u>	<u>Training</u>	<u>Easy Skiing</u>
Below zero <sup>o</sup> F or -18 <sup>o</sup> C	NO	NO	Several (1-3) short easy periods of skiing (10-15 minutes each) with proper clothing such as neck protection; watch for frostbite, don't go too far from shelter
0-5 <sup>o</sup> F -18 to -15 <sup>o</sup> C	Not recommended	Steady work; No intervals	OK, but keep moving
6-10 <sup>o</sup> F -14 to -12 <sup>o</sup> C	Usually OK	Intervals with caution	OK, keep moving
11 <sup>o</sup> F or -11 <sup>o</sup> C and warmer	OK	OK	OK

These are guidelines. In making your decision, be sure to take the following into account:

\* Factors that make things worse:

- wind chill factors
- long distance from heated space
- lack of shelter from wind
- poorly dressed skiers
- younger and less experienced skiers
- longer race course
- remember that skating will be very slow

\* Factors that make things better:

- plentiful sunshine
- nearby heated space
- shelter from wind
- warmly dressed skiers
- older or more experienced skiers
- shorter race course
- classic may be more satisfying for very cold conditions

Possible dangers of extreme cold:

- frostbite
- lung damage
- eye damage

Remember, this is supposed to be fun, not frigid!

### What Children Need For Practice

Children must come dressed properly (see Clothing chapter) and have snacks and water (see Nutrition chapter). One of the first lessons children (and their parents) must learn is to dress in layers. Having many thin layers of clothes allow children to regulate their body temperature by taking off 1 or 2 layers or adding 1 or 2 layers until they are comfortable with the environment. Heavy bulky jackets and padded snowsuits can result in overheating when activities start and they can restrict movement— but removing them isn't always a good option without plenty of back-up layers beneath. Generally speaking a lighter outer garment with ample layering beneath is best for active children.

#### Top Layers

Teeshirt/thermal teeshirt - not cotton. Polypopylene  
Turtleneck- not cotton  
shell.

Sweater/vest/fleece  
recommended

Jacket- windproof, water resistant or water proof

#### Bottom Layers

Long underwear

Thin shell/loose-fitting,water-repellent

Bulky snowpants are not

HAT

NECK GATOR.

SOCKS. Avoid cotton. wool, wool-blend

MITTENS. Gloves are not recommended.

Dermotone, sunscreen, or vaseline

Sun glasses, UV/UVB eyewear protection

In addition, each child should have a small daypack with extra socks, a dry teeshirt, back-up mittens, post-ski footwear. Including a plastic garbage bag is a good idea as well. Not only will it guard the pack against rain but it provides the child a place to sit on the snow.

### What Parents Need To Know Well Before Practice

- time and place of practice
- any special costs
- special transportation needs, eg carpooling
- special services you might require of them
- clothing and food/water needs of their children (cc the Clothing and Nutrition chapter for them)

### Club Leader Pre-Practice Checklist

- parents provided with what they need to know in a timely manner (below)
- all children's equipment needs taken care of before practice starts
- suggested clothing list distributed to parents and children at the beginning of season
- extra clothes available for children
- e-mail list, website, or radio station announcement for communicating if practices must be canceled, changed, or moved

- extra water/water bottles
- access to bathrooms
- simple First Aid kit
- someone with basic “1st-Responder First Aid Training” on hand and an Emergency Medical Plan adapted to the site.
- Leader’s Notebook with a written **Practice Plan** (see below) in place to chart the day’s activities, attendance of parents and children, special occurrences, eg, “Bill S. complained of cold fingers again. I let his parents know and they will look into mittens rather than gloves”
- Game Box - cones, pinnies, balls, etc.
- have an idea of how group size and supervision will be arranged
- site groomed before arrival

### Group Size and Supervision

One teacher with six children works well— one adult with seven children is upper limit. In groups of between 10 and 15 children, a leader and a sweeper/support staff member are recommended. Groups larger than 15 are very awkward to teach or supervise. Ideally, there are two adults to work with children even in groups below ten.

### Practice Plans

Even the most experienced coaches write down what they plan to do for practice and provide a rough timeline for the activities. The practice plan might contain some or all of the following elements:

- meet, greet, explain day
- warm-up
- warm-up game/drill
- instruction
- skill practice
- skill practice in game form
- fitness activity
- closing meeting evaluation



The art and the science of coaching come together in your Practice Plan. In succeeding sections you will learn what to teach and how to teach it. Below however, is a sample outline for the First Practice of the ski year. Note how the elements listed above are used.

## First BKL Club Day (approximately 90 minutes)

The first BKL organizing/information meeting needs to occur by the 2nd weekend in November. However, leaders may need to have their schedule in place well before then, so parents can plan ahead, and new members are aware of your program. It is a chance to get everyone together, distribute information about the upcoming season, welcome new members, sign up kids for equipment/rentals, and answer questions. But especially, it's about getting everyone excited about being a cross-country skier!

This first meeting suggestion is unique - it asks that the kids and the parents take part in an informational practice. This encourages parents to ski, to ski with their kids, and to volunteer to help at BKL practices, and it highlights for them what their child will need in terms of clothing, food, equipment. This meeting should be adapted to match your club's needs, the weather, the facilities. Talk to your District Chair or other Club leaders for ideas as well.

In periods of snow drought try hikes, a potluck, make team signs, ski posters, play dryland games, work on equipment, or trail repair. Find a school or community gym and play games. There is always something that can be done to build your club community.

I. Meeting begins indoors with one or more of the following, but no more than 30 minutes total

- explanation of BKL for kids and parents
- sample video of cross-country skiing, preferably of BKL
- short explanation to attending parents of BKL costs (
- explanation of the day's activities; discuss appropriate clothing and/or equipment

II. If Dryland, move to activities, suggestions below, but for no more than 30 minutes

- some brief exercises/stretchers (see Warm-ups section)
- short running games; eg, relay sprints with "obstacles" tag games, parent/kid relays, tennis ball soccer with parents and kids (see Games chapter)
- "pretend" skiing with poles

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If on Snow, short talk on waxing needed for day, then move to activities (30 minutes)

- divide into small groups (1-4 is ideal) and show diagonal stride, double pole, downhill skiing and snowplow; give each child a chance to try each one
- BE POSITIVE ABOUT EACH CHILD'S EFFORT**
- end session with a short game played w/o poles that works on feel for snow/balance

III. Break for snack (15- 20 minutes)

- discuss energy snack foods (see Nutrition chapter)
- answer more parent questions

IV. Activity session (30 minutes: depending on age of group this can be optional for some)

- short hike or soccer or more games

V. Conclusion

- send kids home with a "souvenir" that has the time of the next club meeting, eg, picture or sticker or card
- chapters, and information on local ski shops and ski swaps/sales for Equipment.

## **Chapter V**

### **Applying Skills: What to Teach and How to Teach It**

In this section you will learn how the basic motions of cross-country skiing are applied  
to teach technique

Illustrations by Mary Lou Lowrie, Mount Washington Nordic Ski Club

## Applying Skills: What to Teach and How To Teach It

In this section we will review the difference between aptitudes and skills/techniques, and outline activities through which both can be developed.

### Skiing Aptitudes

The aptitude areas involved in cross-country skiing are balance, coordination, agility, ability to imitate, strength, flexibility, and feel for the snow. They are primarily learned, not taught, through self-directed play and in games. Later on in this section games and activities will be identified which assist young skiers in aptitude development

### Skiing Techniques/Skills

Technique is the application of refined and directed aptitudes. A simple example is gliding, which links balance with feel for the snow. A more complex example is diagonal stride, which links gliding, pushing on poles at the right time while pushing down on skis at the right time while adapting to terrain changes— involving a variety of movements which require the refining and directing aptitudes in combination.

It makes sense that the application of balance (gliding) is generally learned more quickly than a combination of skills (diagonal stride). Consequently, the beginning skier's learning curve reflects the mastery of increasingly more challenging competencies. Listed below is a ladder of technical progressions arranged in order of increasing complexity. They are provided for two reasons:

- 1) in order that leaders/coaches are aware of what they need to know to lead/teach effectively
- 2) in order that leaders/coaches can monitor and assess the overall development of each child

IT WOULD BE A GREAT MISTAKE for a coach to go down the list and attempt to teach these one-by-one. These applications of skills (technical competencies) are best learned through a combination of exercises, games, and activities that are fun and challenging. Never lose sight of the cardinal rule in BKL instruction:

***Learning By Doing is the primary way to teach.***

### Techniques/Skills Progression

- putting on equipment properly
- falling down and getting up
- assuming the basic athletic stance
- star-turns around tips; turn around tails
- side step
- uphill side-step
- wedges - gliding and braking
- herringbone
- kick turn
- double poling
- striding without poles
- diagonal stride
- skating without poles
- skating with poles
- gliding turns
- skate turn
- V-1 skate
- V-2 skate
- V-2 alternate skate
- wedge christie
- glide christie

The competencies listed above are addressed below in simple lesson plans. They are not meant to be followed as if they were instructions for assembling a mechanical device. They are not meant to be taught in order. They are meant provide guidance to leaders/coaches who will then make adjustments accordingly to their respective styles, the age and learning style of their group, the weather, and the terrain.

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## FALLING DOWN AND GETTING UP

### Purpose

To teach skiers how to fall safely and get up easily.

### Terrain

Flat and gentle hills.



### Mechanics

Skiers should fall to the side and back whenever possible, and their poles should point back during a fall. For safety's sake, skiers should avoid crossing their skis during a fall. When getting up, skiers should first roll onto their sides and untangle their legs, skis and poles; next, they should climb onto their hands and knees; finally, they should climb onto their feet. When working on a hill, skiers should also work on placing their skis across the hill's fall line (the path a ball rolling down the hill would follow).

### Teaching Methodology

Explain briefly the things to consider in falling safely. Instruct skiers to lie down on one side with their skis and poles on— then ask skiers to get up. Have skiers lie flat on their backs. Then ask skiers how fast they can get up — ready, go! Finally, have skiers start from a standing position, fall to one side, roll over (so that their skis flop over to the opposite side), and get up. Skiers start on your “Ready, set, go!” signal. Repeat this procedure on a hillside; have skiers fall below their skis on the hill, flip the skis to the downhill side and across the hill, and get up.

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## THE READY AND DOWNHILL TUCK POSITIONS

### Purpose

To teach students to glide downhill with stability and to change direction while gliding downhill.

You can introduce this skill while skiers practice the uphill side step.

### Terrain

A moderate downhill with a flat, packed open area at the bottom (this open area is called a runout).



## **Mechanics**

### **The Ready Position**

The skiers balance evenly on both skis; the weight is flat on the feet/skis. The ankles, knees, and hips are all slightly flexed, thus moving the center of gravity lower and forward and helping the skier to better respond to fluctuations in the track.

The upper body is bent slightly forward, the back and shoulders are relaxed. The hands are in front of the skier, just below waist level and out to the sides, as if the skiers are holding the steering wheel of a big truck. The poles are slanted back, and the baskets are just off the snow.

### **The Tuck Position**

The skiers balance evenly on both skis, as in the upright position. Once they have mastered balance and agility, the skiers can shift their weight back over the heels. The trunk bends forward until the back is about parallel to the ground. The head is slightly up and looks forward down the hill. The legs bend slightly—enough for comfort. The hands are pulled up to the chin, and the forearms rest gently on the knees or thighs. The skiers may open the arms for balance; the poles point back and are tucked up under the arms and beside the hips.

## **Teaching Methodology**

You can teach this skill with or without poles. Starting at the bottom of the incline, demonstrate the ready position. Have skiers climb to approximately 15 meters uphill and glide downhill in the ready position at their own speed.

## **Exercises**

See *Gliding Skills* for some recommended exercises.

As is true for fundamental gliding skills, the right feeling is the most important factor in this progression.

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## **THE STAR TURN, THE SIDE-STEP, THE UPHILL SIDE-STEP**

### **Purpose**

To teach skiers how to maneuver on skis by turning in a circle and moving sideways on flat terrain.

### **Terrain**

Either an open, flat, packed area near the school or the starting area of the trail system.

## **Mechanics**

### **Star Turns (Tails)**

Skier lifts one ski at a time, keeping the tails in place. They open the skis by stepping out with one ski, then close the skis by lifting the other foot and bringing the feet together, and keep repeating this stepping until they have made a full circle. Skiers should practice turning in both directions.

### **Star Turns (Tips)**

Skiers follow the procedure for tails except that they keep the tips in place and step around them. Skiers should practice this skill in both directions.

### **The Side Step**

Keeping the skis parallel, skiers lift one foot and step straight to the side. Next, skiers pick up the other foot/ski, bring it to the side of the first ski, and then bring both feet/skis together. Skiers should use their poles for balance; the poles should be planted at a bent arm's length and out to the side.

### **The Uphill Side Step**

Keeping the ski parallel and perpendicular to the fall line, skiers move sideways and side step up the hill. They edge the ski into the snow to prevent it from sliding sideways down the hill. The steeper the hill, the more edge the ski will require. The skiers should plant the pole as they plant the uphill foot in the snow. Skiers should not weight the ski until they are certain that the ski will hold body weight without slipping sideways.



### **Teaching Methodology**

#### **Star Turns**

Before demonstrating the skill, challenge your class. Ask students to spread out so that no one's poles touch their neighbor's and then ask who can turn a full circle to the right. Repeat the challenge for a full circle to the left. Then demonstrate the skill. Next, challenge students to do a full circle without moving the tails of their skis. Finally, challenge students to do a full circle without moving the tips of their skis.

### **The Side Step**

See if skiers can step sideways to where their nearest neighbor is standing and back to their original spot.

### **The Uphill Side Step**

Skiers climb the hill by creating little stairs or steps in the snow with their skis; they step up the side of the hill.

### **Exercises**

Once skiers are comfortable with these skills, they can work on balance by doing these drills without poles. Skiers create wagon wheels or stars. Skiers do a short relay of side steps with a tip-and-tail star in the middle of each leg to reinforce the skill. On the hill, skiers can incorporate these skills into simple downhill maneuvers, gliding skills, and relays.

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## **THE WEDGE**

### **Purpose**

To teach students how to control speed on downhills and to progress to wedge turns. The herringbone should be taught in the same lesson.

### **Terrain**

A smooth, packed hill of medium grade with a long, safe runout.

## **Mechanics**

The wedge position is the ready position. The skiers' hands are forward, below the waist, and out to the sides, as if holding the steering wheel of a big truck. The legs are bent slightly at the knees, and the ankles are flexed forward. As a result, the center of gravity is over the balls of the feet. The feet are fairly far apart, and the skier steers as if pigeon-toed, i.e., the tips of the skis are fairly close together, and the tails are farther apart.

The skiers ski down the hill with the tips together in a V-like wedge; this position applies pressure to the inside edges of each ski. The skiers can increase this pressure by pushing their feet out, opening the wedge while lowering the body and by bending the knees more. The upper body and arms should NOT change position even with these changes in the position of the legs and feet.

## **Teaching Methodology**

First demonstrate the skill in front of the entire class. Have skiers progress directly from where they left off with gliding skills and the ready position in downhill skiing. Before letting students progress uphill, make sure that they are ALL comfortable with this skill.

## **Exercises**

Challenge skiers to do the following:

- make a piece of pie with their skis;
- ski to the bottom of the hill with their skis in a "V";
- start with their skis straight and stop at the bottom in a "V";
- open and close their Vs while gliding downhill;
- see what happens when they ski taller;
- see what happens when they ski lower;
- see what happens when they ski wider;



Glide as far as you can down the hill, in a straight line, in a wedge.

Place widely-spaced ski poles where the changes should take place. Start in a ready position; halfway down the slope, change smoothly to a wedge. Start in the wedge, change

to straight running and then back to wedge again before the bottom of the hill. Repeat the exercise, using as many changes as you can. The change in position from wedge to ready position should be as smooth as possible.

NOTE: If the arms and upper body are moving, the change from the ready position will cause a weight transfer and maybe a degree of direction change. Correct by carrying an imaginary tray of cookies and milk without spilling it! Also, try skiing while holding the ski poles horizontally, well in front and at waist level. This exercise will help greatly to keep the upper body still.

---

## **WEDGE BRAKING**

### **Purpose**

To provide a safe means of braking on gentle to moderate terrain, or to provide more speed control on steeper slopes and trails.

**Terrain**

Gentle slope with a smooth level runout.

**Mechanics**

The wedge is widened by pushing further out at the heels. Edge skis on the inside by applying inside pressure of the leg, hip, knee and ankle. The ankles will roll in a little and the knees will come closer together. Overall, there will be an increase in the flexion of the leg. More edging and greater widening of the tails of the ski will decrease the speed of descent.

**Exercises**

Demonstrate the wider wedge while standing on flat ground and have the students describe the differences between the wider wedge and the wedge and the wider wedge and braking.

Have the students demonstrate the wide stance, the increased edging, and the bringing of the knees closer together (yes, we are a bunch of knock-kneed skiers!) Start down the hill in a wedge, and change to a smooth braking wedge to reduce your speed by half. With practice, the children should become more aggressive with the braking wedge. The goal is to brake more and more until skiers can come to a quick, straight-line stop.

**Games for Wedge Braking**

1. Motor Vehicle Inspection Station: place two ski poles wide apart midway down the slope. Descend to this point in a gliding wedge and have the class yell “BRAKES!” Do the shortest braking distance you can.

2. Dinosaurs: while descending in a ready position, a dinosaur suddenly drops dead in front of you. Not wanting green blood on your shiny new ski tips (yecch!), you try a radical, hard, amazingly-quick, full-braking stop (phew!), and wipe the cold sweat from your brow!

The class takes turns skiing down. All the skiers in line get their turn to yell “DINOSAUR” when they want. It’s then up to the skiers descending to stop quickly.

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**WEDGE TURN****Purpose**

To change direction and control speed while descending.

**Terrain**

Smooth and gentle, the same as for wedge-braking.

**Mechanics**

Descending in a wedge, a pivoting or turning effort is made with the legs and feet, maintaining the wedge throughout the turn. The upper body remains still in the ready position. The downhill ski will be weighted as the skis are steered across the fall line, while skiers maintain a centered, upright stance between them.

## Key Points

Proper stance as in the ready position, i.e., skis in a wedge with tips slightly spaced and with minimal edging; tips stay opposite to each other. The inside ski tip should not drop back a few inches. This is an indication that there is hip rotation.

## Exercises

- skiers descend the fall line in a wedge and turn gently until the change of direction brings about a full stop.
- skiers repeat the above, but this time they start the turn from across the hill and then turn down and across the fall line. As a variation, and to help achieve a desired amount of turning effort, place a line of ski poles in an arc and have the students try to ski around the arc.
- skiers carry their ski poles in the tray position to help produce a still upper body throughout the turn.

## Variations

Without poles, use your imagination and carry the tray of milk and cookies, or better yet, two milks and an extra large pizza! An alternative is to pull out a tube of crazy glue, pretend to spread it around in the palm of your hand, and then glue your hands to your knees.

## Games for Wedge Turns

- 1) Mogul Mice: As you wedge through a turn, reach down (on the downhill side only) and stab or point at the snow where you “see a mogul mouse”.
- 2) Snowdaisies: Hold an invisible flowerpot in your uphill hand as you ski through the turn, reach down with the other hand and pick a pretty bouquet of snowdaisies for your mother. (Interesting how they only grow on the outside of turns!).
- 3) Airplanes: Extend your “wings” (arms) and bank your airplane to the outside throughout the turn.
- 4) Atomic poles: Place a line of cones or ski poles, in an arc. They are dangerously radioactive and it is necessary to lean away from them. (Worse yet, they might even be coated with sticky peanut butter!).

## Linking Turns

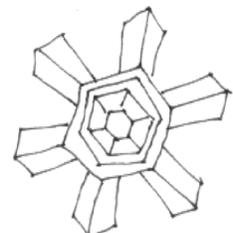
Descend in a wedge and turn across the fall line. Before all speed is gone, turn back down and across the fall line again. Remember to stay upright; do not lean into the turns; try not to let the inside ski tip drop back.

## Exercises

After trying two turns at random, place two cones or poles to produce an easy slalom course. The course can be extended once bad habits have been identified and corrected. Remember that corrective games will work just as well in a six-pole slalom as they will in a single turn.

-to increase the fun, and improve balance and general mobility, prepare an obstacle slalom course. Begin by placing tunnels made from three ski poles, or large half hoops stuck in cones in between the slalom poles. Ski the whole course in the wedge at first.

-replace the tunnels with a pair of mini-cones or other marker. When skiers come around a slalom pole, their skis must quickly come to parallel, pass through the cones, and return to a wedge to steer around the next pole, etc.



—to increase the fun and skill development, have skiers do a small jump when they are in between turns and are skiing parallel through the cones. Just make sure that the slalom course is sufficiently spaced so that the “little extras” can be fitted in.

—a good method for developing turning skills is to pair up the students using the hoops. Two children use one hoop held between them to allow a safe distance from each other for doing wedge turns. Make sure the slalom course is wide.

—another method is to use a pair of poles, one held in each hand; the skier in front is the engine, and holds the poles by the straps; the skier ion back is the caboose and holds the poles by their baskets. Make lots of train noises and free ski, or do a slalom course.

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## **THE HERRINGBONE**

### **Purpose**

To teach skiers how to climb up a moderate to steep hill with or without kick wax. The wedge stop and turn should be taught in the same lesson.

### **Terrain**

For wedge skills, clearly outline which parts of the hill skiers should ski down and on which parts they should climb. Skiers can progress from moderate to steep inclines as their proficiency improves.

### **Mechanics**

Skiers start at the bottom of the hill facing uphill, their skis in a V-wedge. The tails of the skis are closer together than the tips. Skiers start walking up the hill by using the inside edges of each ski for traction and by maintaining the V-wedge as they walk.

As one foot steps forward up the hill, the opposite arm and pole reach forward and are planted outside the ski. The skiers’ weight shifts completely from ski to ski with each stride, and the upper body bends forward into the hill.

The hands extend forward on each pole plant, but they stay relatively low, about chest height. The skiers push right through with the arms until the pole releases from the snow (there is a tendency to stop the hands at the hips during the herringbone).

The skiers start by taking small strides up the hill. Once they are comfortable with these mechanics, skiers should progress to longer uphill strides. Skiers should try to get well up the hill with each stride. They should place the foot more in front than to the side.

To emphasize weight transfer, have skiers waddle up the hill like Donald Duck.

The amount of V-wedge should match the degree of incline; skiers must learn to feel what a right angle is.

### **Teaching Methodology**

Start at the bottom of a moderate incline, and have skiers note the similarities between the wedge’s V-

wedge and the herringbone's wedge. Initially, skiers should not use poles to get a good feeling of ski angle, edging, and weight transfer.

### **Exercises**

Challenge skiers to do the following:

- walk like Donald Duck up the hill to where they started to glide;
- do the same thing, but hold their hands behind their backs;
- do the same thing, but in fewer steps than the last time;
- do the same thing, but on the steeper part of the hill;
- do the same thing, but use their poles to help push with each step;
- do the same thing, but run up the hill.

Once the students have learned the fundamentals, move to a rolling hill, and have skiers experiment in the same manner.

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## **THE KICK TURN**

### **Purpose**

To learn a stationary turn that is quicker and more efficient than the star turn.

### **Terrain**

Flat and smooth terrain with well-packed snow, but without set tracks.

### **Mechanics**

Standing with skis parallel on flat ground and poles planted in front. The skiers turn the upper body around as though looking over their shoulder. The pole on the side that the skiers turn to swings around and is replanted so that the poles are placed on the same side of the skis.

Skiers then kick up the leg on the side they are turning and let the ski turn 180 degrees and drop facing the opposite direction as the other ski.

Finally, skiers swing the other ski around in the same direction so the skis are both facing the same direction. The pole on the same side is moved around at the same time, leaving skiers standing facing the opposite direction.

### **Teaching Methodology**

Do a demonstration for this skill with a brief explanation. Then, once the class is spread out on a flat area, play "monkey see, monkey do," i.e., step by step, follow the leader. Be sure that all skiers try this maneuver on both sides until they are proficient. Skiers can also practice the skill on a hillside during one of the downhill lessons. While facing downhill, with poles planted on the uphill side of their skis, they practice using their edges to keep from slipping and ensure that the skis are directly across the fall line. Once comfortable with edging their skis, skiers can try a kick turn on the hill.

Do not spend too much time trying to perfect this skill or skiers will become cold or bored with it. Try it a few times in two or three consecutive classes instead.

### **The Kick Turn on a Slope**

From the ready position the skiers completely apply their weight to the outside ski (the ski opposite the direction of the turn), lift the inside ski, and redirect it in the desired direction of travel. The skiers step across onto the redirected ski, and completely transfers their weight off the other ski. This action releases the ski so that the skier can lift it and place it parallel to the new direction of travel. The skiers repeat this cycle until the desired direction of travel is achieved.

The skiers can step from either the ready or the tuck position. However, the greater the speed, the quicker and narrower the steps should be. The skiers must also project, i.e., move the upper body in the new direction during these steps.

### **Teaching Methodology**

Teach this skill with an uphill skill on moderate downhill terrain. Choose terrain that allows skiers to turn either right or left at the bottom of the hill. Make sure that there is a safe runout in both directions and that skiers practicing the downhill part of the progression will not collide with those doing the uphill portion of the progression!

Skiers should start far enough up the hill to allow only a few seconds of gliding to the bottom. Allow skiers to progress up the hill only as they gain confidence and competence.

Have the class ski down in the tracks and all turn in one direction. Ask skiers to feel balanced on the balls of their feet and to quickly lift one foot and then the other as they glide down the hill. This stomping of the feet will teach them to balance and transfer weight from foot to foot.

Once skiers are comfortable doing this kind of turning, they can redirect their skis as they lift them; the exercise thus becomes lifting a ski, changing its direction, and stepping down on it.

Once skiers are comfortable doing this kind of turning, they can redirect their skis as they lift them; the exercise thus becomes lifting a ski, changing its direction, and stepping down on it. Skiers should keep stepping until they have turned back up into the hill. Make sure that skiers practice in both directions.

Have the class progress into working on an uphill technique without waiting at the bottom of the hill.

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## **DOUBLE POLING**

### **Purpose**

To use poles to propel skiers over flat and slightly downhill terrain.

### **Terrain**

Flat or gentle downhill terrain with set tracks.

### **Mechanics**

Double poling is a forward extension of the arms to shoulder height and width from an upright gliding position.

The skier plants the poles at a point where the poles are just past vertical and drives the arms and trunk forcefully down onto the poles by flexing the trunk and extending the arms and shoulders. These movements occur simultaneously with a forward bending of the trunk.

The feet are side by side and the skiers' body weight moves from being over the toes at the start of the double pole to being over the heels at the end of the double pole.

There is a slight bend in the knees. Once the push phase of the double poling cycle is complete, the skiers stand fairly upright and swing the arms forward for the next double pole.

### **Teaching Methodology**

Start by making sure that all skiers have their pole straps on properly; otherwise, skiers will not be able to double pole correctly.

Line skiers up at one end of a grid or a long, flat section of a track. Always line skiers up in the easiest direction to take advantage of even a slight decline or wind. Then demonstrate the double pole in front of the group.

Challenge students; ask them who can get to Point X without using their legs, and double pole around them as they race to X once or twice. As they race, offer encouragement; in addition, make sure that they can see enough of your double poling to model it.

Now issue other challenges:

- "Try to get to X using just your arms."

- "Now try with stiff arms and just bend forward at the waist."

- "Now use both arms and bend at the trunk." "Which way feels better for you?"

For each challenge have the skiers count the number of pushes they have to take to get to X; this way they will soon discover the most efficient way of double poling.

### **Exercises**

Have skiers count to themselves:

- "One—arms up front."

- "Two—push and bend trunk and breath out."

- "Three—follow through and stand up."

- "Four—relax and glide and breath standing up."

- have skiers pretend that they are old well-pump handles and must be cranked 20 times to get a drink of water.

- have skiers who aren't bending their trunk enough look back down the track from between their knees on each push, or have skiers make a "racing stripe" on their leg just below their knee every time their hands pass by their legs



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## KICK DOUBLE POLE

### Purpose

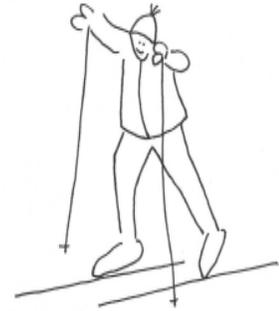
To combine the diagonal stride and double pole on the flats

### Terrain

A flat, consistent section of trail or a short loop that is track set (preferably double tracked).

### Mechanics

Have skiers start with a full double pole. A review of simple double poling could be used to introduce this session. As the skiers complete their follow-through and recover from the double poling thrust, they shift their entire weight onto one ski. Then, with a quick, snappy extension of the trunk, skiers push forcefully off the weighted ski, compress at the trunk, and enter the standard double pole and glide phase on both skis. It may be helpful to see the motion as an extension of the trunk over one ski which leads into a compression of the trunk over two skis.



Kick double poling is simply the continuous alternating rhythm between a double pole and a single-leg stride. Weight transfer is the most complex part of this skill. Getting a good strong push is dependent on being able to completely commit weight to the gliding ski.

### Teaching Methodology

Review double poling in the form of fun relays together with a few technical reminders. Going in the easiest direction:

- practice pushing, using the “scooter” exercise, i.e., successive pushes with one leg while gliding only with the opposite leg.
- do this exercise on both sides using the same leg consecutively then switching sides.
- do several with one side, then several with the other side.
- once the “scooter” is being done reasonably well, combine the poling thrust between each “scooter” push and you have one step double poling.

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## THE DIAGONAL STRIDE

### Purpose

To teach the fundamental skills enabling skiers to travel over flats and moderate uphill.

### Terrain

A tracked, flat area and a gentle, tracked uphill of very moderate grade.



## Mechanics

Skiers stride forward with their skis in the tracks; the skis move parallel and forward as in walking or running.

Skiers stride by stepping from a stationary, weighted ski across to an unweighted ski, i.e. the one they have just strided forward on. Skiers must balance on this unweighted ski while it slides forward in the track until they are ready to step forward and onto the opposite foot again. The stride is simply the continued repetition of performing a leg push, transferring weight, balancing and gliding, and performing another leg push. As forward speed and stride length increase, skiers simply lean their upper body farther forward, thus facilitating a longer, stronger stride.

Each arm works in synchronization with the opposite leg; for example, skiers push back on the left pole while gliding and simultaneously push with the right leg. The arms extend forward to about shoulder height to initiate the poling action; they are then driven down and back until they extend again behind the skier. The arms work in a straight forward/back direction and stay about shoulder width apart throughout the stride.

The skiers' body weight should move subtly from side to side over the skis: thus it is in balance over each foot/ski during each gliding phase. The torso should face the direction of travel and should not twist or rotate from side to side.

When the leg push is initiated, the ski stops moving in the track and the ankle, knee, and hip bend and then extend aggressively by pushing down and back. The skiers must learn to keep all their weight on the pushing ski during this movement; they may move across to balance on the other foot only after the push is over. During the glide, the skiers should straighten the support leg; this action puts the skiers' hip up and over the support foot.

## Teaching Methodology

The diagonal stride is a complex skill and using the whole-part-whole method to introduce it will probably produce the best results.

Remember that it is not necessary for the entire class to do all the exercises that help develop certain parts of the skill. Rather, start by having the entire class diagonal stride for a few minutes in the tracks. Be sure that skiers have waxed with adequate grip wax; otherwise, the lesson will be very frustrating. Do not explain the technique; simply demonstrate.

## Diagonal Stride Without Poles

The diagonal stride without poles is best learned through activities, games, and challenges, all of which help skiers relax and become receptive to formal instruction to improve their technique.

Have skiers walk along a track and emphasize pushing the foot off the snow to propel themselves forward. Then have skiers practice with their hands behind their backs (like a speed skater).



Have skiers count how many strides they take to get to the end of the track; next, they should try to hold their glide to keep the ski traveling as far as it can before they push off with the other leg.

Finally, try a relay race to get skiers to pick up their tempo.

### **Poling**

Have skiers take five or six full strides to gather momentum and then simply use their poles in a diagonal stride rhythm to propel themselves along with no leg action. This exercise is also good for getting skiers to bend the trunk forward and use it to help in the poling movements.

Relays are a great way to practice different skills. With three-person teams, have each skier do one shuttle of diagonal stride with no poles, diagonal stride with only poles, and full diagonal stride. Keep the number of teams in the relay small, and run a lot of relays; they keep everyone's level of activity up and keep the pressure to win down. Only after skiers seem to be striding confidently and comfortably on flat terrain should they move to moderate uphill, Here you should work with only the full skill and emphasize a complete and aggressive weight shift from ski to ski. Have skiers try to reach the foot well up the track with each stride and to feel light and quick in their movements so they won't bog down and lose momentum.

To practice weight shift and quickness, skiers should do a few laps without poles, and a few laps of swinging their arms without planting the poles.

NOTE: Whenever you teach skills on hills, match an uphill skill with an appropriate downhill one, and teach the pair simultaneously.

### **Diagonal Stride With Poles**

Once skiers understand the leg push, introduce poles. This is a good time to explain how poles combine with the leg push to push skiers down the track.

Try a series of comments like the following:

- "Let's see everyone run to the other end of the field with his or her skis in the tracks. Just swing your arms as if you were running and push on the poles when you can."

- "Try to use fewer and fewer steps each time to get to the end of the track."

- "See how far you can glide on one ski with each step."

- "Now try to lean forward with your upper body once you get going."

- "Now try to push harder with your poles on each stride."



### **Weight Transfer**

Weight transfer refers to the movement of the skiers' body weight from one ski to the next. The longer skiers hold their weight over the ski, the longer the glide.

### **Exercises**

Have skiers hold their hands behind their back, stride without poles, and count the number of strides. In early sessions the entire group should do this exercise, because everyone will need the practice striding.

Have skiers do 3x3's: three aggressive, quick strides (step-step-step-) followed by an extended glide, balancing until almost at a stop, followed by another step-step-step and another extended glide and balance. Note that skiers may finish on the foot opposite the starting foot.

## **Gliding Skills**

### **Purpose**

Many beginner skiers have never tried gliding before. Since gliding skills, body position, balance, and agility are prerequisites of all other movements on skis, you must take special care to properly emphasize all of them. The purpose of this progression is to introduce skiers to, and familiarize them with, the feeling of gliding on skis.

This progression requires the skiers be able to get back uphill; consequently, you may want to introduce the herring bone or side step at this time.

### **Terrain**

A smooth, well-packed, and very gentle downhill with a long, safe runout.

### **Mechanics**

The objective is to make skiers feel comfortable and in balance while gliding on one or both skis and at various speeds.

The body is in the ready position. The legs should be shoulder width apart with a slight flexing at the knee. This flexing allows the legs to act as shock absorbers during the descent. The feet/skis are parallel to each other and should not be crossed.

The arms are also shoulder width apart and are in front of the hip. The skiers should look as if they are carrying something or driving a truck.

Skiers need to be aware of several principles of movement to act on if they are to improve their balance. In particular, skiers must do as follows:

- Use all the joints that can be used. For example, flex the knees, flex the ankles
- Heed the principle of stability. For example check the base of support (are the skis shoulder width apart?) and the center of gravity (is it low on the downhill glide?).

### **Teaching Methodology**

Be sure to teach skiers to glide without poles. Have skiers practice the ready position on the flats, and explain how to improve balance. Then have skiers do as follows:

- jump on the spot
- jump on one leg
- slide their skis back and forth in the snow
- lift one ski and balance on the other; do this with both sides; repeat with eyes closed

Have skiers start near the bottom of the incline and see who can glide to a stop without falling. As skiers succeed at one point on the hill, move them gradually up the hill. Let skiers get back up the hill anyway they can; side-step if they have to!

### **Exercises**

Challenge skiers to do the following

- be as tall as they can while skiing downhill
- ski downhill like a gorilla
- be as short as they can while they ski downhill
- hop up and down on their skis while skiing downhill
- step from foot to foot while skiing downhill
- ski downhill backward
- ski down in a tuck like a downhill racer
- make their skis look like a “V” as they ski downhill
- change tracks while skiing downhill
- pick up some object. For instance, a hat or a mitten, while skiing downhill

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## **SKATING**

### **Purpose**

To teach the fundamental skills that enable skiers to travel over all types of terrain without using traditional kick waxes.

### **Terrain**

Flat, level field or section of trail that is packed firmly and smoothly.

### **Mechanics**

NOTE: These basic mechanics are not to be confused with the specific skills for the different types of skating.

Skiers skate forward and shift their weight from side to side as in ice skating. The legs push out to the side in a skating motion and return directly under the skier. The position of the body when one leg is in contact with the snow after the other has pushed off the snow is called gliding; the pushing phase is referred to as skating. The legs should push to the side with equal force.

The weight transfer must be more aggressive than in other skills. The skiers must shift their weight from one ski to the other while traveling forward. The body weight is over the tail of the ski during the skating phase but is transferred forward during the gliding phase.

Three arm motions are possible: one for the diagonal V-skate; one for the V-1 and the V-2 alternate; the third for the V-2.



In the diagonal V-skate, the arm swing is similar to that in the diagonal stride: i.e., an arm push with every opposite leg push.

If we consider that there are 4 points of contact with the ground— two poles and two skis— we can break down the relationship of pole plant to ski in the three styles in this way:

In the V-1 the pole plant one foot plant occur at approximately the same time: 3 points down, then 1

In the V-2 Alternate both poles are planted followed by the one ski and then the other: 2-1-1

In the V-2, there is a double pole plant with every leg push: 2-1, 2-1

Have skiers try every arm motion; it adds variety.

### **Teaching Methodology**

#### **Skating Without Poles**

Try a series of exercises like the following:

- “ Without your poles, skate around the field like a hockey player.”
- “Now put your hands behind your back and skate around like a speed skater.”
- “ Now ski around like a speed skater and swing your arms.”
- “ Now see how long you can balance on each ski before you have to take the next stride.
- “ Really feel it when you push harder with each stride. See how hard you can push.”

#### **Skating With Poles**

Skiers must learn to assist the stride by using the upper body and arms in movements similar to those for the diagonal stride or double pole.

Try the following series of exercises:

- “ Push on the poles every second stride.”
- “Try pushing on every stride.”
- “Now see how far you can glide on each stride when you skate and use your poles together.”

### **Exercises**

#### **Skating Without Poles**

Have skiers skate without poles (choose the easiest direction of travel if there is any slope, wind, etc.).

Have skiers skate from A to B and count their strides.

Have skiers skate around a large figure eight.

Have skiers play any tag game, but the only technique they can use is skating.

## **Skating With Poles**

Refer to the exercises for skating without poles; add going up a moderate hill.

NOTE: In these exercises, don't worry about proper hand position, timing of arms and legs, body position, etc. . . .if students can manage a skating leg push and rhythmically apply force by poling while skating, they are well on their way.

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## **SKATE TURN**

### **Purpose**

The skate turn is used to turn sharp corners at relatively low speed.

### **Terrain**

A moderate downhill with a flat, packed open area at the bottom.

### **Mechanics**

The technique is best described as a wide step turn with an explosive push off in the new direction.

The skate turn begins with a double pole and while returning to the upright position, the skier lifts the inside ski directing the arms and body in the new direction.

The skier edges the inside of the outside ski in a skate push. The action is an explosive extension of the hip, knee and ankle pushing the body in the new direction. Then transfer the weight to the inside ski and the outside ski is brought parallel to the other ski. The movement is completed with a new double poling action.

### **Teaching Methodology**

The teaching methodology is very similar to the step turn on a slope. Teach the skill with an uphill skill and make sure that there is a safe runout in both directions.

Have the class start with a simple skate around a ski pole or object. For a challenge, practice the turn on both right and left sides. Change the angle of the turn and increase the slope of the hill.

Add the double pole with the skate turn once the skiers feel comfortable with the above. Finally, add the final double poling action as the last skill to a sequence of double pole, skate turn, double pole. Remember to practice on both sides.

### **Exercises**

Without poles have the Bill Kochers holding hands, pretending to be "chariots", and skate turn around the corners of a 15 meter square.

A fun way of practicing this skill, in a drill or relay, is to use music. Up beat music will encourage your skiers to repeat the skill.

Line up several poles on the snow such that each skier has enough room to double pole . . . skate turn, double pole . . . skate turn, repeating a right then a left skate turn every other time.

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## THE V-1 SKATE (can be taught with glide christie)

### Purpose

To learn to use skating techniques to climb moderate and steep hills.

### Terrain

A smooth, consistent hill of moderate grade, progressing towards steeper grade climbs. The hill should be wide open, packed but not track set, and should have enough room to ski uphill and downhill at the same time.



### Mechanics

The V-1 movement must center on the 3-1 rhythm of two poles and one ski touching the ground at the same time. Although the tempo of the 3-1 movement may change and become more rapid as the incline steepens, the timing remains the same, with both poles planted at almost the same instant, and with the compression of the upper trunk used to “load” both arms. The trunk stays in a fairly upright position and does not bend forward at the waist as in double poling.

The steeper the hill, the more quickly the skis decelerate. Time spent in the glide phase decreases. Skiers compensate for this by quickening their push on both sides. The push and glide on both skis should be equalized.

During each stride, the hips should remain in a neutral, forward position. If the skiers “sit back” while climbing, their bent legs will tire.

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Changing sides and learning the skill equally on both sides is *very* important.

### Teaching Methodology

Start the skiers on a relatively short hill of moderate steepness. Have them start from a standing position. Begin by striding off the *left* ski onto the right ski and coming down on the poles as they stride onto the right foot. Then simply maintain the V-1 type of cadence.

Practice starting this with both sides until comfortable either way. Have skiers concentrate on fully extending both legs aggressively to keep the skis skating and to prevent bogging down. Phrases like “quick and light”, “gallop”, “strong step-quick step”, “like running up a sand hill” will all help achieve the correct feeling. Keep the hill short and moderate the grade for most of the practice or the skiers will tire before learning the skills.

If the ski opposite the poling side is “dying”, or losing glide time, have the skier go up the hill without poles.

### Exercises

—Practice the arm movements on the spot first, and then on a slight grade.

—Take a long pole, approximately five feet long, and paddle like a canoe in the snow; try both sides for development.

- Without putting on kick wax, go on a tour as a group for two to three kilometers.
- All exercises in basic skating can be planned in this section.

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## THE V-2 ALTERNATE SKATE

### Purpose

To learn to travel over flat and gently rolling terrain using a combination of skating strides and double poling.

### Terrain

Flat and smooth terrain with well-packed snow.

### Mechanics

Start where you left off with basic skating skills and reinforce the mechanics of good leg push, working equally with both legs. When skiers are effectively gliding, weight shifting and pushing on both sides, introduce the upper body movements.



Poles are used together in a double pole fashion with a quick, strong compression of the upper trunk, then extension of the arms. The trunk starts in a fairly upright position and does not bend forward at the waist as in double poling. Poles are loaded through a compression of the upper trunk. The arms work through the full range of motion. Poling is timed to occur once every second stride. The rhythm is 2-1-1 (2 poles, 1 ski, 1 ski), or pole-skate-skate, pole-skate-skate

The poles should be pushed in a direction similar to the direction of the gliding ski to assist the skiers' balance on the gliding ski.

Skiers should try to glide on a fairly straight leg, standing upright with the pelvis remaining in neutral, forward position throughout

### Teaching Methodology

The first priority is to check that the basic skating skills are being well executed and that skiers are using both legs effectively. Skating skills can be reviewed with some games and relays at the start of the season. Don't use poles during these drills.

To introduce poles, have skiers skate over a moderate downhill slope, and ask them to pole once every second step, using both poles at the same time. Once the timing is acceptable, emphasize the quick, aggressive upper trunk flexion and poling early in the stride, before the lead side ski touches the snow. Poling should almost be complete when the actual leg extension (push) starts. Encourage this movement by instructing skiers to pole "early" and push "late". Try having them say pole-skate-skate in time with their movements

## Exercises

- snow soccer-without poles or kick waxes
- tag games-without poles or kick waxes
- relays-first without poles then with the complete skill
- follow the leader

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## THE V-2 SKATE

### Purpose

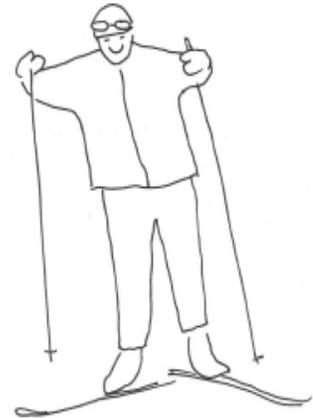
To learn to travel on flats and very moderate uphill slopes by using skating strides while double poling with each stride.

### Terrain

Use flat or slightly inclined, well-packed terrain.

### Mechanics

Skiers double pole with each skate. Skiers use skating strides in which both legs work equally as with all skating motions. The glide phase is followed by a strong push phase and a complete weight transfer onto the gliding ski.



Skiers must master the ability to balance completely on one ski to become efficient at this skill.

Gliding should be done on a flat ski and the poling is initiated early in the glide phase. During poling, the upper trunk flexes forward and the glide leg bends slightly, followed by a strong extension during which the ski becomes edged and skiers project up and over the opposite ski.

The pole recovery is quick and simultaneous with the movement across from ski to ski. This action brings the arms up in front in time to initiate the next pole push as soon as the skiers are balanced over the other ski.

While in the gliding phase, the trunk is fairly upright and over a relatively straightened leg, at least until the poling begins. This skill increases the use of the poles during each skate, thereby increasing the contribution of the work of the upper body to propulsion. Because of the exaggerated balance requirement, a well-packed trail is needed.

### Teaching Methodology

Instructors must again begin with basic skating skills, re-emphasizing the balance exercises before introducing the poling.

To start poling, skiers should skate down a very gentle hill, and try to push with the poles on each stride. Tell them to glide on the flat ski, and not do anything with the push until they have done a double pole. Keep the tempo slow until they achieve a sense of timing, and then pick up the speed bit by bit.

## Exercises

Any of the fun relays using this skill will work to reinforce the right feeling.

—Have skiers see how far they can go with each single stride, or count the total number of strides over a set distance, always trying to reduce the number.

—Start with small-skate pushes with every double pole until a dynamic skate push can be tried.

—Try for very long glides on each side where the poles touch twice on each side with mini-pushes

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## BASIC TELEMAR

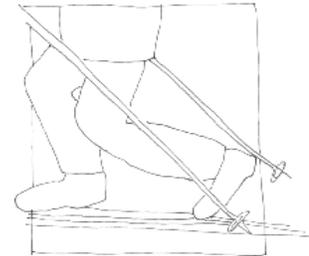
### Purpose

To introduce an old nordic turn especially used in powder snow used for skiing backcountry, or alpine slopes with more demanding conditions.

### Terrain

Smooth, gentle slope with flat outrun

### Mechanics



### Telemark Straight Running

Skiers stride one ski ahead to a point where the rear ski tip is midway between the tip and boot toe of the lead ski. The body is in the relaxed ready position with hands held low and forward. The hands are well separated as an aid to balance. The rear thigh is never farther back than vertical (a common fault that should not be allowed to develop into a habit). The lead foot is flat on the ski; the rear foot flexed at the ball of the foot. Body weight is equally distributed front and rear.

### Exercises

—on a flat surface, assume the telemark position by striding ahead.

—rise and stride into a new telemark position, making all movement smooth and flowing.

—repeat several times and watch for tell-tale signs of overstriding, i.e., the rear thigh angled back past the vertical.

—from a telemark position, kneel down and touch the snow. Notice that the body height, and thus the center of gravity, can be varied without a further separation of ski tips.

—glide down the slope from start to stop using telemark, first without poles (just the large tray of cookies). Try again with poles held horizontally, hands as far apart as possible.

—start in a low telemark. Halfway down, rise and stride into a new, low telemark.

Encourage smooth transitions, rising and settling down at the start and finish of every change. Repeat with pole or without poles, and with more than one stride change of telemark positions.

### Mechanics

#### Basic Telemark Turn (terrain is the same)

Skiers rise and stride one ski forward simultaneously, steering it across the path of the rear ski. Once a large enough wedge has been created, the weight is distributed equally between the feet. The skis are

pivoted the same as in the wedge turn. Hold the “tele-wedge” until stopped. Unlike the wedge, it is quite all right for the lead ski to touch the tip of the rear ski while in the telemark position.

### **Exercises**

-start down the fall line in a telemark straight run. Rise and stride into a telemark turn, holding the new position until stopped. Repeat for both left and right turns and with or without poles.

-repeat and encourage large semi-circular turns.

### **Linking Turns**

Instead of finishing in a telemark position, let the rear ski come parallel to the lead ski at the end of the turn. Before momentum is lost, rise and stride into the new turn. After trying two linked turns, have two poles set up to create an easy slalom. Increase to a three- and four-pole course as skills develop. Have skiers experiment with hands wide versus narrow to improve balance. Wedge Games are all possible with telemark (trains, airplanes, etc.).

Try tandem telemark turns. Put weaker and stronger skiers together. Practice one turn, then switch sides and let them practice on the opposite side. The stronger skiers should be on the inside of the turn to provide the weaker skiers with a stable partner. This is a great exercise to develop balance.

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## **GLIDE CHRISTIE**

### **Purpose**

To advance beyond the wedge with an introduction to the parallel progression; to introduce side slipping.

### **Terrain**

A smooth, groomed slope slightly steeper than for wedge with a convex “crown” or gentle bump on the hill.

### **Mechanics**

The turn starts by crossing the fall line in a ready position, skiing across the hill (traverse) and opening the skis into a wedge. Wedge 2/3 of the arc or turn as for a conventional wedge turn.

After crossing the fall line, transfer weight onto the downhill ski. With your weight balanced on the downhill ski, oversteer the uphill ski until it is parallel, and continue to steer so that both skis continue turning. The final 1/3 of the turn is a skidded parallel. Skidded parallel can best be described as an arched side slip.

### **Exercises**

#### **Side Slip**

Before attempting the turn, introduce the concept of side slipping. Begin by side stepping two to three steps uphill in between widely-spaced ski poles. Stand beside the uphill pole, skis parallel, shoulder width apart. Relax the knees away from the hill for a few moments. This will cause the edge to release for a brief moment and a short side slip will result. Repeat until you come up against the downhill pole.

Try the exercise without using the poles for balance. Instead, rely on natural balance by standing in the ready position between shoulder width skis. Try longer and longer side slips, facing both directions. Then try turning the upper body and looking downhill. Pretend to hold out the cookie tray to someone standing downhill from you.

### **Glide Christie**

Try an actual turn. The secret is the smooth weight shift to the downhill ski. This allows the uphill ski to oversteer alongside easily. Naturally, anyone who leans into the turn will find it very hard to balance on the downhill ski!

If the uphill ski is getting caught on its inside edge, it will not be possible to place it parallel to the other one. The fault will result in either a wedge which is too large (putting skis on too much of an edge)—or an uphill knee that is “knock kneed”. When the uphill ski is on too much of an edge, the solution is to move the knee slightly uphill until the ski flattens on the snow so that it moves easily alongside the downhill ski.

Repeat for both right and left turns. Try to achieve a small amount of side slip at the very end of the turn. If the upper body is moving out of the ready position and interfering with balance over the downhill ski, try skiing with the poles held out front in the cookie tray position.

#### Variations

-Arms held out like wings; bank to the outside of the turn. This movement will add weight to the downhill ski.

-Use the bump of the hill to turn. Turning on the downhill side of a large round smooth bump really helps to shift body weight to the downhill ski. A good stance will make it possible to maintain balance long enough to oversteer the uphill ski.

-Mark the arc of the turn with ski poles and indicate where the change from wedge to skidding with your skis parallel takes place. Try to follow along the arc.

### **Linking Turns**

Before the skis have skidded to a complete stop, open into a new wedge and start a new turn in the other direction.

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## **ELEMENTARY CHRISTIE**

### **Terrain**

Smooth, packed slope or wide trail; use the same slope as for glide christie.

### **Mechanics**

The elementary christie progresses from the glide christie in three ways:

-unwitting is used to help with earlier weight transfer and easier steering;

-the skis will close to a parallel position earlier in the turn;

-the pole plant will be introduced as a timing aid to help with the above steps.

Initiate the turn by opening into a wedge or wedge, and steer towards the fall line. The knees are flexed a little more than in the ready position (increased “flexion”). Plant the pole that is on the inside of the turn and rise up. At the same time, start transferring weight to the outside ski and oversteer the inside ski to the parallel position.

BKL level: Skiers will have difficulty planting the pole and keeping the skis parallel until the fall line.

Advanced level: Following their pole plant, skiers should be able to unweight quickly (weight transfer) to the outside ski to allow the skis to close to the parallel position before the fall line.

Once the skis are parallel, the steering force is maintained and the skis continue to skid in an arc. As skiers perfect the elements, edging should be used to reduce the amount of skidding and get the skiers to perform better.

Edging is achieved by allowing the hip and knee to move more to the inside of the turn (producing a stance known as “angulation”). Angulation puts the outside or downhill ski more and more on edge by bending the knees into the hill to prevent side slipping.

### **Exercises**

-to improve balance, the poles can be held in the cookie tray fashion. Once the weight transfer and balance over the outside ski is more natural, the pole plant can be introduced.

-to help with unweighting and weight transfer, transform the skiers into frogs! From an exaggerated crouch in the wedge position, the skiers yell “RIBBET!”, jump up completely off the snow, land on the outside ski and continue to turn. Any degree of success is wonderful! The goal is to reduce the jumping energy until the skis no longer leave the snow. However, the unwitting will still be a visible rising action that will make the skis lighter and easier to turn.

-further skill development comes from using a smaller and smaller and smaller wedge to initiate the turn. The game becomes one of “how small a wedge can you make to start your turn?!”

### **Linking Turns**

Because increased edging causes fairly quick stops at the end of the turn, reduce the amount of edging. End the turn with a slight flexing of the knees. As one turn ends, skiers can stop the steering, or pivoting of the feet, open into a new wedge and repeat the pole plant, unweighting, etc.

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### **Summary**

The preceding methodologies have been developed to show you how to teach children to apply basic motions in combination— and by doing so to build proper technique. In each lesson learning takes place without lecture. Children learn from watching. Children learn by doing.

To motivate and reward the accomplishments of your BKL skiers, a Success Chart can often help.

## **BKL Success Chart**

A Success Chart is a great aid in motivating young skiers. It is also an excellent way to provide a self-paced, structured curriculum for your BKL children. Please keep in mind as you examine and read through the directions below that every club's Success Chart will be different. The suggestions below are meant to be a guide.

### **How to Make a Success Chart**

Materials: poster board, yardstick, magic markers

Steps:

1) Determine what general Categories you want to have in your checklists. In addition to the basic ski skills, you'll probably want to have some basic safety and equipment care competencies. There are many areas related to skiing that you can include:

- Fitness areas, e.g., push-ups, sit-ups, or dips
- Dryland hikes (tailor these to where you live) and ski games
- Races watched, races volunteered at, races entered
- Trails toured, kilometers covered (tailor these to specific trails and backcountry areas where your club meets)

Make sure to include to fun checklist items and maybe even a few silly ones, too, like skiing in a costume, or skiing downhill backwards!

2) Leave a header on top for 4-6 Categories, e.g., Fitness, Skills, etc. Just below that create your specific checklist of skills and accomplishments.

3) Create a vertical column on the left, approximately 1" high x 4-5" wide, for each skier's name. You may set it up so every skier in your club tries for every skill, or make separate charts for different age groups/levels/interests.

4) Fill in the grid on the chart with the yardstick

5) Post your chart at a height convenient for kids.

6) Use star stickers or check marks with fun, colored markers to show progress and accomplishments.

Below you will find suggested Categories to head your Success Chart. Beneath each category are suggested skills. Choose from these to suit your clubs needs and goals.

## Suggested Categories and Skills for a BKL Success Chart

### Smart and Healthy

- eat healthy foods
- use sun block
- wear hat and mittens
- ski with a water bottle
- bring fruit /energy bar
- say NO! to drugs and alcohol

### Equipment Care

- always bring skis, boots, poles
- always bring dry clothes to change into
- kick-waxed my skis
- glide-waxed my skis
- always dry out my boots and clothes
- always put skis away after practice with ski straps

### Adventure

- skied in all weather: rain, sun, snow, wind
- built a jump at home
- skied a 5K trail without stopping
- went on a ski tour
- skied all the Easy/Blue circle trails at my ski area
- skied down the alpine bunny slope on my skis
- identified animal tracks, trees, birds

### Safety, Responsibility, and Sportsmanship

- use the “buddy system”
- know what to do in case of an accident
- know what to do in case of frostbite or hypothermia
- on time for practice and races
- can identify my own skis, boots and poles
- carry my own equipment
- help the club coach carry things
- ask permission before skiing a trail
- don’t litter on the trail
- support all my teammates
- don’t skate in a classic track
- always ski in the right direction
- always polite to people I meet
- give way to skiers passing or coming downhill

### Skills/Lessons

- assumed basic athletic stance
- star turns around tips; turns around tails
- side step
- uphill side-step
- used wedges to glide and brake
- herringbone
- kick turn
- double poling
- double pole, single kick
- striding without poles
- diagonal stride
- skating without poles
- skating with poles
- gliding turns
- skate turns
- V-1 skate with left lead
- V-1 skate with right lead
- V-2 skate
- V-2 alternate skate
- wedge christie
- glide Christie

### Racing

- went to a BKL event
- helped out at a BKL race
- learned the names of the US Cross Country Ski Team
- watched a cross-country ski race on TV or video

Three sample BKL Success Charts are on the following pages. But please, make up charts that suit your kids, your terrain, and be sure to include plenty of fun skills that everyone can accomplish!



## Ski for Ks Charts

Ski For Ks is another program you can implement within your club, to encourage kids (and adults!) to set accomplishable goals, break them down into small steps, and earn the pride and recognition for achieving that goal.

On page 71 is a Ski For Ks chart for the Mountain Meadows BKL Club. A piece of large poster board with each child's name in the left column includes an accomplish-able kilometer goal. Willie's initial goal was 15km, which he reached by January 3rd! So his new goal became 25km. To aid in tracking the kilometers, measure standard loops where you ski and assign them colors or names, eg. the yellow loop is 3km. At the end of each practice, ask each child what loop(s) they skied, enter the total in the upper left triangle and the total to date in the lower right triangle.

NENSA has Ski for Ks tracking on their website. Adults and kids with their parents permission or supervision, can log onto their own, personal Kilometer tracking log, and enter their distance skied, see the running tally of kilometers to date, and they can enter specific information about each day's ski.

Ford Sayre Ski Club's (Hanover, NH/Norwich, VT) version is on page 72 and 73. The leaders printed this on a heavy stock colored paper, with the chart on the following page on the back. They offer means of tracking kilometers by time spent skiing. If you choose to adapt it for your program, be sure to update the birth year in the chart on page 72, and the dates you'll meet on the chart on page 73!

All these Ski For K's Charts can be used at the end of the season celebration to recognize and reward kids for a terrific season of skiing.

WEEK ENDING	9 DECEMBER	DECEMBER 13	DECEMBER 20	DECEMBER 27	1 JANUARY	8 JANUARY	15 JANUARY	22 JANUARY	29 JANUARY	5 FEBRUARY
ISAAC WRIGHT		3 km	5 km	10.5 km	18 km	25 km	32 km	40 km	48 km	56 km
CHLOE LEVINS		7.5 km	6 km	13.5 km	18 km	24 km	30 km	36 km	42 km	48 km
WILLIE WRIGHT		3 km	-	3 km	6 km	9 km	12 km	15 km	18 km	21 km
LUCAS KRETVIX			4 km	8 km	12 km	16 km	20 km	24 km	28 km	32 km
ALGIE LEVINS		10.5 km	9 km	17.5 km	21 km	24 km	27 km	30 km	33 km	36 km
SONNY MAYNARD		3 km	7 km	11 km	15 km	19 km	23 km	27 km	31 km	35 km
GREG GUMM		17 km	7 km	14 km	21 km	28 km	35 km	42 km	49 km	56 km

## Welcome to the Ford Sayre Nordic Racing Program Incentive

### Ski for K's

"Ski for K's" is an exciting program designed to help motivate our junior skiers to ski more and have fun keeping track of their kilometers (or hours) skied. A fun twist is that the program is open to parents, siblings, and coaches as well - there is something for all of us! Here is how it works: During the ski season, those who choose to participate will set personal goals they wish to achieve in terms of distance (or time) on skis. Participants will be able to keep track of their skiing using the attached chart. As an incentive to race, race distances are doubled and anyone skiing in his or her very *first* race (a one time offer) receives TRIPLE distances! At the end of the season special Ford Sayre Nordic pins are awarded based on the level achieved. Our hope is that this becomes a fun incentive for participants to keep track of their skiing, set goals for themselves, and experience the challenge of meeting their goals. Participation in the program is optional, but it is designed so anyone that attends most practices and skis a bit on their own or races should be able to earn a pin.

Use the table below to think about your skiing for the upcoming season and set your personal goal. You can discuss your goal with your coach. The attached chart lets you keep track of the distances or hours skied. The table below lets you convert from hours to kilometers. We've estimated how many kilometers each class skis during an hour-long practice and recommend using that distance for each practice (i.e. 3 km for J5, 4 km for J4, 5 km for J3). Use your judgment and adjust as necessary. We anticipate the program will continue to evolve during the upcoming years and as always, welcome your suggestions.

Class	Birth Year	K's / Hour	Gold	Silver	Bronze
J6	1998 / 1999	2	100	50	25
J5	1996 / 1997	3	175	125	75
J4	1994 / 1995	4	250	175	100
J3	1992 / 1993	5	300	225	150
J2	1991	5	300	225	150
Parent/Coach	1940-1980	3-10	600	300	100

***And most importantly... HAVE FUN!***

# Ford Sayre Nordic Racing Program

2005-2006 Ski 4 K's

Name: \_\_\_\_\_

Week of:	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total Week	Total
Nov. 20									
Nov. 27									
Dec. 4									
Dec. 11									
Dec. 18									
Dec. 25									
Jan. 1									
Jan. 8									
Jan. 15									
Jan. 22									
Jan. 29									
Feb. 5									
Feb. 12									
Feb. 19									
Feb. 26									
Mar. 5									
Mar. 12									
Mar. 19									
Mar. 28									

*Record either kilometers or hours skied and remember to double your K's for races!*

## **Chapter VI**

### **Ski Games**

In this section you will learn how games are used to build the skill foundations on which all technical movements rest.

## Ski Games

Games are at the heart of the NEBKL program and should be incorporated into every club gathering. Games teach balance, coordination, feel for the snow, and agility. Games provide challenge, stimulation, and the chance for everyone to feel successful. Games teach cooperation and are instrumental in transforming a group of individuals into a community.

But most of all, Games are FUN!

Having said this, we must find a balance between playing games and other learning activities. One model is to work on a skill, play a game which reinforces that skill, then return to the skill to reinforce what taught and to provide feedback. The bottom line is:

- 1) Play games purposefully— not because you have nothing else to do
- 2) Integrate games into your practice— not the other way around
- 3) Don't play games too long. Observe your children. Sometimes ten minutes is adequate.  
Move on to a new game or to something entirely different.

### How to Use Games

Use games to involve everyone. Children unwilling or unable to play can be used as officials or helpers. Games also provide the perfect forum in which to integrate parents into club activities. Ski games are great ambassadors for your club as well. Give newcomers and visitors a chance to watch, and if possible, to participate in club games.

The following guidelines will help you to use games successfully:

- 1) Identify what games you will use before practice. Use this manual to guide you to the games which will reinforce the skills you want to develop.
- 2) Have everything you need to play the game ready to go beforehand.
- 3) If the area needs special preparation have it done before the kids go out.
- 4) Divide kids up BEFORE you go out, if at all possible. Read off the teams you have selected. Letting captains pick can end up with injured feelings. You can always count off "1,2,3,4" if you need four groups, with "1's" being a team, "2's" being a team etc. Make adjustments outside if teams prove uneven.
- 5) Don't let a game go on too long. Call for a rest or switch to something else when you see signs of fatigue or boredom.

## GAMES TO START PRACTICE

There is always a time lapse between the first skiers being ready and the last skiers being ready. The larger the group, the longer the differential. Prepare an obstacle course, or a slope with a jump, or an area where tag can be played so that the hares can play games while the tortoises ready themselves. Or have an assistant leader or child lead the group of kids who are ready in a circle game of Hokey Pokey, Simon Says, while the Leader is preparing and sending the other kids out.

### **Hit the Deck!**

Practice falling, rolling onto the back to untangle skis. Place skis on snow parallel to each other. Then move forward onto knees to get up. Slide one ski forward and push up.

### **The Hokey Pokey**

Stand the group in a circle and sing/say: “Put your left ski in, put your left ski out, you put your left ski in and you shake it all about. Then you do the hokey pokey and you turn yourself about. That’s what it’s all about.” Do whatever the lyrics tell you to do. Repeat with various body parts and pieces of equipment.

### **Hopscotch**

Same as the game of squares drawn on pavement with crayons! Use food coloring or spray paint, or simply draw the squares in the snow with a ski pole. Use an extra hat or a pine bough to throw on the hopscotch square.

### **Red Light/Green Light**

Have the skiers moving randomly around you. Then say, “Red Light!” Give skiers 5 seconds after to stop and try to hold the position they were caught in. When you say “Green Light” they can begin moving again.

### **Simon Says**

This game is popular with younger Kochers. “Simon Says: step sideways; now hop up and down . . .”

## GROUP SKIING GAMES

### **The Blob**

The Blob is a type of tag. Play on a field with a defined size. Start the game with two fast children joining hands to become the Blob. They ski while holding hands until they tag someone. The Blob is now a threesome. They ski until they tag a fourth person— then the Blob splits up into (2) 2-person Blobs who go on the hunt for more victims. Tip: the size of the field is important— too big and the Blobs won't be able to tag people. Also, encourage blobs to work together to “sweep” the field.

- play without poles
- balance, agility, coordination, feel for snow

### **Cut the Pie**

Make a large pie circle in the snow; there should be four slices in the pie. The players can only ski around the perimeter or along the four cuts in the pie. One person is “it” and tries to tag another player. Anyone who falls into the pie or cuts a corner becomes “it”, so don't cut the pie! Safety is a circle five meters in diameter in the center of the pie, but there cannot be more than three skiers there. The skier who has been in the safety circle the longest has to leave if a new skier enters. The pie can be about 50 meters in diameter if there are 10-15 players, bigger if there are more or older skiers.

- play without poles
- balance, agility, coordination, feel for snow

### **Duck, Duck, Goose!**

Arrange the skiers into a circle facing the center. Choose one skier to be “It”. This skier skis around the outside of the circle tapping each skier, saying “Duck, duck, duck, . . .” then he/she taps someone and says, “Goose!” The “goosed” skier jumps up and chases the “it” skier, trying to catch him/her. That skier is then “It”, and starts the second round of “Duck, Duck, Goose!”

- play without poles
- balance, agility, coordination, feel for snow; turning

### **Easter-Egg Hunt**

No need to wait for Easter! Use small candies and scatter them in a field or open woods while skiers are not watching. Younger children start two minutes before the older children.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Ghostbusters**

Spread the group out in a field (or gym) in a random formation. Use poles if on snow. Choose one person to be the ghostbuster. All others are ghosts. Anyone tagged by the ghostbuster becomes the haunted house (and must stand with arms and legs stretched out to the side). Haunted houses are freed only when a ghost goes under their legs. Haunted houses must remain stationary when tagged. Game starts when you yell “one, two, three, ghostbusters!”

- play without poles
- balance, agility, coordination, feel for snow

### **The Great Ski Chase**

Designate several tag areas and their boundaries. Pick teams of skiers, the taggers, for each area. Then

pick older skiers, coaches, or parents for the taggees, one for each area. At the start, the taggees get a 30-second start. They then zigzag in their specified area and try to avoid being caught by their team of young taggers. Which team will capture their Leader first?

- play with or without poles
- balance, agility, coordination, feel for snow

### **Hares and Hounds**

The hares get a two minute start into a wooded area. An overgrown field is ideal terrain. The hounds are released to track down the hares, who can hide or run. The hares are given long streamers, ribbons, or scarves to wear as bunny tails. When a hound catches/tags a hare, the tail is collected as a trophy of the hunt. The game continues for +/- 10 minutes, when a whistle calls everyone in. The sides switch: hares become hounds, and hounds become hares. Who can catch the most hares? Count up the trophies from the hunt. Which side has the best hounds?

- play with poles or without
- balance, agility, coordination, feel for snow

### **Mystery Time Race**

This type of race is designed for any one in the group to be able to win, regardless of ability. Pick an approximate length of time for the activity, say 20 to 45 minutes. Select one person to pick a time between 20 and 45 minutes (to the nearest second), write it down, and hide it. Start the group out skiing, telling them to be back between 30 and 45 minutes. Score the race by those that come back closest (absolute time) to the mystery time. Distance, speed, and style are of no concern.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Obstacle Course**

Ski over bumps, climb over a bench, ski under a rope, around poles and bushes, sidestep up a ramp or hill. Turn the course into a relay.

- play with or without poles
- balance, agility, coordination, feel for snow
- technique: incorporate hills and corners to teach a variety of techniques, eg, herringbone, skate corners, etc

### **Red Rover**

Each team has a turn to defend a square “battlefield” from invasion by other teams. When the defending team is ready, it challenges one of the attacking teams to try to ski through the field to the other side. “Red Rover, Red Rover, send the (club’s name) team right over.” The club’s skiers then try to rush or sneak through to the far side without being tagged (touch with hand). The greater the number of skiers that reach the other side of the field, the higher that team’s score. Each team takes a turn playing offensive and defensive positions.

- play without poles
- balance, agility, coordination, feel for snow

### **Rock, Paper, Scissors**

Divide skiers into two groups. They play on a field that has two well-defined “end zone” lines and side boundaries. The width of the field should be roughly half the length. Each group huddles at its end zone and chooses 2 signs: one to be used first signal and the other as a back-up in case of a tie. Teams then ski to the center of the field and face each other spread out along the width of the field. At the command each team presents its signal— the losing team then flees toward its end zone with the winning team in pursuit. Tagged losers go over to the winning team. Repeat until a time limit is reached or there is only one team.

- play without poles
- balance, agility, coordination, feel for snow

### **Samurai Swordsman**

Form a large circle with all participants. A samurai is located in the middle with an object representing a large sword. Game starts with all participants bowing to samurai. If he swings the sword up high then you must duck; if he swings it low, then you must jump; if he jabs forward then you must side step. The key to this game is to keep it moving and to make analogies regarding participants destruction (e.g., “John, you look like a piece of Swiss Cheese!”).

- play with or without poles
- balance, agility, coordination, feel for snow
- technique: side-stepping

### **Sharks and Minnows**

Minnows line up on the “beach” and one shark is in the “ocean”. When the shark yells “minnows!” all the minnows have to ski across the sea to the beach on the other side. The beaches are safety zones. If a minnow is tagged he becomes a shark, too. Continue the game as more and more minnows turn into sharks until only one minnow is left.

- play without poles
- balance, agility, coordination, feel for snow

### **Ski Soccer**

Skiers play soccer on skis but use their hands instead of their feet to move the ball. With a large group, try using two balls.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Spider Man**

Random formation on a field with all players having a flag tucked in the back of their pants or pocket. On the start signal each person tries to steal the others’ flags. Once you lose your flag you cannot ski but must keep one foot on the flag on the ground. You can reach out and steal the flag of someone else skiing by you. Last person with a flag wins.

- play without poles
- balance, agility, coordination, feel for snow

### **What's Around the Corner?**

Set two or three stations along the trail. Skiers must stop and do something at each station: say the first half of the alphabet, count backward from 25 to 0, spell their name and mailing address, switch poles to opposite hands, do some toe touches, sing one verse of a favorite song, drink a cup of juice, etc.. You can ask younger and older skiers to do different things at certain stations.

- play with or without poles
- balance, agility, coordination, feel for snow

## **RELAY GAMES**

Relays are one of the most effective and fun ways to involve kids in activities where they learn by doing. Some caution, however, needs to be observed to prevent the slowest, most awkward, most inexperienced kids from standing out.

- 1) Avoid placing newer, less skilled skiers in the first leg or the last leg of a relay.
- 2) Try to mix less experienced skiers into teams that have some of your faster, better-conditioned athletes.
- 3) PAY ATTENTION. Yes, there is always a lot of cheering and backslapping that accompanies relays— but are any the kids standing back and feeling badly because they “cost” their team the event?
- 4) Be prepared to make some types of relays optional if you observe that some kids just don't like them.

### **Beanbag Relay**

Each racer stops at the “firing range”, throws beanbags into a box until he or she gets three “hits”, and then skis on to tag the next skier. Leaders and parents help return the beanbags to the “firing line” so that there is always plenty of ammunition on hand. You can use tennis balls as well.

- play without poles
- balance, agility, coordination, feel for snow

### **Catalog Relay**

You need an old catalog, a piece of paper, clipboard and pencil, and stopwatch or watch. Place the catalog about 100 meters from a starting gate. The gate is two shoulder widths apart. Mark the catalog's location with a pole. The person in the starting gate is given a page number. The object of the game is to ski to the catalog, find the page number, tear it out, and return to the starting gates as soon as possible. The skier with the fastest time wins. Appoint some kids as official scorers and timers.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Caterpillar Relay**

Two, three or four teams each line up with skiers in file formation;. Each skier places skis outside the person in front of her, every fourth skier would start with skis together. Teams hobble, shuffle or do whatever it takes to get their caterpillar over the goal line.

### **Chariot Race**

Worn-out bicycle tubes are used in this race. Divide the group into teams of two. One partner lines up behind the other, a tube is put around the waist of the skier in front, and the skier in the back holds onto the “reins”. The skier in front pulls the skier behind down to a designated point and back by skiing.

When a pair has finished, it tags the next team; the fastest team wins. If there are enough tubes, all teams can go at once.

- strength, feel for snow

### **Circle Relay**

Students ski to a pole, circle it twice, and ski back to tag the next team member. Each team has its own turning pole.

- play with or without poles
- balance, agility, coordination, feel for snow
- race cornering

### **Co-ed Relay**

Each team consists of a mix of boys and girls (2 and 1, 2 and 2, 3 and 2, etc.)

- play with or without poles
- balance, agility, coordination, feel for snow

### **Cross Country Slalom Relay**

Flags can be set on the flat, on an uphill, or down an easy hill. Leave plenty of room between sections of the slalom for racers to pass each other unless you have enough poles to make a dual slalom. You can set up 2 courses side-by-side on a short, relatively easy uphill— have skiers start head-to-head, ski up the hill and down the slalom gates

- play with or without poles
- balance, agility, coordination, feel for snow
- multiple technical applications

### **Double-Pole Contest**

Set up two flags or poles 25 meters apart. Ask each skier to count the number of double poles they use between the flags. Then ask each skier to ski the route with fewer double poles. See who can do the least.

- play with poles
- balance, agility, coordination, feel for snow
- double pole

### **Double-Pole for Distance**

Make a starting line. Who can travel the farthest with ten double poles? Have each skier mark his or her place and try again for their personal best.

### **Double-Pole Drag**

Put an old bicycle inner tube around the waist of the front skier; the second skier holds onto the tube. The front skier double-poles, dragging the second skier behind. When they reach the end of the course, the skiers change position and repeat the procedure.

- play with poles
- balance, agility, coordination, feel for snow
- technical application: double pole

### **Double-Pole Long Jump**

Draw a “poling line” in the snow. Let each skier back up to get good momentum. The skier executes a double pole on the double poling line and glides to see who goes the farthest. A slight incline works great.

### **Duck, Duck, Goose!**

The group sidesteps halfway up an incline forming a line. The lowest person herringbones uphill, behind the group, saying “duck, duck, . . .” and then tags a “goose!” The tagged skier races to the top of the hill, trying to stay away from the tagger. The slower skier returns to the bottom to “duck walk up” and tag a new goose.

### **Egg Relay**

Get some big spoons, and decide whether you want to use uncooked eggs. If an egg breaks, a Leader can leave the starting line with a replacement egg and ski to the site of the catastrophe. Another broken egg means another trip for the Leader!

- play without poles
- balance, agility, coordination, feel for snow

### **Father-Son Relay; Mother-Daughter Relay**

Think of other variations: brother-sister relay, adult relay (an event for those over 25!), etc.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Figure Eight**

Ski a figure eight track; start skiers skating slowly and little by little have them pick up speed

- play with or without poles
- balance, agility, coordination, feel for snow
- multiple technical applications

### **Holding-Hands Relay**

This game is popular with younger skiers. Partners must ski without poles and they must hold hands. If one falls, the other helps him or her up—still holding hands. The lead-off pair skis the loop—keep the loop easy—and tags the second pair.

- play without poles
- balance, agility, coordination, feel for snow

### **Interval Relay**

Two racers alternate laps for three to 10 laps each. This relay provides excellent training and is a good event for the mid season.

- play with or without poles
- balance, agility, coordination, feel for snow
- choose the technique you wish to work on as the format for the relay: double pole, skating, striding, hill-climbing, downhills, etc

### **Medley Relay**

Have three or four short loops of different types: one short and flat, one hill-climb section, one downhill section, one mixed-terrain loop, etc. Racers can start from one exchange zone or have exchange zones along the trail at convenient locations.

- play with or without poles
- balance, agility, coordination, feel for snow
- multiple technical applications

### **Multiple-Age Relay**

Each team consists of a skier under eight, a Bill Koch skier, a high-school age skier, and perhaps an adult skier. You're never too young or too old!

- choose almost and relay format mentioned

### **No-Pole Relay**

Skiers ski out to a marked point and back and then tag the next teammate in line. Everyone skis *without* poles. Many variations on this relay are possible.

- balance, agility, coordination, feel for snow

### **No-Ski Start**

Skiers start with their skis off, run about 10 meters, put their skis on, and complete the relay.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Partner Relay**

Two skiers holding hands complete a set course.

- play without poles
- balance, agility, coordination, feel for snow

### **Peas-on-a-Plate Relay** (Phil Savignano - Healthy Hometowns Ski Games)

Using Frisbees as plates and tennis balls as peas, relay teams of three or four take turns collecting a pea on their plate and then passing the plate to their team mate until the plate is full. (pre-count to determine how many tennis balls fit on a Frisbee). The start line should be about 10 yards from the tennis balls. Scatter the tennis balls to spread the competitors apart. Spills are common and if the plate empties the team has to start over again on pea at a time. As kids get better at this game, add in some varying terrain and a few obstacles.

Equipment: One frisbee for each team and dozens of old tennis balls (ask around at the local tennis center or an avid tennis player for their old practice balls).

- increase comfort on skis by improving balance and agility.

### **Push the Piggy to Market**

Skiers use a ski pole to push a ball along a short trail (25-50 meters), turn around a flag, and return to tag their partner. Their partner then goes through the same procedure. Alternatively, skiers kick a ball with a ski tip as far as possible in two minutes. When the two minutes are up, the next team member takes over for two minutes, and so on.

- play with or without poles

- balance, agility, coordination, feel for snow

### **Run-and-Ski Relay**

Skiers start with their skis off, run 10 meters, put on their skis, ski a 100 meter loop, take off their skis, and run to tag a partner. A Leader might be needed to help students put on their skis.

- play with or without poles
- balance, agility, coordination, feel for snow

### **Skating Maze**

Set up a slalom course on flat terrain and ski and skate through the poles quickly. Older skiers love racing against a clock and trying to improve their time.

- play with or without poles
- balance, agility, coordination, feel for snow
- race-turning

### **Tandem Skiing**

Mount two sets of bindings about 50 centimeters apart on a pair of skis. Let two skiers put on the pair of skis. A strong, proficient skier in the front can be helpful in letting the other “feel” a proper diagonal stride. See how smoothly they can ski.

- play with or without poles
- balance, agility, coordination, feel for snow
- diagonal stride

## **PLAY ACTIVITIES**

These activities can be used to practice balance, skating, telemark and christies, . . . almost any skill

### **Downhill Run**

Students follow you or another Leader through slalom poles. Have students imitate the following skills:

- balancing on one ski to see how far they can go;
- skating on the flat or an easy downhill;
- pumping on the bumps to see how far they can glide out onto the flat section;
- jumping off small bumps and landing in a deep-knee telemark;
- a telemark turn;
- slalom on an easy hill. (Skiers line up on the fall line. Skier farthest uphill weaves his or her way in and out of human slalom poles to the bottom, where he or she stands below the last person to form the next gate.)

### **Fire Engine**

Break the group into teams. Each team should be the same size and represent a numbered fire-engine station. When the “alarm” is heard, call out a number; the station with that number must then put the “fire” out. For example, a blanket laid out on the snow might represent the fire; skiers would have to “put out the fire” by covering the blanket entirely with snow.

### **Leapfrog Downhill**

Pick a very gentle hill on a day when the snow is nice and soft. Separate the total group into smaller groups of about the same height. Have them drop their poles. Start the first one of each group gliding down the hill and stop them a short distance afterwards. This person must then crouch down so the next skier can ski-straddle over them as in leapfrog. Continue the progression until the last skier is down the hill.

## **FOR SLIDING AND GLIDING**

### **Furthest on One Ski**

This exercise is designed to work on balance. Pick a tracked hill within the ability level of the group. You can decide whether or not to have the group take one ski off. Line up the skiers to go down the hill one at a time. Keep track of who can go the longest distance balanced on the one ski. Change skis, and learn to balance on the other side.

### **Giants and Midgets**

Get tall/get small to fit under a pole that the Leader is holding over the trail.

### **Grab Snow**

Ski downhill without poles and grab snow with both hands, throw a snowball at the Leader or another target.

### **Jack in the Box**

Pop up and down as you ski down the hill.

### **Juggler**

Ski downhill balancing a snowball on the head. Who can ski the farthest? Ski beside a partner and play catch with a snowball.

### **Railway Tracks**

Instructor skis first and skiers follow in instructor's tracks. Lay a streamer or rope across the track for skiers to jump over.

### **Scooter**

To get good strong kicks for diagonal stride, try this exercise. Have the skiers on one ski only, in a straight track. Tell them to kick off with their non-ski foot, like they are on a scooter. A pole can be held crosswise to simulate "handlebars". Try to glide with even, steady kicks. Change skis and repeat the game. Form the exercise into a relay race for a group activity..

### **Ski the Bumps**

Ski over bumps like a car on a bumpy road. Use your legs like shock absorbers.

### **Squish the bugs in your boots**

Press down on your boots and squish those bugs

### **Through the Arches**

Plant two poles and suspend another pole horizontally from the wrist loops. Ski down, duck under the pole and rise up to touch a streamer on a pole planted several feet below. Move the streamers closer for faster reactions or farther away if necessary.

## **FOR WEDGES**

### **Jaws**

Use big and little “jaws” on your skis to bite the snow as you ski down (edging control).

### **Pie Making Contest**

See who can make the widest slice of pie.

### **Pie Slices**

Identify five pieces of pie from narrowest to widest wedge. The Leader calls out numbers of the pie for the kids to execute. Or the children call out the number of their slice as they ski down.

### **Red Light/Green Light**

A great variation on the game to emphasize control through wedging.

### **The Squeeze**

Set two poles side by side so the skiers can ski straight between them. Then have the kids wedge down and close the wedge to squeeze between the poles. Open up the wedge to stop on the other side.

## **FOR WEDGE TURNS OR TO INTRODUCE TELEMARK TURNS**

### **Bouncing Basketballs**

Bounce an imaginary basketball on the outside of one ski, then bounce one on the outside of the other ski.

### **Dual Slalom**

Set up two identical courses side by side and pairs of skiers (evenly matched) race to the bottom. Use poles, flags, road markers, colored plastic margarine containers.

### **Fly Like a Plane**

Hold your arms out like wings and bank turns like an airplane

### **Turning Toes**

Ski evenly in a wedge, then point your right toes toward a pine tree to your left for a left turn, or to a building on your right for a right turn.

### **Human Slalom**

Skiers line up on the fall line. The top person turns around one of the skiers and stops at the bottom. The next skier “peels off” from the top and weaves through the human poles to the end of the line.

### **Race Cars**

Kneel on skis and race downhill steering with hands on ski tips. Give them different ways of coming back up the hills. Do not use poles.

### **Round the Peg, Downhill**

This exercise is designed to teach quick downhill turning ability, plus quick transition to uphill skiing. Pick a downhill within the ability level of the group. Place a peg or ski pole on a challenging portion of the downhill slope. Have the participants ski down, go around the peg, and quickly return to the top of the hill. Depending on the group, you can time them.

### **Ski Wars**

Everyone finds a spot. That spot is the skier's planet in the galaxy. From this point on, the group leader's imagination takes over. For example: "You're being attacked by a foreign invader; to avoid being seen, try to be as small as possible", or "You are a new tree on your planet. Grow from a seed to a full tree."

### **Squish Bugs**

Squish a bug under your right boot, then squish a bug under your left boot.

### **Slalom Course**

Start with good spacing between the poles for easy turns, then move the poles closer together for quicker turns.

## **AEROBIC GAMES - TAG GAMES**

### **Backwards/Forwards Race**

This is a two person race where the team members start back-to-back at the start line. From this position at the sound of the signal they start around the race course loop in opposite directions. Each team member continues out on the race course in opposite directions until they meet their partner. At that point in time, they turn around and retrace their routes back to the start line. The team can not finish until both members can cross into the finish area together. Lowest time, or the first team pair back in the start/finish area together, wins. Pair fast people with slow people to make the race closer.

### **Catch the Jackrabbit**

Set up teams, and give a faster skier on each team a 30-second head start. The skier skis in a zigzag pattern to try to avoid being caught. Each team chases its own rabbit.

### **Chase the Dogs Tail** (Phil Savignano, Healthy Hometowns Ski Games)

This is a great game to introduce power skate turns and pushing-off. This is a "no poles" game done in pairs (try to match the teams by ability). Partners stand on opposite ends of a ski pole lying on the snow between them and facing different directions. With a three-foot streamer hanging off the back of their collar, they chase each other trying to grab the other person's streamer. When some one gets caught, they replace their streamer and chase the other direction. Go best-two-out-of-three and change partners.

One pole to ski around is enough for younger skiers, older skiers might try two pole lengths but not more.

Need: Two three-foot lengths of surveyors' tape,

- Increase agility, speed and weight transfer while improving comfort and confidence on skis.

### **Downhill Time Trials**

This game is self-explanatory.

### **Dual Slalom**

Skiers may play this game with or without poles. Try to use pylons, pine boughs, poles, or hats for gates.

### **Elephant Hunt**

Place colored balloons on trees, low on the trunks. This is best done along a ski trail. Explain to the skiers that they are going on an elephant hunt. They must bring back the hide or skin for their prize. Use poles for breaking the balloon.

### **Frisbee Football**

No stop in play is allowed in this game. When skiers are tagged, they must give up the frisbee. Skiers may hold onto the frisbee for five seconds or five strides, whichever comes first.

### **Hog Call**

This is best played on trails or in a field. Divide the group in two. Group A will be given the first part of a compound word, eg., POP-CORN, MARCO-POLO, BILL-KOCH, CANDY-CANE, etc. ; Group B will be given the second part of that compound word. The groups scatter in opposite directions, only to come upon one another in a certain time period. When the groups cross, they say only their part of the word (this is the only spoken word of the game). The players must find their match and get back to home base. An example would be a player from Group A who has the word "POP" and can say, "pop, pop, pop,..." etc. A person from Group B has the word "CORN" and upon hearing "POP" realizes he has found a match. The paired skiers then put their arms over each other's shoulders, skip, double pole, etc., to get back to base.

### **Pom Pom or British Bulldog**

One skier stands at the center of the playing area and calls "Pom Pom". On this signal, other skiers try to cross the playing area without being tagged. In another version of this game, the tag consists of a two-handed touch or tackle game; the first person caught is "It" for the next game.

### **Rabbit's Tail**

One skier wears a long tail made of a scarf tucked behind him or her. The object is to give the "rabbit" a reasonable head start and then have other skiers try to capture the tail.

### **Scavenger / Treasure Hunt**

Pass out a list of easy to find items to each team. A 15-30 minute time limit will maintain excitement. Use natural items (leaf, pine needles, stone, sticks), clothing (red hat, blue mitten), and special things (ribbons, flags, or badges) which each team can keep.

**Ski Jumping**

If you let your students jump, make sure that the jump has a proper outrun.

**Slalom Relay**

Set up gate flags on flat, uphill, or downhill terrain. The terrain you choose depends on the group's ability. Leave plenty of room for skiers to pass each other between gates unless you create a dual slalom.

**Snap the Whip**

You can combine this game with running or telemarking. Skiers pull each other forward and backward while skiing downhill.

**Snowball Biathlon**

Set up a short course with two or three shooting stations; skiers “shoot” at a target and ski a penalty loop for every shot they miss. You may use anything you want as projectile and target; for example, you might want skiers to aim their poles through a hoop or use beanbags and a bull's eye target..

**Triathlon**

Combine two other activities with skiing. Choose from aerobic activities: skating, running, snowshoeing, etc.

**Wedge Snake**

Three or four skiers line up as close to one another as possible in the wedge position. Skiers hold onto the waist of the skier ahead of them. You can make this game more difficult by adding skiers to the snake or by requiring that skiers turn while going downhill.

**DRYLAND GAMES**

A great many of the games and exercises listed above have dryland applications. Use your ingenuity to make the adaptations— or to invent new games of your own!

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**Summary**

Use games to teach, use games to build conditioning, use games to build community within your club, and use games to have fun.



## Chapter VII

### Sample Practice Plans

These sample plans are to be used as guidelines. Each lesson should be altered to suit the skill level and age of the group, the weather, the snow conditions, and the terrain.

The Lessons have been formatted to fit on a single page, so that they can be photocopied, date and site noted on the page, and stuffed in a jacket pocket, to use as reference during a practice. Any notes (Johnny forgot his mittens, gave him pair from Extras), reminders to yourself (bring floppy frisbees), updates for parents (Sally is growing out of her boots), or accident reports (Evan fell and slid on the corn snow - applied antibiotic ointment to scrape on his elbow), can and should be written on the Lesson page. Save for future reference for yourself, assistant, parent, for this year or next.

For parent/leaders looking to introduce cross-country skiing through their local school, the following resource will be helpful for the athletic director. It provides a class-by-class curriculum for each grade/age group, that addresses the national standards for teaching physical education:

[Introduction to Winter Sports: Cross-country Ski Curriculum Outline](#). Donna M. Smyth, Ed.D, Keene State College, for SnowSports Industries of America (SIA). Cross-country instructional units for grades K-12. Go to the website, [www.winterfeelsgood.com](http://www.winterfeelsgood.com) and follow the information for educators' links.

\_\_\_\_\_ [http://www.winterfeelsgood.com/downloads/helpful/fairfax\\_curriculum\\_xc.pdf](http://www.winterfeelsgood.com/downloads/helpful/fairfax_curriculum_xc.pdf)

## Lesson One

### Objectives

- To introduce children to their equipment, how to put it on and adjust it - do indoors.
- To introduce basic kick waxing (not necessary for youngsters/beginners—they need to ski!).
- To introduce the fundamentals of warming up.

### Skill Focus

- To become familiar with balancing on a gliding platform and turning.
- To introduce falling down and getting up, the ready position, star turns and side steps.

### Equipment

- ski equipment, wax box
- equipment for games

### Terrain

- indoor waxing area
- sheltered flat terrain—protected from the elements
- packed area for games

### Progression                      Time                      Activity

Instruction	30min (indoor, teach)	- basic kick waxing - putting on boots, skis, poles
Warm up on skis	5-10min	- stretching exercises (see Stretching chapter) - let kids suggest their own.
Exercise/Drills:		— Gather in a circle and introduce everyone. — Stretch the quadriceps using a shallow telemark position. — Stretch the groin by spreading the legs apart and stretching side to side, using poles for balance, pushing on the instep of the foot. — Bend at the waist: side-forward-side — Stretch the shoulders: clasp hands behind the back and pull them
Skill practice	20min	- practice skills taught above and use - games to make it a fun relay: ski out, star turn, and tag, use short distances and small teams.
return		(If the energy level is still high continue with more games, but keep track of time. 1:20 hours is plenty long for an introductory day of skiing.)
Fun and fitness	45min	games without poles (“Games”) recommended games: -Catch the Rabbit -Simon Says
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader: “What did you like about today’s Lesson? How can the lesson be improved?”

## Lesson Two

### Objective

- To review last week's Lesson
- To teach basic waxing principles (indoors, before warm up Lesson)
- To introduce uphill sidestep, wedge, herringbone, and kick turn

### Equipment

- wax box for demonstration purposes
- equipment for games

### Terrain

- flat terrain and packed gradual hill

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Waxing	10-15min	
Warm up	5-10min	stretching exercises
Instruction	30min	review techniques taught last week teach -uphill side step -wedge -herringbone - kick turn
Skill practice	20min	practice techniques on flats and allow for free play on hill. relay; side step uphill, downhill through tunnel (using ski poles) and kick turn to tag
Fun and fitness	45min	games with and without poles ("Games") A "Ski Gym" using bamboo poles and flags is a very effective way of teaching and practicing many of these skills.  recommended games: -Put on Ski or Pole Relay -Human Chain Downhill -Rabbit's Tail
Evaluation	5min	questions to be used as feedback for the leader

## Lesson Three

### Objective

- To review last week's Lesson
- To teach youngsters how to dress warmly , the “principles of layering”
- To introduce double poling, double pole with kick and the wedge turn
- To develop cooperative and team skills

### Equipment

- wax box for demonstration purposes
- clothing for demonstrations
- equipment for games

### Terrain

- flat terrain and packed gradual hill

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Waxing	10-15min	
Warm up	5-10min	stretching exercises; discuss how to dress warmly
Waxing	10min	
Instruction	30min	review -wedge -herringbone teach: -double poling - double pole with kick - wedge turn
Skill practice	20min	practice skills taught above; double pole relay, pole across bottom of hill to poles in the snow, herringbone uphill and wedge slalom down Gliding Wede Braking Wedge Wedge turns (taught from a gliding wedge)
Fun and fitness	45min	recommended games: -Chariot Race -Downhill Run -Wedge Snake
Eevaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Four

### Objective

- To review last week's Lesson
- To introduce striding without poles and the diagonal stride
- To introduce knowledge of safety and trail etiquette

### Equipment

- information on safety and trail etiquette
- ski equipment, wax box
- equipment for games

### Terrain

- sheltered flat terrain—protected from the elements
- packed area for games

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Waxing	10-15min	
Warm up	5-10min	stretching exercises; discuss safety and trail etiquette
Instruction	30min	review -double pole and double pole with kick teach -striding without poles -diagonal stride
Skill practice	20min	practice skills taught above relay; diagonal stride on way step turn around pole and return double pole
Fun and fitness	45min	games with and without poles recommended games: -Cut the Pie -What's Around the Corner -Partner Relay
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Five

### **Objective**

- To review last week's Lesson
- To introduce skating with and without poles
- To introduce knowledge of ski touring and packing a back pack

### **Equipment**

- information on ski touring and a packed knapsack
- ski equipment, wax box
- equipment for games

### **Terrain**

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

<b><u>Progression</u></b>	<b><u>Time</u></b>	<b><u>Activity</u></b>
Warm up pack in a	5-10min	stretching exercises; discuss ski touring and what to back pack
Instruction	30min	review -diagonal stride teach -skating without poles -skating with poles—no specific V-technique.
Skill practice	20min	practice skills taught above. relay: wedge turn downhill and with poles
Fun and fitness	45min	games without poles recommended games: -Wedge Snake -Chariot Races -Circle Relay -Ski Wars
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Six

### Objective

- To review last week's Lesson
- To introduce uphill diagonal stride and downhill skate turn
- To teach prevention of frostbite and hypothermia

### Equipment

- information on frostbite and hypothermia
- ski equipment, wax box
- equipment for games

### Terrain

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Waxing	10-15min	basic glide waxing
Warm up	5-10min	stretching exercises; discuss how to identify and prevent frostbite and hypothermia
Instruction	30min	review -skating without poles teach -uphill diagonal stride -skate turn
Skill practice	20min	practice skills taught above. Relay: uphill diagonal stride with skate turn around ski pole and wedge turn to the bottom.
Fun and fitness	45min	games with and without poles recommended games: -Slalom Relay -Medley Relay - Catch the Rabbit
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Seven

### **Objective**

- To review last week's Lesson
- To introduce gliding skills, skate turn, marathon skate

### **Equipment**

- ski equipment, wax box
- equipment for games

### **Terrain**

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

### **Progression Time Activity**

Waxing	10-15min	care of skis, boots, poles
Warm up	5-10min	review -uphill diagonal stride -skate turn teach -gliding skills -skate turn -marathon skate
Skill practice	20min	practice skills taught above relay; each leg of relay is different double pole and marathon skate around pole, diagonal stride return and kick turn, return by kick double poling
Fun and fitness	45min	games with and without poles recommended games: -Red Rover -Chariot Race -Pom Pom
Evaluation	5min	question for the Bill Kochers to be used as feedback for the Leader

## Lesson Eight

### **Objective**

- To review last week's Lesson
- To introduce V-1 skate, V-2 alternate

### **Equipment**

- ski equipment, wax box
- equipment for games

### **Terrain**

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

<b><u>Progression</u></b>	<b><u>Time</u></b>	<b><u>Activity</u></b>
Waxing	10-15min	
Warm up	5-10min	stretching exercises
Instruction	30min	review -skate turn -marathon skate teach -V-1 skate -V-1 alternate
Skill practice alternate	20min	practice skills taught above. relay: mix up V-1 and V-2 skate.
Fun and fitness	45min	games with and without poles — try skating V-1 and V-2 alternate with and without poles.
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Nine

### Objective

- To review last week's Lesson
- To introduce V-2 skate

### Equipment

- ski equipment, wax box
- equipment for games

### Terrain

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Waxing	10-15min	
Warm up	5-10min	stretching exercises
Instruction	30min	review -V-1 skate -V-2 alternate teach -V-2 skate -diagonal V-skate
Skill practice	20min	practice skills taught above relay; mix up marathon skate, turn around pole with diagonal V-skate and return with basic V-2 alternate
Fun and fitness	45min	games with and without poles — Games for Improving Skating
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Ten

### Objective

- To review last week's Lesson
- To review kick waxing and ski maintenance
- To introduce advanced diagonal techniques

### Equipment

- ski equipment, wax box
- equipment for games

### Terrain

- sheltered flat terrain — protected from the elements
- packed gradual slope
- packed area for games

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Warm up	5-10min	stretching exercises
Instruction	30min	review -striding without poles -diagonal technique teach -advanced diagonal technique
Skill practice	20min	practice skills taught above relay; mix up striding without poles and diagonal techniques
Fun and fitness	45 min	games with and without poles—Games for Improving Diagonal
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Eleven

### Objective

- To review last week's Lesson
- To introduce basic telemark turn

### Equipment

- ski equipment, wax box
- equipment for games

### Terrain

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Warm up	5-10min	stretching exercises
Instruction	30min	review -wedge turn teach -basic telemark turn
Skill practice	20min	practice skills taught above; telemark exercises
Fun and fitness	45min	games with and without poles — Games for Improving Wedge, modify games for telemark
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## Lesson Twelve

### Objective

- To review last week's Lesson
- To introduce the christie turn

### Equipment

- ski equipment, wax box
- equipment for games

### Terrain

- sheltered flat terrain—protected from the elements
- packed gradual slope
- packed area for games

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
Warm up	5-10min	stretching exercises
Instruction	30min	review -wedge turn and telemark turn teach -basic elementary christie -basic glide christie
Skill practice	20min	practice skills taught above; christie exercises
Fun and fitness	45min	games with and without poles — Games for Improving Wedge, modify games for christie turns
Evaluation	5min	questions for the Bill Kochers to be used as feedback for the Leader

## **Coaching Multi-Level, Multi-Age Teams and Clubs**

by Fred Griffin, Northeast Nordic Ski Club

I hear it from both sides. I hear it from coaches frustrated working with athletes of varying ages in middle school/high school programs, or from BKL Leaders in despair over dealing with the even wider BKL age group, 4 – 13.

“Some want to race. Others just want to socialize. What do I do?”

“I can deal with the committed ones, but it’s so hard to motivate the others...”

I hear it from parents and kids alarmed by coaches who don’t run a program that meets their needs or their children’s needs.

“Suzy doesn’t want to race! She joined BKL because she loves to be outdoors with her friends and ski. She hates this...”

“I want to be the best skier I can be. I want to race in college. Coach is making us all do the same thing. It’s too easy. I need more! But he says it’s for the good of the team.”

What is sad is that everyone wants the same thing: kids to have fun in a rewarding sport they love. So how do we get there? How do we please Mom, Dad, coach, athlete? For many years I’ve been coaching clubs and schools with kids ranging in ages from 10 -19 in the sports of tennis, running, and cross-country skiing. Quite honestly, we don’t have this problem. Below is my philosophy.

### **1. One Size Does Not Fit All.**

A team is an aggregate of individuals. Each athlete has his or her needs. Maybe it is my years of teaching handicapped kids, or maybe a lifetime of being an unrepentant misfit—but it is very clear to me that when it comes to sports, each athlete deserves to be on his/her own IEP: Individual Exercise Program. Shift your thinking and stop fitting the kids to the program— fit the program to the kids! I know this goes against “old school”, ball-sports theory, but do anything less and you are diminishing the chance for every child to succeed.

On our middle school/high school team we have kids who are loose-limbed bundles of tender growing plates, not ready for hard training physically or mentally. We have kids who show up tentative, who can’t look past just wanting to be more fit. Competition and hard workouts are a terrifying prospect unless and until they slowly transition into new bodies. We have kids who are highly motivated but who don’t report in shape. They have to be let off the leash gradually or they will injure themselves in their zeal. And of course, we have kids who know the drill, who come in fit, hungry, ready to eat raw meat.

In BKL groups this translates into first year skiers tentatively checking out a new sport on borrowed fishscales, fit kids who have no interest in racing but can live in the woods, and children of current or former racers who arrive on top end gear looking for high-powered action

If every child is run through the same program it is either too hard or too easy for those on the other sides a relatively narrow cross-section. The fit and motivated kids become bored and frustrated and act accordingly. The less fit are unable to keep up, and feel shame or dislike for themselves. They tend to be scorned or patronized on some level by their more fit teammates—that is, if they don't quit after two weeks. Meanwhile a coach goes crazy trying to see some kids don't slough off and trying to keep other kids in line. Clearly, one size fits all thinking creates unhealthy dynamics up and down the roster. The good news is that there is a way out of this mess. Read on.

## **2. Have the Kids Set Goals.**

Goal-setting is at the heart of the coach/athlete relationship. The expectations that the process creates in both parties constitute an informal contract. The terms of that contract take form in athlete's training program and in the coach's part in implementing it. We make this a formal process on teams I coach. An interview follows. For BKL kids it is most often only an interview. I give older kids a deadline for return of the goal sheets. After that, no sheet, no practice. I make them focus on what they want to learn or to change—not on where they think they should finish, or who they should beat. We race with our teammates, not against them.

When I know what they want from the sport, the season, I know how to coach them. Where to push, where to pat. Practice time is too precious to spend forcing square pegs into round holes. It's also painful for the pegs. After all, I'm there for them—they aren't there for me. Right? And a team is an aggregate of individuals, right?

I find the Success Chart we offer to BKL Club Leaders is an excellent goal-setting template for BKL kids. It also provides a seasonal lesson plan with multiple tracks offered each day. It binds a club program with a sense of purpose as well.

## **3. Set-up Different Programs, or “Pathways” for Each Practice.**

From the goal sheets I learn how the team settles out and I correlate this to what I have seen of the kids fitness-wise. For this year's group of thirty kids ages 11 – 18, I started with five 5 groups. I posted a list of who was in what group and hung it on the wall. If anyone was unhappy we would have gone back to goals sheets and talked it out. No one was. Each day while the kids were dressing I posted the day's schedule on the blackboard thusly:

**Everyone:** warm-up, stretch, double pole lessons; afterwards by group

**Wolverines:** ski through the woods trail and double pole the two small hills of on backside; total ski 30 minutes then you are on your time.

**Jaguars:** 15 minutes dble pole only; ski 30 minutes more. Finish with 6 x 40 second dble pole repeats superfast, on soccer field

**Civet Cats:** dble pole 30 minutes; ski 30 more; 6 x 20 second dble pole repeats on the hill beside the soccer field

**Bobcats:** 30 minute dble pole, 10 min single stick,, 35 minute ski afterwards; 10 x 20 second power pole on soccer field hill

**Everyone:** British Bulldog at 4:45 on soccer field

For a BKL practice I prefer not to place kids in groups but instead to offer elective activities.

**Everyone:** warm-up, stretch, game; lesson on dble pole

**Activity #1** ski tour looking for animal tracks; remember to dble pole on flats

**Activity #2** dble pole relay followed by free ski with lots of double-poling

**Everyone:** finish with game

I add in specific activities from the Success Chart. I expand on Success Chart offerings

#### **4. Provide Freedom to Change Workout Groups.**

This is the beauty of the program. Recovering from a cold? Drop down one group or two. Feeling frisky? Go up one and try it on for size. The only rule is you need the coach's approval. If a person is not performing to a chosen group level, I take the athlete aside and ask if his/her goals have changed. They move to an easier workout if they desire. This almost never happens. Movement is upward, just in the direction you as a coach want it to be. Wolverine Suzy will ask to be a Jaguar for a day, then another. Pretty soon Suzy is a Jaguar. Most years if I start with five groups, I end with three.

#### **5. Performance-Focused Coaching.**

Granted, this is an athlete-centered as opposed to a team-centered model, but year after year it produces a community, a tight-knit caring team, second to none. Because each athlete is judged by his/her own criteria, every child has respect for every other child who makes an honest effort. The program is performance-based, and not outcome-based. It's not what we do but how we do what we do that is the focus. As a coach of a performance-based team you are making it possible for each of your athletes to pursue personal excellence. You are creating a nutrient-rich environment in which kids can grow. Team excellence follows organically. This may translate into one child losing ten pounds and skiing 5k without stopping, or it may result in another being state champion or making the Junior Olympic Team. It may mean a BKL Club that succeeds as a group because its skiers succeed as individuals. You have made room for both children and both visions—and the point is that there must be room for both.

You might just end up a satisfied coach of a thriving program with excited kids who have pleased

**Chapter VIII**

**No/Low-Snow Lesson Plans**

By Stuart Kremzner

## **No/Low-Snow Sample Practice Plans**

The goal of these lesson plans is to provide the BKL leader with a framework with which to operate when there is not enough snow to ski. These can be done in a relatively small areas indoor or out. The fundamental goal is to develop basic sport skills such as balance, rhythm, ski-specific timing, technique, agility, and general fitness.

This section is divided into three sections, one with the basic lesson plans, description of exercises (Dynamic Warm-up, Speed Ladder Drills, Agility and Cone exercises) and a third section with a set of age specific modules that the individual coach can integrate into the lesson for different age group skiers. When running sessions one of the best formats is to have stations where skiers are doing a specific exercise in smaller groups. When adding in age specialized exercises just have 1-3 age specific stations that just those ages rotate through 2-3 times. It is important for continuity that when you add in these elements that they are applied twice a week in order to have maximum effectiveness. As skiers advance, add in more tempo and timing changes to teach the skiers more about regulating tempo, and dropping a gear when it is time to sprint.

## Lesson One

### **Objectives**

- Learn new Exercises and Basic Ski Movements
- Improve balance, coordination and fitness

### **Skill Focus**

- Basic Ski Movements, To become familiar with balancing on one leg
- Coordination of upper and lower body

### **Equipment**

- Cones, speed ladder, balls
- Equipment for games

### **Terrain**

- Indoor area
- Sheltered flat terrain—protected from the elements

<b><u>Progression</u></b>	<b><u>Time</u></b>	<b><u>Activity</u></b>
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<b>Warm-Up</b>	15 mins	Dynamic Warm-up
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<b>Exercises/Drills:</b>	15 mins	
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- Gunslinger position. Talk about body position (hip rotation, relaxed shoulders, flexed knees and ankles)
- Lift one leg balance for 15 secs and switch. (Keep good body position)  
Repeat 2x.
- Balance w/ eyes shut 10-15 secs Repeat 3 times
- Pair skiers up do single leg ball tosses, 10 tosses each at 5 and 10 feet

<b>Agility drills Level 1:</b>	20 mins	
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<b>Skill practice</b>	20 mins	
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- Practice skills taught above and use with follow the leader, red light green light,
- games to make it a fun relay: ski out, star turn, return  
and tag, use short distances and small teams.

(If the energy level is still high continue with more games, but keep track of time. 1:20 hours is plenty long for an introductory day of skiing.)

<b>Warm-down</b>	10 mins	
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<b>Evaluation:</b>	5 mins	Questions for the Bill Kochers to be used as feedback for the Leader: “What did you like about today’s Lesson? How can the lesson be improved?”
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## Lesson Two

### Objectives

- Learn new Exercises and Basic Ski Movements
- Improve balance, coordination and fitness

### Skill Focus

- Basic Ski Movements, to become familiar with balancing on one leg
- Coordination of upper and lower body

### Equipment

- Cones, speed ladder, balls
- Equipment for games

### Terrain

- Indoor area
- Sheltered flat terrain—protected from the elements

<u>Progression</u>	<u>Time</u>	<u>Activity</u>
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<b>Warm-Up:</b>	15 mins	Dynamic Warm-up
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<b>Exercise/Drills:</b>	15 mins	
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- Get into basic athletic stance/gunslinger position. Talk about key elements (hip rotation, relaxed shoulders, flexed knees and ankles) Swing Arms for single stick motions
- Lift one leg balance and swing opposite leg for 20 secs and switch. (Keep good body position)
- Repeat 2x.
- Balance w/ eyes shut 10-20 secs Repeat 2 times
- Balance and swing leg w/ eyes shut 10-15 secs 2x
- Pair skiers up do single leg ball tosses, 10 tosses each at 5,10, 15 feet. Encourage to swing opposite leg.

**Agility drills Level 1:** 20 mins

<b>Skill practice:</b>	20 mins	
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- Practices skills taught above and integrate into follow the leader, and relays
- Finish with group game of partner tag, obstacle course or red rover

<b>Warm-down:</b>	10 mins	
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<b>Evaluation:</b>	5 mins	Questions for the Bill Kochers to be used as feedback for the Leader: “What did you like about today’s Lesson? How can the lesson be improved?”
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## Lesson Three

### **Objectives**

- Learn Classic Technique Specific Exercises
- Improve balance, coordination, agility, and fitness
- Develop ski skills

### **Skill Focus**

- To become familiar with balancing on one leg
- Coordination of upper and lower body

### **Equipment**

- Cones, speed ladder, balls
- Equipment for games

### **Terrain**

- Indoor area
- Sheltered flat terrain—protected from the elements, , Slight uphill if available

### **Progression                      Time                      Activity**

**Warm-Up:**                      15 mins                      Dynamic Warm-up

**Exercise/Drills:**            15 mins

- Pair skiers up do partner falling drills w/ emphasis on flexing at ankle.
- Nerd walk 3x 20m
- Balance and swing arms and leg w/ eyes shut 10-20 secs 2x
- Pair skiers up do single leg ball tosses to put off balance, 10 tosses each at 5,10, 15 feet.
- Encourage to swing opposite leg.
- Single leg hops, double leg hops, backpedals (staying low to ground) 3 x 20m

**Agility drills Level 1:** 20 mins

**Skill practice:**              20 mins

- Practice skills taught above and integrate into follow the leader and relays
- Finish with group game of partner tag, obstacle course or red rover

**Warm-down:**                10 mins

**Evaluation:**                5 mins

## Lesson Four

### **Objectives**

- Learn Classic Technique Specific Exercises
- Improve balance, coordination, agility, and fitness
- Develop ski skills

### **Skill Focus**

- To become familiar with balancing on one leg
- Coordination of upper and lower body

### **Equipment**

- cones, speed ladder, balls
- Equipment for games

### **Terrain**

- Indoor area
- Sheltered flat terrain—protected from the elements, Slight uphill if available

<b><u>Progression</u></b>	<b><u>Time</u></b>	<b><u>Activity</u></b>
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<b>Warm-Up:</b>	15 mins	Dynamic Warm-up
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<b>Exercise/Drills:</b>	15 mins	
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- Pair skiers up do partner falling drills w/ emphasis on flexing at ankle.
- Nerd Walk 3x20m(ideally on a hill)
  - Balance and swing arms and leg w/ eyes shut 10-20 secs 2x
  - Swing leg and hop, repeat 2x10m R leg, 2x10m L leg
  - Double Leg (Bunny) hops 3 x10m-Focus on extension w/ arms and legs
  - Double Pole Motion practice, try with a hop
  - Single leg hops, double leg hops, backpedals (staying low to ground) 3 x 20m

**Agility drills Level 2:** 20-25mins

**Skill practice:** 20 mins

- Practice skills taught above and integrate into follow the leader and relays
- Finish with group game of partner tag, obstacle course or red rover

**Warm-down:** 10 mins

**Evaluation:** 5 mins

## Lesson Five

### Objectives

- Learn Skate technique Specific Exercises
- Develop Lateral agility and balance
- Improve balance, coordination, agility, and fitness

### Skill Focus

- To become familiar with skate technique and arm movements
- Coordination of upper and lower body

### Equipment

- Cones, speed ladder, balls
- Equipment for games

### Terrain

- Indoor area
- Sheltered flat terrain—protected from the elements

### Progression                      Time                      Activity

**Warm-Up:**                      15 mins                      Dynamic Warm-up

**Exercise/Drills:**            15 mins

- Explain Skate motion, emphasize side push and same body position as with classic skiing
- Side to side skate steps 2 x 20m
- Side to side skate hops 2x 15 repeats (per leg)
- Nerd Skate walk 3x 20m
- Double Leg (Bunny) hops 3 x10m-Focus on extension w/ arms and legs
- Pair skiers up do single leg ball tosses to put off balance, 10 tosses each at 5,10, 15 feet.
- Encourage to swing opposite leg.
- Single leg hops, double leg hops, backpedals (staying low to ground) 3 x 20m

**Agility drills Level 2:** 20-25mins

**Skill practice:**            20 mins

- Practice skills taught above and integrate into follow the leader red light/green light, or relays
- Finish with group game of partner tag, obstacle course or red rover

**Warm-down:**            10 min

**Evaluation:**            5 mins

## Lesson Six

### Objectives

- Learn Skate technique Specific Exercises
- Develop Lateral agility and balance
- Improve balance, coordination, agility, and fitness

### Skill Focus

- To become familiar with skate technique and arm movements
- Coordination of upper and lower body

### Equipment

- Cones, speed ladder, balls
- Equipment for games

### Terrain

- Indoor area
- Sheltered flat terrain—protected from the elements

### Progression                      Time                      Activity

**Warm-Up:**                      15 mins                      Dynamic Warm-up

**Exercise/Drills:**            15 mins

- Explain Skate motion, emphasize side push and same body position as with classic skiing
- Side to side skate steps 2 x 20m
- Side to side skate hops 2x 15 repeats (per leg)
- Nerd Skate walk 3x 20m
- Double Leg (Bunny) hops 3 x10m-Focus on extension w/ arms and legs
- Double Pole Motion practice try with a hop
- Pair skiers up do single leg ball tosses to put off balance, 10 tosses each at 5,10, 15 feet.
- Encourage to swing opposite leg.
- Single leg hops, double leg hops, backpedals (staying low to ground) 3 x 20m
- Skate hops sticking landing on each side

**Agility drills Level 2:** 20-25mins

**Skill practice:**            20 mins

- Practice skills taught above and integrate into follow the leader red light/green light, or relays
- Finish with group game or relay of tennis ball biathlon, partner tag, obstacle course or red rover

**Warm-down:**            10 mins

**Evaluation:**            5 mins

## **Core Strength and Dynamic Warm-Up Exercises**

Core strength, flexibility, and general strength can easily be integrated into an pre- workout warm-up called a dynamic warm-up. The goal of this is to be a quick, functional and highly productive session of exercises packed into 10-15 minutes. The same time a skier would usually spend jogging prior to a dryland session. This is great, functional, warm-up to use prior to a SPENST, hill bounding, weight training or any dry-land training session. If done twice a week many gains can be made. This type of training has long been used by track and field athletes with great success. This routine efficiently hits many areas of the skier's body to improve general, core and stability strength and flexibility necessary to maintain good body position and apply power efficiently. This will also have the added side benefits of reducing injury risk.

There are a many exercises that can be used for this session. Ideally you will do two sets of two strength, flexibility, and core strength exercises. Exercises are selected and rotated in and out to achieve different group fitness goals and to keep the routine fresh stimulating. The limit from there is the coaches imagination and creativity!

Below are some basic exercises to select for a start. Pick 6-8 exercises and do two sets of 10 repetitions, after two weeks increase to 15 repetitions, then increase number of exercises. For a warm-up keep total time to 15 minutes, if you want to make this and into a strength/agility workout unto it's self then do 3 sets and add in speed and agility exercises.

Make sure you coach athletes in maintaining correct body position. Correct alignment is important for development of good athletic posture and correct muscle firing patterns.

Key body position points are:

- Keep hips scooped/ (if hips are bowl of water you want to keep them level so the water does not spill)
- keep back flat and also in line with hips
- keep hips in line with shoulders
- dorsi-flex ankle at all times.

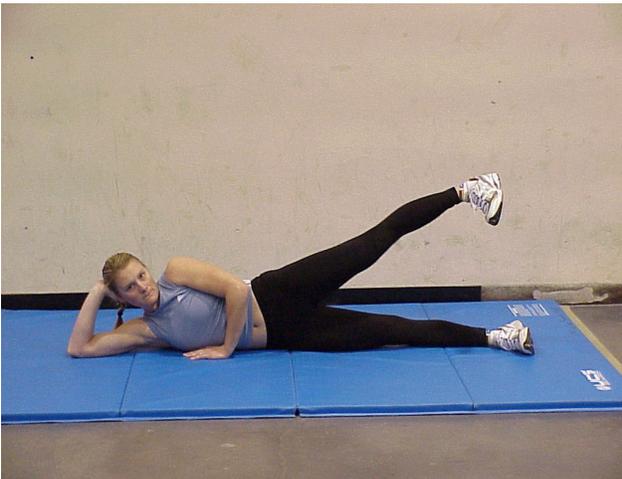
## Dynamic Warm-up Exercises



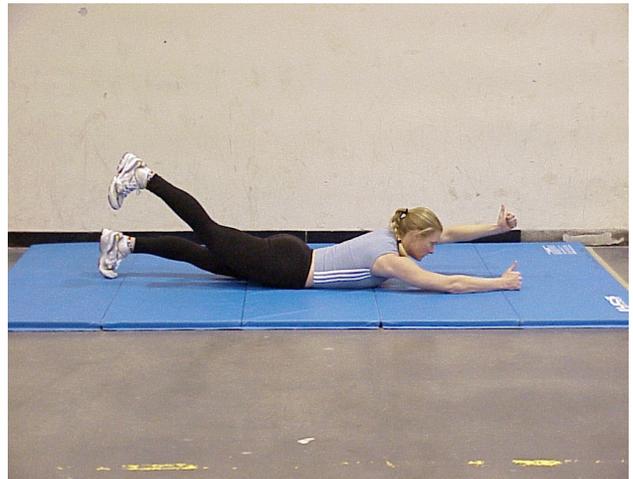
Prisoner Squat



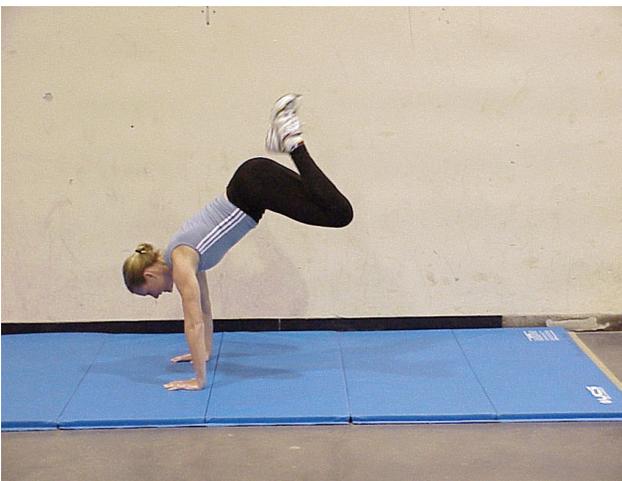
Forward/Backward Lunges



Lying Side Raise



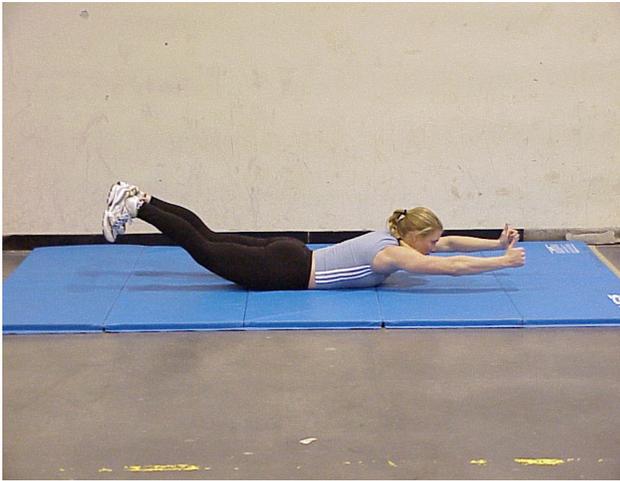
Supermans



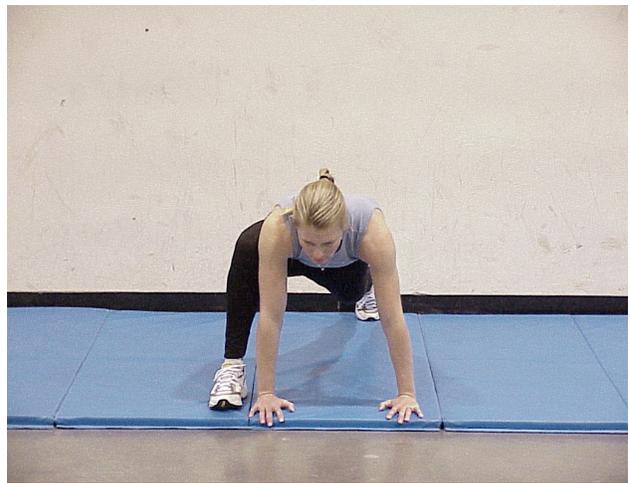
Butt Kicks



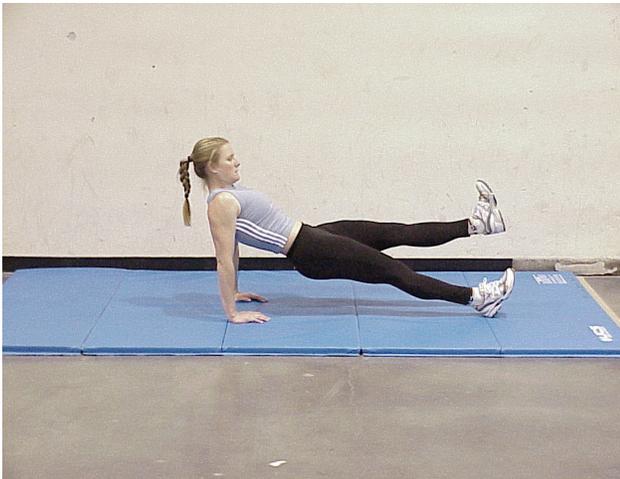
Fire Hydrants



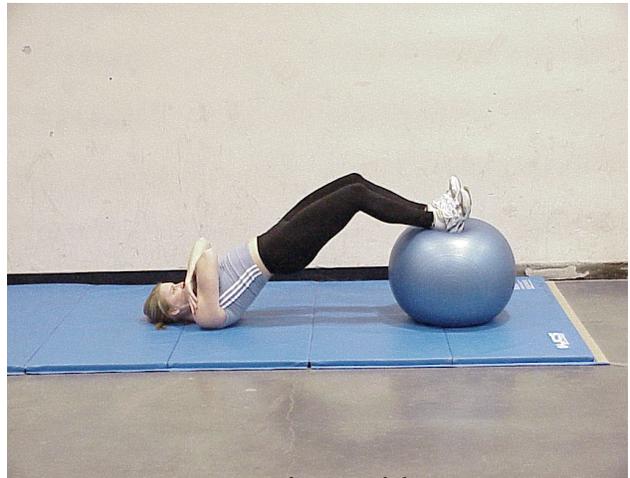
Sky Divers



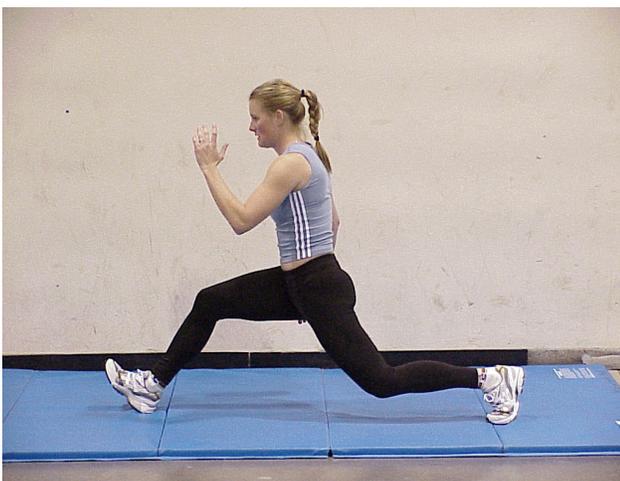
Mountain Climbers



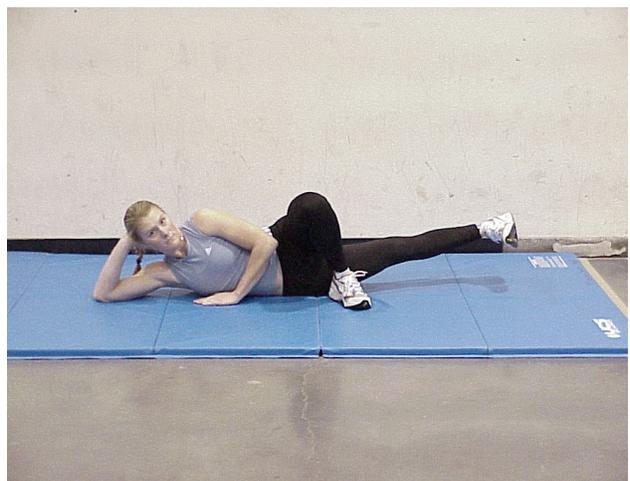
Hip Flexor Pedestal



Hamstring Bridge



Groucho Walk



Reverse Lying Side Raise

## Agility Drills

The important things to emphasize with all of the agility drills are good body position (hips up, chest up, head up, hips and chest square, i.e. no twisting) and rhythmical mechanics. Have the kids set the tempo with there are swing/movements. For single leg exercises classic ski arm movements can be utilized, for double foot movements skate arm motions can be used.

### Level 1

#### Speed Ladder Progression 2x each:

1-            LR    LR    LR    LR

- Forward run both feet in each square
- Backward run one foot in each square

2-            L    R    L    R

- Forward run one foot in each square
- Run through-backwards

3-            L            R

- Forward run every other square
- Run through-backwards

4-            LR    LR    LR    LR

- Fast feet-One foot in each hole
- Fast feet backwards

5-            LR    LR    LR    LR

- Sideways fw/bw

6-

LR LR LR LR

-Double leg hops (coordinate arm swing w/ take-off)

### Agility with Cones

For Agility with cones the sky is the limit with your creativity! You can set up slalom courses to forward run, backward run, skip, hop, you name it. Use the terrain you have put salmon cones going uphill, side hill and down hill. Even use trees obstacles or hay bails to spice things up!

Multi-directional agility progressions can be done with figure 3, 4 or five formations. At each cone/junction the mode of movement is changed. Not only movement mode can be changed but also body position, (high or low) as well as tempo, fast, slow, medium. All of this is important to developing a sense of tempo and rhythm. This will generalize exceptionally well to changing gears when skiing. Again the only limit on what is done is your creativity.

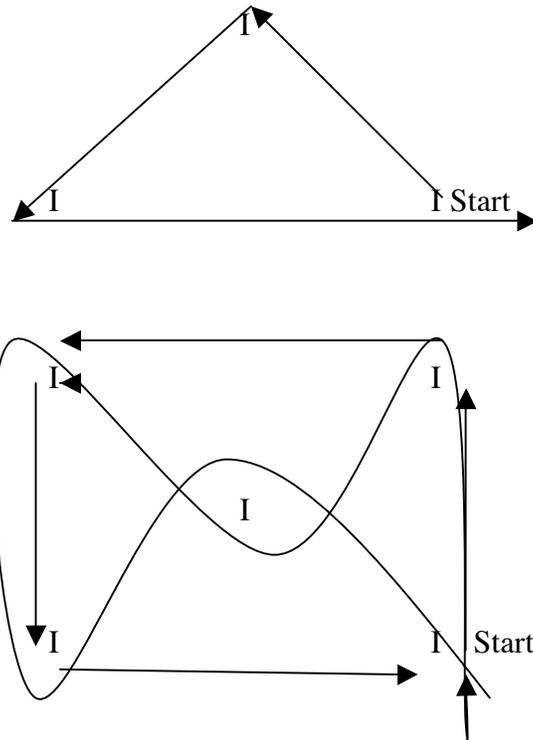
To increase the training load, add more cones, increase the distance between cones, or increase the number of repetitions.

Bellow are some ideas for starters.

To keep the kids moving you can set up multiple stations, slalom, 4 square, etc.



- FW/BW Cone Salmon with slow to medium tempo switch up
- FW/BW Cone Salmon with medium to fast tempo switch up(i.e. change gears half-way through)



### Figure Three, Four, or Five Agility Progressions

With these progressions key points again are good body position, lean from the ankle. Make sure the athletes cut and plant with the outside leg not the inside leg. Pay special attention to younger and female athletes that they have their foot knee and hip in line. If the knee is bending in-ward slow cue the athletes and slow down the athlete's speed.

- Single leg hops switch legs at cone
- FW, Shuffle, backpedal, shuffle
- Backpedal, shuffle, shuffle, FW
- FW, log rolls, backpedal, and shuffle (both directions)
- FW, side push offs, back skips, side push offs

## **Level 2**

Mix in 2-3 Level 1 exercises of your choice and the following exercises:

For older skiers J4-J3 add in passing of soccer ball or tossing of medicine balls as each skier moves down ladder focus on good body position (no sitting back), quick hands and keeping rhythm w/ feet

### **Speed Ladder Agility:**

1-           RL    LR    LR    R  
          L    R    L R   L R

-In/out side shuffle,

2-           L    L    L    L  
          LR   LR   LR   LR  
          R    R    R    R

-Iggy shuffle-Start on side of the ladder, Start with the left foot, with quick feet shuffle through the ladder, land on left foot, push off to the right and then shuffle through to the right, land on the right foot on the outside again and repeat.

3-           LR           LR

-Every other box 2 leg hops

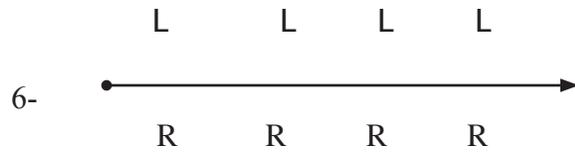
4-           LR           LR  
                  LR           LR

-Side to side slalom/hops- Get one or both feet to outside of ladder for increased difficulty

5-           L    L    L    L  
          LR   LR   LR   LR  
          R    R    R    R



-Hopscotch- Start with both feet on outside, in jump a little forward both feet in, then out, repeat



-Speed Skater skate glides

-For J3's speed Skater's w/ touch of opposite hand to landing heel

### **Cone Agility:**

-Slalom with obstacles to hop or jump over

-Skip with tempo changes at cones

-Ski walk with tempo changes at cones

- Medium FW jog, fast side shuttle, med. Backpedal, fast side shuttle

-FW Skate push-offs, backpedal, BW Skate push-offs, shuffle

### **Additional Agility Exercises**

-Hurdle steps over balls sticks etc,

-Jump twist and land

-Partner Mirror movements

## Age Sensitive Training Modules

These modules are specifically designed to be used as 15-20 minute break out sessions, where they can easily be integrated into the lesson plan. Within the basic lesson plan the coach can add in specific elements to make the training more specific and effective for different level age groups of athletes. The Module sessions can also be integrated into any on-snow practice as well.

<b>Module</b>	<b>Skills</b>	<b>Exercises</b>	<b>Key Points</b>
<b>Module 1</b>			
Boys Age 8-10, Girls 7-9			
Age Specific Elements	-Balance, Reaction time		
<b>Exercises</b>			
Tennis ball start drops		Athletes (A's) lie down in Push-up position next to partner, 3rd person drops ball 10feet in-front of A's. A's run forward and up to grab ball and race to grab ball	Stay low
Single leg hops			Flex at ankle
Whistle drill		Coach has whistle and directs A's w/ hand signals, each whistle denotes a change in direction. Athletes Change direction as fast as possible	
<b>Module 2</b>			
Boys-9-10 , Girls-7-9			
Age Specific Elements	-Rhythmic Motion		
<b>Exercises</b>			

Speed Ladder Drills		Level 1 or 2	Quick feet
			High hips
Skipping		Skip f/w and b/w and around different obstacles/cone formations	
Jumping rope			
Changing rhythm Drills		Have A's skip, run, ski walk with different changes in tempo every 30 seconds. (Can also use cones as markers for change)	
<b>Module 3</b>			
Boys and Girls 10-12			
Age Specific Elements	Movement Adequacy/Kinesthetic Differentiation		
<b>Exercises</b>			
Obstacle Course Stations		Set up 5-6 Stations: Set up 5-6 Stations: Multi Long Jump, Obstacle Squat Jumps (use different heights), Soccer Ball Passes at 10m Kick w/o Stopping ball- alternate legs, Medicine Ball Tosses, Target Ball Toss, Ranger crawl, Crab walk,	
<b>Module 4</b>			
Boys/Girls 12-13			
Age Specific Elements	Balance, Coordination		
	Movement Adequacy		
<b>Exercises</b>			
Obstacle Course		Use natural obstacle course or create one w/ jumps, areas to skip over, crawl under, etc. Repeat several times.	

Easy Tempo Run or Ski		Run repeats of ski a set rolling course at an easy tempo with a focus on efficiency	Stay efficient

**Chapter IX**  
**Setting Up Non-Competitive Events**

## Building a Ski Park, Terrain Park, Obstacle Course, Snow Playground

A Ski Park is a snow playground which can serve many purposes;

- Gives kids who are dressed and ready to go more quickly than their peers—the early birds—a place to stay busy and stay warm
- Provides a format for fun competitions: obstacle course races or relays, jumping contests, competitive drills
- Provides a forum where kids learn skiing aptitudes: balance, agility, flexibility, strength, coordination

**What You Need:** cones, bamboo poles, rope, an existing playground or terrain with promising features and above of all, a sense of fun

### Some Possibilities Include:

- set up a course where kids ski up a small hill and slalom down between cones or gates
- set up two parallel courses and kids can race each other
- groom a short course (300m?) that utilizes a side hill in a pattern that requires left hand lead and right hand lead, short sharp climbs and descents, sharp corners which require racing turns, etc.
- build a SMALL bump anywhere and you'll be a hero
- create an **Obstacle Course** that might include:
  - a sharp 360 degree turn around a tree(s) or pole(s) or piece(s) of playground apparatus
  - a rope(s) or 2"x4"s or plastic pipe(s) to jump over
  - places where kids have to duck low or even sit on skis to get through eg, existing playground apparatus, a picnic table, two bamboo poles tied together in a "vee"
  - a section where they balance just on left ski and later on just on right ski
  - little jumps
  - cones in slalom pattern(s) to maneuver through
  - a place to ski backwards
  - a place to do a star turn

### BE CREATIVE. Think like a kid!

You can set up a simple Ski Park in minutes. You can hold relays and do organized activities in them or you can simply have them available as a place for the kids to go play.



## Mini-Marathons

The BKL mini-marathon was the inspiration of the Stowe Nordic Outing Club. Several local families, inspired by their skiing experiences at the Craftsbury Marathon, began hatching the idea of creating a child-oriented version. It had been their experience as parent/coaches in the Bill Koch League that children are capable of much more than they often realize. A long-distance, non-competitive, ski event gives the children an opportunity to acknowledge their own abilities and to feel good about themselves and their achievement. In 2004 the New England Nordic Ski Association presented its first “Club of the Year Award” to the Stowe Nordic BKL Ski Club for “pioneering the mini-marathon concept.”



Preparing for the mini-marathon requires the collective work of several volunteers. The final meeting is an annual gathering at an organizer’s house to make chili and finalize the trail maps. One detail was how to ensure the safety of children skiing alone, so they stated on the registration form that children under a certain age must be accompanied by an adult and that all children were encouraged to ski in groups.

The Stowe Nordic Outing Club hosted its 3rd Annual Bill Koch League mini-marathon on Saturday, January 8th, 2005. Eighty-eight skiers participated in the event. The course consisted of a 15K loop and a 25K loop, both originating at the Stowe Mountain Resort Cross Country Center. While the 15K loop traversed the trails at Stowe Mountain Resort, the 25K loop included a climb to the trails at Trapp Family Lodge. Skiers enjoyed several food stops along both courses and a chili feast awaited them at the finish line. This was a timed classic tour, with cow bells awarded to all participating children.

“I will never forget that first marathon. Between 90 and 100 skiers were on the starting line. As I looked over the crowd I realized that our anticipated fear of children skiing alone had not materialized. Instead, families littered the starting area. Children, from ages 5 to 13, were

in this event *with* their parents. It was then that I realized the hidden gift of this marathon. On this day families are given the opportunity to leave behind the day-to-day distractions that separate them and come together for a few hours of quality family time.” ( Deb Miller, co-organizer of the SNOC Mini-Marathon)



Sample Newspaper Ad for the Event:

**Stowe Nordic Outing Club Presents  
Annual Bill Koch League Mini Marathon**

Saturday, January 8, 2005

*Start Time 10 AM, Registration at 9:00*

15K and 25K courses (Timed Classic Tours)

Come join us for a fun filled event designed to get kids and families to ski a course longer than they might try on their own with great food stops and comradery along the way.

For more information: <http://www.stowenordic.org/snoc/results2005/BKL-marathon.htm>

## **Ski Festivals: A Planning Guide**

Photographs, John Farra, Maine Winter Sports Center

This Planning Guide is based on the Central Vermont Middle Level Ski Fest Series, first run in North Central Vermont, 1999-2000. Partners in the pilot Middle Level Ski Fest project were: Stowe Middle School, Peoples Academy Middle Level, Craftsbury Academy, Lamoille Union Middle School, Harwood Union/Crosset Brook Middle School.

### **What is a Ski Fest?**

A Ski Fest is several hours of organized fun for kids on cross-country skis. A ski fest is a largely non-competitive series of fun events, ranging from games to races to obstacle courses, all on cross-country skis. The goal is to get kids on cross-country skis in a fun, entertaining, and enjoyable setting with lots of other kids.

### **Ahead of time**

- Set a date
- Avoid conflicts that might keep kids from coming
- Coordinate with other schools or clubs
- Determine location
- Enough space
- Access to a warm place
- Parking
- Source of snow for building obstacle course
- Tracked/groomed trail
- Get permissions if necessary
- Plan for advertising
- Create posters or fliers
- Post info at schools
- Send invitations if appropriate
- Article in local paper if appropriate



### **Equipment**

- Bibs - borrow or buy
- Air horn - a great way to indicate time to switch events
- Name tag stickers for kids, coaches & officials
- Old carpet for wiping boots before going indoors
- Sign-up sheets, registration forms
- Flags to mark race courses, and other event venues
- Props for events - see detailed info below

### **Staffing**

- Registration people
- Refreshments - setup and supervision
- Clean-up volunteers

Awards & announcements - emcee  
Event directors and helpers - see detailed list below  
Grooming, course set up  
Obstacle course design and construction - get kids to help with this fun project!!

### **Awards**

Ribbons (or something) for all participants  
Freebies from local businesses, or ski manufacturers (stickers, posters, water bottles, energy bars, etc.)

### **Refreshments**

During: Have water available to participants out on the venues.  
Afterwards: Hot cocoa, Cold drinks  
Cookies - brought by parents, supplied by school, donated?

### **Detailed Event Information**

Below are detailed descriptions and suggestions for seven possible Ski Fest Events. We suggest that you pick 3-5 to use in your ski fest. In our experience, four events per participant seemed to be plenty, but it may be advisable to have a different set of events for beginners than for advanced skiers. For example: let them overlap for 3 events, but for the 4th event, advanced skiers could have a serious race and beginners could have an instruction session.

### **Obstacle Course**

#### - Design & Construction:

Start at least a week ahead - take weather into account: wet snow works well, cold nights help freeze.  
Consider having a friendly plow help you out. Hay bales can form a foundation, especially when snow is limited

#### Use your local topography

#### - Obstacles to include (or make up your own):

Big hump to climb over  
Steps to side-step up, knife-edge to ski down  
Bicycle track (one ski is high when the other is low)  
Snake channel to navigate  
A small jump if a hill is available  
Limbo pole  
Slalom

#### - Timing

Allow multiple runs until time is up  
Kids can choose not to be timed  
Staffing

Timer

Recorder

One person at each obstacle as needed, at least the trickiest ones

#### - Equipment/Supplies

Ahead of time: Snow construction tools: shovels, sleds, snow scoops, watering pails  
Watch/stopwatch



Clipboard, pen, pencil  
Limbo & slalom poles  
Start/finish markers  
Trail marking flags

- Course

Short loop with hills and turns  
Good visibility if possible  
Mass start location

- Timing/Teams

Make up teams, or use teams set by coach  
Each skier skis loop once or twice - depending on skill and length of loop  
With advanced kids, definitely time them  
With beginners, if they even do this event, they may choose not to be timed

- Staffing

Timer  
Recorder  
Spotter/extra

- Equipment/Supplies

Watch  
Clipboard, pen, pencil  
Start/finish markers  
Trail marking flags



**Fun Relay**

- Course

Around soccer field or similar area  
Mass start location

- Timing/Teams/Format

Make up teams or use teams set by coaches  
Teams of 3, 4, 5 - whatever  
Handicaps are drawn or assigned to keep teams even  
Place markers at  $\frac{1}{4}$  loop,  $\frac{1}{2}$  loop, and  $\frac{3}{4}$  loop - director assigns how far each team has to be handicapped

Tricks you can include (or make up your own)

Ski backwards

Arms only

No poles

One ski

Three legged

Dribble soccer ball

Holding hands

All holding on to a rope

- Staffing

No timing/no recording

Handicap manager

Assistant/lap counter

- Equipment/Supplies

Any props as needed: rope, soccer ball  
Handicap cards if you go with a drawing system  
Start/finish markers Soccer or Broomball

Field

Cones for goal

Cones for field

Groomed field

- Staffing

Referee

- Teams

Split the group in two - can be fun to put a school team together vs another school team on this one  
- then they know who's on their team

- Equipment/Supplies

Whistle

Soccer ball, for soccer

Brooms (one per player) for broomball, and broomball ball (whatever that is) (some kind of soft, lightweight ball, maybe foam)

Pinnies

Cones

**Games**

- Set-up

Game field - flat area, groomed

- Equipment/Supplies

Cones or poles to mark lines, boundaries

- Games to include

Red Rover

Sharks & Minnows

- Staffing

Games director

An assistant if possible



**Instruction**

- Check equipment to see who's on classic, who's on skating skis

- Staffing

Here you need your best coaches

Assuming you have kids on both kinds of skis, you'll need a classic coach and a skating coach

- Equipment/Supplies

Not much besides good tracks and skate-groomed section of trail

If possible, include a small hill to work on climbing

- Suggested drills

Make sure poles are on right

Check fit of equipment, even if you can't do anything about it now.

General description of technique

Ski without poles  
Practice climbing

### **Up/Down Slalom**

- Find a nice little hill - kids will ski up then slalom down, for time (unless they are beginners and don't want to be timed).

Can also be done without poles!

#### - Staffing

Timer/director

Maybe an assistant

#### - Equipment/Supplies

Poles or cones for slalom

Start/Finish markers

Clipboard, pen, pencil

Watch/stopwatch

### **Safety Considerations -**

The following guidelines are suggested for official NENSA cross-country ski races and might also apply to Ski Fests.

- A "Search and Rescue Plan" should be present in written form at all race sites. It should include:
  - Alerting the nearest medical facility of the date and time of the event
  - Alerting local medical transport service of date and time of race
- detailing the quickest and safest access and exit routes to various points on the course
- Course monitors stationed at points on the course. They should be in radio contact with the Start/Finish Officials and/or the Technical Delegate
- At least one snowmobile staffed by an EMT or medical personnel be stationed at/near the start/finish line.



## THE AROOSTOOK YOUTH SKI FESTIVAL – A Review

Saturday March 5th, 2005 10am-4pm  
Northern Skiers Club, Caribou, Maine, USA

This first annual festival was designed as a new and **COOL** way to celebrate all the ways kids can **MOVE** on a pair of XC skis!! All skiing youth ages 5-13 were welcome to attend this unique one-day festival! The entry fee was only \$10 and included lunch and entry to all events, a certificate of individual achievements and a water bottle.

One of the goals was to give all kinds of kids a chance to be “successful” during the day, so we designed a few new types of events for them to shine. While some kids have good endurance for a ski race, there are many more who do not, but they still enjoy skiing and become skilled in other areas.

### Event Descriptions:

\* **Big Air EXPO:** How much air can each skier get between their skis and the ground! 3 Jumps of various sizes. Helmets required for the larger jumps – Only open when adults were present. Great up-beat music playing for the crowd and skiers.

\* **XC Speed Skiing:** Measured with a Radar Gun for Maximum Speed in MPH. A big hit!!

\* **XC Power Ski Drag:** A measure of skiing power! Special Sled designed with weight added for 20 meters. A Monster Truck pull on skis!

\* **Double Pole for Distance:** A show of double poling ski strength with this arms-only event. Includes a Double Pole Section and a marked glide section.

\* **XC Slalom Course:** A few gated courses on a downhill slope. Gates aren't just for alpine skiers! Experienced skiers teach the kids to carve turns.

\* **XC Standing Jump Turns:** Jump up and turn mid air. We had 9 kids do a complete 360!

\* **XC Distance Event:** Freestyle (Classic Track available) 2k, 1.5k, 1k, or 500 meters with all courses very visible to parents and spectators.

\* **Barrel Sprints** – 50 meter barrel Sprint – 25 to the barrel and back to the start/finish line. 5 barrels setup, but most kids chose not to go all at once.

\* **Tandem Skiing Relays** – Two skier on one pair of skis! A true display of teamwork on skis!

\* **Biathlon Challenge** – Take a “shot” at the bean bag biathlon targets.

**O\* bstacle Courses** and other skiing challenges available ALL-Day for skiers.

Ski Joring Demos, Skiing Teeter totter, Skiing Limbo, Ski Tours, etc....

\* **MASSIVE Sharks and Minnows game** – We had about 150 skiers and volunteers/adults all join in for a massive game of Sharks and Minnows with live play by play on the PA system. It was a great way to end the day!

In all, we had about 150 kids, 50 volunteers, and another 100 parents/spectators come for the event from all around.

The most complicated part of the AYSF was to SCORE the kids in 6 different events before we broke up into more FREE time. Each skier had a bib with numbers corresponding to their age group; Lollipop, J5, J4, J3 for scoring purposes. The following events were SCORED or noted for

participation:

- Ø Distance Ski Race – NO Times recorded, only that they COMPLETED the distance
- Ø Slalom Course - NO Times recorded, only that they TRIED the Slalom Courses
- Ø Radar Speed Skiing – Fastest speed in MPH was recorded (event highlight for most kids)
- Ø Double Pole for Distance – Length of their Double Pole induced Glide was recorded
- Ø Barrel Sprints – Times on this standardized distance that can be reproduced in future years to note improvement.
- Ø Jump Turns – Large circles made in the snow with degrees marked – This can be reproduced each year as well for the skiers to note their improvement.

Final notes:

The Northern Skiers Club helped to provide the 50 volunteers we needed to pull this event off. They are excited to hold it again next year, which I support since their venue is IDEAL with lots of SPACE to PLAY, and lots of hills for kids to experience that all important GLIDE!

There was (by design) no POSTED RESULTS, and NO AWARD ceremonies! Each skier left with a certificate which highlighted their own achievements. Everyone left a winner!

We would not change much for next year. A few tweaks here and there maybe, but mostly we would like to find ways to get more kids there to experience this one full day of fun on skis. We may find sponsors who can pay for the buses needed from all the towns around. We can get 500 kids if they all have transportation right from their home towns, so this is where we will focus some time and effort.

For more information: [www.youthskifest.org](http://www.youthskifest.org)

Festival Director – John Farra - [john@mainewsc.org](mailto:john@mainewsc.org) - 207-227-3843

Northern Skiers Club, 308 York St, Caribou, ME 04736 Ph 207-328-0991 or Fax 207-328-0992



## Ski Touring

Some of a club's most memorable and enjoyable practices can involve ski-touring. Exploration, discovery, fitness, skill-building, fellowship, all come together on ski tours. Have parents and/or additional coaches along to assist you. If your group is too large, break up into roughly homogeneous grouping. Don't allow kids to race off at top speed. This activity is about going steady for a long period of time.

### The Bill Kocher's Backpack

On a tour lasting one to two hours, each child should carry the following in a small backpack:

— snacks with a nutritional value that will help through a longer tour. For example, dried fruits, nuts, granola bars, fruit cake, peanut butter sandwiches, etc.

— consider hot drinks in a thermos. For example, apple juice, hot chocolate, a mixture of apple and orange juice, or grape juice; cold drinks in small cartons are very handy.

— a cork and a couple of tins of wax selected to cover the temperature range from one level above to one level below the wax of the day.

— A few extra pieces of clothing such a dry mittens, dry socks, and a shell to ensure the comfort and success of the outing in an unforeseen event.

—Large trash bags/plastic bags are good to wear in wet weather, or sit on during a break.

### The Leader's Backpack

For any outing lasting more than an hour, the key is to be prepared. The weather that is beautiful and sunny after you start can quickly turn around.

You should carry a repair kit, a first-aid kit, and a map. Make them available to whomever needs them. It is also advisable for the helper in your group to carry a spare repair kit, because you may not be available to help out in every situation. This safety measure insures that there are always two kits on a ski tour.



The **repair kit** should contain:

- a spare ski tip
- a spare basket and bail
- tape, laces or string
- a screwdriver and screws
- pliers
- steel wool
- an old pair of wool socks (large enough to fit over a ski boot)
- a penknife
- matches in a waterproof container
- paper and pencil



The **first aid** kit should contain:

- a space (reflective)blanket, tarp or foam pad
- moleskin
- a small pair of scissors
- a triangular bandage
- a whistle
- an elastoplast bandage
- safety pins

Be sure to carry a map of the ski trails where you will be skiing, and make sure that *all* Bill Koch Leaders and helpers have a copy. Mark the trails to be skied on the map. Do not change the route planned unless *everyone* knows the new route.

### **Terrain and Trails**

Be aware of where the trail you have selected will take you. Check for lake and river crossings, increases in elevation, sharp corners, and other potentially hazardous terrain. It is best to stick to trails that you know well. If you are not familiar with the trails, make a reconnaissance trip, or get first-hand information from a local skier or ski club. Remember that beginner skiers should not have to ski on difficult terrain.

### **Trail Etiquette and Safety**

These are the “rules of the road,” that make skiing with others more fun.

- Leave a safe trail behind you. Fill in “sitzmarks,” clear obstructions from the trail, and warn others of hazards.
- When overcoming a slower skier, say “Track!” and leave enough time for them to react before you pass them.
- When faster skiers yell “Track,” immediately step to the right of the track to allow them to pass. Remember that those skiing downhill always have right of way!
- On double tracks, move to the right to let faster skiers pass. On a single track, move out of the track

to let faster skiers pass.

- Keep your poles in when passing or being passed.
- Get off the trail when taking a break ; don't stop for a chat in the middle of the track!
- Don't litter.
- Observe all posted signs. Ski in the right direction on one-way trails

### **Safety Measures for Skiers**

- Never ski alone.
- Avoid skiing in the dark.
- Know where you are; use a map!
- Keep to well-marked trails.
- Ski terrain or distances that all members of your group can handle.
- Ski under control.
- Advise others of your intended route and plans.
- Be prepared for bad weather or changing conditions. For protection, carry extra layers of clothing in a backpack.
- Wear proper clothing; you need it to stay dry and warm!
- Be prepared for accidents, emergencies, or damaged equipment. Carry a repair kit, ski tip, and a first aid kit.
- Check your group's condition frequently; be on the lookout for frostbite.
- Regroup at intersections.
- Don't ski too close together; it is annoying and could cause an accident. Keep a good distance from other skiers on downhill sections.
- On blind descents, call a warning to skiers who might be ascending or who might have fallen. Alert waiting skiers when the trail is clear.
- Roll off the track as soon as possible after a fall; fill in your sitzmark so that the next skier won't fall in the same place.
- Always ski with caution, and always beware of open streams, fallen trees, and snow-covered lakes.
- If you are skiing for more than a couple of hours, always ski with a day pack, and always carry food and drink.
- Know the location of snowmobile trails, and show courtesy toward snowmobilers. They may save your life one day!





## **Chapter X**

### **Clothing**

When dressing to go out to ski or play in the snow, remember the two basics:  
Stay Warm and Stay Dry!

## Clothing

When dressing to go out to ski or play in the snow, remember the two basics: Stay Warm and Stay Dry!

### Layers

Clothing and accessories should be combined to provide warmth and protection from moisture, wind, cold and sun. The amount of still air trapped in the clothing is directly related to the warmth of the clothing. Layering clothes will provide more trapped air and increase the insulation from the cold. With the exception of wool, wet clothing will not keep a body warm, so encourage skiers to dress in layers— *but not to be warmer than their body temperature*. It is a fine line between being warm and being too warm, but it is an important distinction.

When children perspire their clothes become wet— then it becomes very difficult to keep warm when they pause. When team leaders or parent see children getting too hot they should suggest removing a layer or two.

By the same token, if skiers get too cool or cannot keep their hands and feet warm, they should be encouraged to put on a layer.

The best way to keep warm, of course, is to keep moving! So encourage their parents to dress their children in stretchy or baggy clothes that do not restrict their skiing.

### Hats

Another important regulator of body warmth is the head. 80% of body heat is lost through the head. As the Kochers warm up during exercise, suggest that they remove layers of clothing, but not their hat. Hats should be worn at all times.

### Mittens

Mittens are usually warmer than gloves, because the fingers are not separated and can keep each other warm. A compromise is the two-fingered glove which allows for more control while at the same “buddying-up” fingers for warmth.

### Eye Wear

There are days when eyes must always be protected from the sun and the sun’s glare reflected off the snow. Even when it is cloudy, eyewear that can filter out ultraviolet and infrared rays are an absolute must. Sunglasses or goggles also block the wind and improve visibility when it is snowing.

### Skin Protection

A weather cream and lip balm should be used to prevent windburn and sunburn. At high altitudes and on sunny days, use a sunscreen as well. Most weather creams on the market today have a code number for the sunscreen protection factor (SPF), which ranges from 1 to 24. A sunscreen with an

SPF of 5 means that the sun will have the same effect on skin in 5 minutes instead of 1 minute.

### **Windbreaker**

The final layer, a windproof/rainproof shell, should protect the body from wind and rain, yet allow perspiration to evaporate. Skiers should always carry a shell to protect themselves from windy, wet, or snowy weather. It can be tied around the waist when not in use or when too warm, eg, a tour.

### **Post-Practice Clothes**

It is very important to change into dry clothes—socks, shirt, hat— immediately after practice. As the body cools off, sweat or moisture in the clothes cools off and the body becomes chilled. By encouraging children to change into dry clothes for the ride home you can help them stay healthy through the winter.

### **Clothing Materials**

\* Polypropylene (LIFA, Thermax, CoolMax) draws sweat from the body as a wick on a candle draws wax up the string. This absorption keeps the skin dry and warm. Wear polypropylene next to the skin

\* Natural fibers/materials like wool/down keep the body warmer than synthetic fibers when the body is not exercising. They can also function well as layering between polypropylene and the out shell

\* Shells or windbreakers are ideally made from breathable materials. They are designed to keep body heat within the shell/envelope. The shell protects the body from such external conditions as rain, snow, and wind. Getting very cool on a long ski tour may not only be uncomfortable but also dangerous. Skiers should always carry a shell to protect themselves from windy, wet, or snowy weather.





## **Chapter XI**

### **Waxing**

## Waxing

### Waxes

There are two kinds of cross country ski waxes:

**Kick Wax** causes the skis to grip the snow during the kick phase, allowing skiers to push off and propel themselves forward. Kick wax has to grip during the kick phase, and glide during the glide phase of classical skiing. When a ski with the correct wax is kicked down onto snow, the points of the snow crystals stick into the wax. This temporary bonding, or grip, allows the skier to push off without slipping. The ski begins to glide when the force of the forward sliding ski breaks the wax/snow bond and the ski's camber lifts the kick zone up off the snow.

Klister is a special kick wax used when snow has been transformed by weather. Because old or wet snow has rounded crystals, wax must be soft enough to allow the smoothed snow crystals to stick. Klister is as soft as toothpaste and comes in toothpaste-like tubes.

**Glide wax** minimizes the friction between the snow and the base of the ski. In all except the coldest snow, friction creates a microscopic water layer between the ski base and the snow by melting the upper part of each snow crystal that the ski touches. The ski glides on the thinnest layer of water, just like a hockey skate glides on a thin layer of water, between the ice and the skate blade.

### Basic Waxing Guidelines

#### The Preparation of Ski Bases

Modern skis have polyethylene bases. New skis, or skis which have not been used for a period of time, collect dirt. Cleaning will prevent grit from being waxed into the base of the ski. Skis can be cleaned by waxing with a hot wax and scraping while the wax is still warm. Also, liquid wax removers are made by a number of companies. If used according to directions they will clean ski bases without harming them.

#### Glide-Waxing

Glide wax, like kick wax, is tailored to weather and snow conditions. Be sure to read the description on the wax package to see if it matches the expected weather and snow conditions.

Glide Wax Kit- Glide wax, iron, plastic scraper, nylon brush. Saw horses or two chairs with a tarp beneath can be made to work, but waxing and scraping will go far easier if you have vises or a wax bench in which to secure to skis. Do your work in a well-ventilated area.

1. Use an iron to melt glide wax onto the ski. Make sure that the iron is at a low temperature; **Caution:** If the iron is smoking it is too hot! Hold the wax on the base of the iron and let the heated wax drip onto the ski base — - a little goes a long way. Let the liquid wax drip onto the base in a line or a line of beads.
2. Move the iron back and forth slowly, but not so slowly that the iron heats through the base. Feel the

top of the ski occasionally, particularly at the tip and tail where the ski's core material is thinnest, to see if the iron is heating through the ski. Heat the wax beads until they are melted and the wax evenly covers the base.

3. Let the ski sit until the wax is cool to the touch.

4. Scrape with a plastic scraper. Make flat, steady passes from tip to tail using even pressure. Scrape until no more wax comes off. Be sure to clean out the grooves using a plastic groove tool. Don't forget to remove any wax that may have dripped on the sidewalls.

5. Brush with a nylon bristle brush until the base shines— always brush from tip to tail.

It requires practice to learn to glide wax a ski so that it is optimally fast. A good way to learn is to watch someone else first. Watch experienced skiers at a ski center. Have someone put on a wax clinic as a Club activity. Assist experienced waxers in putting on wax. And when in doubt, ask questions!

## **Kick Waxing**

Kick Wax Kit - A basic wax kit contains the following: several types of hard and klister waxes, cork, scraper. A torch or heat gun is useful in heating klister so that it spreads easier. Also, a plastic applicator can be useful for those who prefer not to spread klister with their thumb.

## **Kick Waxing Steps**

1. Start with a clean ski base.

2. Select the wax of the day, according to snow type, texture and track conditions.

3. To apply hard waxes, strip the metal covering of the container back only around the top edge; to open a klister tube, unscrew the top and use the sharp point at the top of the cap to puncture the mouth of the tube.

4. Wax in layers. Wax lasts longer if it is layered. Lightly crayon the hard wax onto the ski base. New skiers may want to wax the entire ski. Otherwise, wax about 45 centimeters of the area under the foot, from under the heel towards the toe of the binding.

5. To apply klister, squeeze out a line of klister dots along the 45 cm base area beneath and ahead of the foot. Smooth out with your finger or a klister stick provided in the klister box.

6. To apply hard wax, use a light, steady stroke of a cork to buff or smooth the wax.

7. If waxing indoors, allow the waxed ski to adjust to the temperature outside, otherwise icing will occur (the snow will stick to the wax) when the ski first touches the snow.

8. Ski a short distance in order to check the wax. Once you start skiing, give the wax several hundred meters to start working. If snow builds up under the ski, scrape it off and apply the next colder, harder wax. If you are slipping, you can do one of the following:

a. Thicken the wax.

b. Lengthen the waxing zone.

c. Use the next warmer wax on the temperature scale.

Remember: "Longer, thicker, softer".

## **Klisters**

Klisters are used when the water content of the snow is very high and the snow has thawed and refrozen. Try to wax indoors with klisters whenever possible; this wax applies best when warm. If you have to apply the klisters outside, heat the klisters tube with a torch or warm it with your hands. To apply klisters, put tiny dots every five to eight centimeters on the middle half of the ski but avoid the groove. Smooth it first with your thumb or the klisters applicator from the klisters box (“klisters stick”). Then heat the klisters with a torch and smooth it out to a thin layer. Be careful not to heat the klisters so much that it smokes; smoking causes a chemical change that diminishes the quality of the wax.

If you do not have a torch, spread the klisters with the applicator from your wax kit and then fine-smooth the klisters with the palm of your hand or your thumb. Cool your skis outside.

## **Cleaning**

It is often possible to ski on the previous day’s wax. However, if snow conditions or the temperature has changed, clean skis before rewaxing.

Start by scraping off as much wax as you can without harming the bottom surface (a klisters applicator or putty knife are ideal). Use a wax remover or a torch and rag to finish cleaning your skis. Be sure to keep the torch moving at all times otherwise you might burn the base of the ski. Be sure to scrape the wax from the sides of your skis.

Check whether the ski is clean by seeing whether you can leave a fingerprint on the previously waxed surface.

## **Conclusion**

There are certain basic steps to follow when learning to wax. With time, your growing knowledge of waxing, combined with an increasing awareness of your own style of skiing, will lead to rewarding results.

### **Classical Waxing: A Simplified Approach,** by Fred Griffin, Northeast Nordic Ski Club

Waxing for classical skiing is 90% science and 10% intuition. The intuition is informed by experience. But make no mistake—there are no shortcuts, no magic pills, no substitutes for *doing*. Classical waxing is in fact the perfect embodiment of the BKL teaching methodology, “Learning by Doing.” The more you wax the better you get.

#### **I. Factors Influencing Wax Selection:**

1. Snow Quality
  - fresh fallen/ not transformed (*binder and kick wax*)
  - partially transformed/been subject to some freeze-and-thaw (*try binder and kick wax, then go to klisters and/or klisters covered with kick wax*)
  - transformed/manmade/ ice-like rather than flake-like (*binder and klisters*)
  - abrasiveness (*determines how many layers of kick wax and type of binder; determines whether you need a klisters binder*)

2. Snow Temperature and to a lesser degree, Air Temperature determine the waxes you use for testing
3. Humidity. Greater humidity means tracks glaze more quickly and you generally move to a warmer wax than temperature might indicate; if there is very little humidity and the snow is dry, you might need a cooler wax than the temperature would indicate

## **II. Wax Selection**

Wax selection is a wonderful example of the scientific method in action. Arrive at race site and be ready to start testing two hours before the first racer goes off. Gather data then read labels, factor in the variables above, and:

1. Pull out 4, 5, 6, or more kick waxes or klisteres that seem to fit the criteria
2. Have a minimum of four-six skis, ( 2-3 pairs) with which to test
3. Apply different waxes to different skis. Use a sharpie or tape to indicate what you have put on what ski. Send testers out to test. No less than ten minutes—ski the wax in!
4. Discard waxes that aren't working. Test those that are working to varying degrees against each other. Look at waxes you haven't tested but come close to matching the profile of what seems to be working. Maybe try a few of them.
5. Zero in on what is working best; keep an eye on weather conditions and track conditions. Have your bailout waxes lined up and ready to go—something colder if the kids start dragging and something warmer if they start slipping. Know where you are going to go ahead of time if you are forced to make a change.
6. If you feel pretty certain the wax is the right wax but your skier complains, go longer in application, then go thicker in application before moving to the warmer wax.
7. Always, always, always exude relaxed confidence. “I want you to be happy with your wax. Let me know if it's not like you want it and we'll fix it!” When you get tight and panicky kids' anxiety levels red line.

## **III. Wax Application**

1. Have kick zones accurately marked (paper test); keep in mind that klister zones will be 1, 1/2 inches shorter on average.
2. Have kick zones sanded with +/- 180 grit sandpaper
3. Binder wax or binder klister goes on thin! Just thick enough to cover the hairies raised by the

sanding; heat with iron and smooth with cork or hand

4. Subsequent coats of kick wax go on thin and are corked until smooth; klistor goes on thin and is corked or hand rubbed until smooth
5. Know your kids and know their skis. Inexperienced skiers may want need warmer wax than skiers with better technique. Kids with stiff skis may need longer and thicker applications.
6. Wax zones are not constants. In general cold dry weather lengthens the kick zone and makes thinness of application more important warm wet shrinks the kick zone and may require a thicker application

What I tell older kids before I start waxing:

“I’m going to do my very best to give you perfect skis. If you’ve got great wax I want to be the first person to hear about after you finish the race. But if you’ve got bad wax I don’t want to hear a word.”



## **Chapter XII**

### **Nutrition**

Reviewed by Caroline Mathes, RD, Rome, ME. Caroline works with athletes from Colby College and the Farmington Area Ski Team. Her “Nutrition for Athletes” brochure is available through NENSA.

## Nutrition

### A Common Sense Approach to Nutrition

Combining the right nutritional elements in the diet gives each athlete the best fuel for their physical and mental performance. Ideal selections of food should provide about *50-65% carbohydrates, 20-30 % fat , and 15% protein*. But nutrition should never be taken out of context. No diet is satisfactory if eating is a joyless experience. Mealtime should be a time for fellowship, relaxation, and mental stimulation. Healthy, pleasurable food choices are more than just a training option; they can become good habits that enrich your life.

### Food Selection Guidelines

#### Breakfast

Correctly described as the most important meal of the day, breakfast is your head start for high energy. For athletes, a good breakfast should emphasize carbohydrates and include protein, fiber, balanced vitamins and minerals, and a minimum of fat.

**DO** - Eat breakfast everyday.

Cereal is ideal. *A smart, world-wide choice by many skiers is oatmeal*. Other hot cereals are also good choices. Cook with lowfat or nonfat milk for extra nutrition. High marks also go to high-fiber cold cereals that emphasize bran. To boost the flavor as well as the nutrients, try adding your own mix of nuts, seeds, and fresh or dried fruits. Raisins, bananas, sunflower seeds, and almonds all work well. Granola also makes a nice topping.

Milk is a must with cereal. In addition to providing calcium, it boosts the protein power of grains. Skim or nonfat milk, or a soy/oat/nut beverage is the best choice.

Whole Grain Breads can provide the basis for quick, tasty breakfasts, portable enough to eat on the run. Whole-grain toast with jam, whole-grain english muffins, biscuits with yogurt and honey, muffins (bran, corn, apple), whole-wheat pita bread and bagels are good. Spread with peanut butter or cream cheese, or layer with a slice of cheese for protein and you're off!

Juices are an excellent eye-opener. Select unsweetened, natural juices such as orange, tomato, apple or grape, or juice combinations that are 100% juice, not sweetened with high fructose corn syrup.

Fruit, especially fresh, is excellent breakfast food. It can be used in place of juice, has extra fiber, and can be added to pancakes, waffles, or cereal as a natural sweetener. You can't eat too much fresh fruit! Avoid canned varieties in heavy syrup.

Hot Beverages such as hot apple cider, hot chocolate.

Eggs are a great source of low-fat protein. Opt for boiled, scrambled, and poached rather than fried eggs. If you're the chef, use a light oil instead of butter for cooking. Vegetable omelettes are a good way to go. Cheese or ham, with onions, tomatoes, spinach, mushrooms, carrots and zucchini all make tasty fillings. If your family has a history of high cholesterol, eat in moderation.

Pancakes, Waffles, and French Toast are also energy-packed breakfast choices. For extra health benefits, select buckwheat flour and bran varieties. Topping with apple slices or berries enhances

nutrition, but avoid going overboard with sugary syrups.

#### Occasional Foods:

Processed breakfast meats, such as sausage and bacon should **not** be regular breakfast items. They contain excessive saturated fat and/or too much sodium and unhealthy additives, nitrates, and nitrites. Eat these breakfast meats only occasionally, as accompaniments to carbohydrate-rich choices like cereal or pancakes.

#### **DON'T**

- Eat breakfast meats more than three times a week, and don't eat sausage and bacon more than twice a week.
- Eat eggs every day.
- Choose sugary children's cereals.
- Use gobs of butter or eat butter-saturated toast.
- Consider donuts and pastries to be breakfast food.
- Drink imitation fruit beverages like punch.
- Skip breakfast.

#### **What to drink with your meals:**

#### **DO**

- Get into the lowfat or nonfat milk habit.
- Drink water. Every cell in your body needs it.

#### **DON'T**

- Drink soft drinks, especially cola drinks.
- Drink coffee or black tea.

**NEVER DRINK A SOFT DRINK BEFORE PRACTICE OR A RACE.**

#### **DO**

- Drink approximately eight glasses of fluid throughout the day. Sipping small amounts frequently is better than gulping a lot at one time.
- Drink beverages that provide hydration, energy and nourishment. Some good choices include hot cider, soup (boullion), and hot chocolate, skim milk, natural fruit juices, water, soy, and grain beverages.

## Snacks

Snack time is a time to help meet the additional nutritional demands of an active, growing athlete. No matter what time of day, the beverages and snacks consumed should contribute to, not detract from, performance. Therefore, choose them with the same care as you would food for meals.

### **Post-workout Snack:**

Your muscles are most receptive to replenishing glycogen (energy) and protein (to re/build muscle) 15 minutes to one hour after a race or workout. The best way to do this is bring a snack with protein and carbohydrates in it to eat as soon as you can after exercising. Examples: half a sandwich, half a bagel with cream cheese, (I would rather see peanut butter than cream cheese right here especially since you are talking about protein. Cream cheese is fairly low in Protein ~ 2 gm in 2T where as peanut butter has 8 gm in 2 T) apple and nuts, cheese sticks and crackers or a roll, milk/soy milk and half a peanut butter and honey sandwich. Pack a lunch and a half in the morning and you're ready to go.

### **Do (I think you want to stay with the dots in front of each statement as you've done throughout the info.)**

- \*Plan snacks as part of your day. If possible, take some nutritious snack foods in your pockets or lunch bag so you won't be tempted by nutrition-disaster foods when you're starved.
- \*Take along healthy snacks like apples, oranges, raisins, bananas, nuts, crackers, yogurt, cheese, carrot sticks, bagels, and dried apricots or dates.
- \*Bring whole grain rolls, muffins, and breads Grab extras from the breakfast table.
- \*Consider some non-sweet carbohydrate foods for snacks. Possibilities include popcorn, crackers, crusty rolls, and breads.
- \*Choose a nutrition packed energy bar if you're looking for a sweet snack or one you can take with you.

### **Don't**

- Munch potato chips, corn chips, cheese puffs, etc, in excess. They add unnecessary fat and sodium to your diet. Unbuttered, unsalted popcorn and low-salt pretzels are better alternatives.
- Order a sundae with the works if a small cone will satisfy your craving for something gooey and sweet.
- Eat ice cream in excess. Try frozen yogurt or sherbet as alternatives.
- Consume highly sweetened cake products like cream-filled cupcakes as a regular part of your snack menu.

## Lunch

For an athlete, lunch is critical to replenish nutrients and recharge the body with energy. The key is to include whole grain carbohydrates, low-fat protein and good fats, for optimum afternoon performance. Since a sit-down/hot meal at lunch is not always available, some nutritious quick-stops and take-alongs are great ideas.

### Do

Pack your own lunch to ensure that your lunch contains the nutrition you want. (See Post-workout snack\*).

Choose lean turkey, cheese, tuna fish, over roast beef and roast beef over salty, additive laden luncheon meats like ham, salami and bologna.

Choose mustard instead of mayo for your sandwiches. Tuna, chicken, or egg salad already contain mayonnaise, so you won't need more.

Jazz up that old standby, peanut butter, with some new sidekicks like sliced bananas, raisins, sunflower seeds, apple slices, and celery.

Try lowfat cream cheese with cucumber slices, bean sprouts, olives, sliced tomatoes, onions, chives, and/or sunflower seeds.

Choose a hamburger over a hot dog—hot dogs are nearly all fat without much protein. Also, choose broiled rather than fried burgers.

Choose a baked potato instead of fries.

Try pizza occasionally, with plain cheese or veggies, not fatty meats

Choose salad bars. They're usually chock full of high-carbohydrate, nutritious items. Go easy on creamy dressings.

Eat plenty of pasta as your main source of carbohydrate. It's one of the best sources of energy-yielding carbohydrates. Just stay away from cream sauces and/or sausage.

Select hearty soups and stews like lentil, minestrone, noodle soups and chili. Pack a thermos of hot soup like chowder or vegetable soup.

Make a nutritious dessert part of your meal. Choose yogurt, fresh fruit, dried fruit, oatmeal cookies, or graham crackers.

Drink a beverage with lunch.

### Don't

- Skip lunch
- Eat fast food every day.
- Select fried fish, french fries, or fried chicken more than twice a week—they are loaded with fat, sodium, sugar, and nutrient-empty calories.
- Go overboard with fatty condiments like salad dressing or tartar sauce.
- Eat fatty and salty meats too often.

## Dinner

Dinner is the major meal of the day. It gives you a chance to make up for nutrient and calorie losses after a day of heavy training and competition. High-quality protein and a moderate intake of fat is necessary to make up for extra energy expended during a day of especially heavy training.

Evening snacks, too, can help rebuild nutrient and energy stores. Since muscle glycogen can be rebuilt overnight, carbohydrates, and especially complex carbohydrates, are your best nutritional bet at dinner and afterward. Brush your teeth before bed.

### Do

Eat pasta with or without meat.

Choose pizza as a dinner item—again, load up on vegetable toppings.

Try carbohydrate rich Asian food—it offer rice, plenty of fresh vegetables and meat in a nutritious balance.

Select fish several times a week. Broiled or poached is best.

Garnish foods with lemon juice or fresh herbs.

Remove the skin from chicken before eating.

Go with hamburgers if you like but again, have them broiled instead of fried.

Have soup or salad with dinner for extra vitamins.

Look for entrees or side dishes that include beans.

Include vegetables like broccoli, brussel sprouts, spinach, green or yellow beans, peas, carrots, yams, and sweet potatoes in your menu selections.

Have vegetables steamed or lightly broiled rather than sauteed.

Have as much whole grain bread as you want (without too much butter)

Choose a baked potato or mashed potatoes over french fries.

Include essential fats, like those found in olive oil, sesame oil, peanut/nut butters, and avocados.

For dessert choose fresh fruit over canned fruit, canned fruit over fruit pies, and fruit pies over cream pies and cakes. Puddings, fruit yogurt are also good choices.

### Occasionally:

Although fatty foods like sausages, hot dogs, butter, sour cream, creamy salad dressing, cakes, pies and ice cream are not generally recommended for athletes or the general public, they are sometimes appropriate for athletes undergoing endurance training who have difficulty getting enough to eat during the day. In such cases, an athlete can compensate for the caloric deficit with high fat foods.

### Don't

- Fill up on soda instead of food.
- Choose deep-fried fish or chicken more than twice a week.
- Ruin a baked potato with too much sour cream or butter.
- Consume high-fat meat products like hot dogs or sausages in excess.
- Slather meat with heavy gravies and cream sauces.
- Rely solely on canned and frozen prepared foods.
- Have cake, pies and ice cream for dessert every night.

## Hydration Facts

- In one hour of activity the body can lose up to 1 liter of water (almost one quart!), especially depending on heat and humidity.
- One pint of water equals a pound. Just remember: “A pint’s a pound the world around”. For every pound of body weight you lose in a day, chances are good that you’ve lost a pint of water. Drink up!
- Being just a little dehydrated means a rise in body temperature during exercise, which means.....
  - your heart rate goes up slightly, which means,
  - you breathe harder while going slower.
- A dehydrated athlete can lose 5-10% of the performance capability.
- Once you become dehydrated it takes a minimum of 6 hours to restore hydration. (It can take as long as 20 hours if you are seriously dehydrated).

### What to do

- sip water all day everyday and keep your tank “topped-off”
- carry water bottles to class, around the house, everywhere you go
- be very intentional about your consumption of fluid replacement
- do not share water bottles
- always bring water to practice

### Sport Drinks:

Sports drinks are marketed for the hydration, calories and electrolytes which they give the athlete before, during practice and long races (60 minutes or longer), and for post-race recovery. The water and nutrients they provide are needed and are especially helpful for long events, but can be attained by eating and drinking regular foods. Eating well before the race should prevent the need to have any energy drink before hand. And stressing food after exercise is much more effective for fast glycogen replacement. For example, juice has twice the grams of carbohydrate, and when taken with some protein (cheese stick, peanut butter, gorp) within 15-30 minutes after exercise, is a better choice post-exercise.





## **Chapter XIII**

### **Stretching**

## Stretching

Stretching muscles before and after exercise allows skiers to attain the range of motion required by the sport, and to prevent pulls and strains. Skiers should do the exercises listed below before and after BKL practices, or any other time they feel like it!

Two programs are provided. The exercises in the first program are easy and take only five to ten minutes. The second program is directed at more experienced athletes and may require 12- 15 minutes of activity. No matter which program you use the bottom line remains the same: once you know how to stretch, you will be able to stretch many different muscles almost anywhere or anytime.

Just follow these basic guidelines:

- \* Don't hold your breath while stretching. Instead, use slow, deep breaths to help you relax.
- \* Relax into your stretch. Never bounce. Hold the stretch for 20 to 30 seconds.
- \* Stop stretching if you feel sharp pain, particularly in the joints

### Shoulder Rotations

- Roll your shoulders together around in a circle: up, forward, down and back around.
- Roll one shoulder back when you're moving the other shoulder forward.

### Arm Rotations

- Hold your arm out in front of you and swing it up and around and back in a big circle, first in one direction, then the other. Now make circles with the other arm. Now swing both at once, in opposite directions.

### Shoulder Extensions

- Hold your hands and hold them out in front of you. Now stretch your arms forward from the shoulders.
- Clasp your hands behind you and raise them up; try this while bending forward at the waist and gravity will help the stretch.

### Body Rotations

- Spread legs about shoulder width apart. Place hands on hips. Keeping hips quiet, slowly rotate the upper body around in a circle. Repeat, 5 times in each direction.
- With legs about shoulder width apart, keep your upper body quiet this time, and slowly rotate the hips in a circle, 5 times in each direction.

### Rolldowns

- Stand with your feet hip width apart. Cross your arms and lower your chin until it touches your chest; keep rolling down the upper body, vertebrae by vertebrae like the links on a chain until you begin to bend at the waist. Bend all the way over at this point and hang down for 30 seconds, then slowly lower yourself into a crouch until you are sitting with your heels on the ground.

— Sit down with legs straight and heels about 6 inches apart. Bending from the waist, grab your toes and slowly pull your head down towards your knees keeping legs straight. Eventually you should be able to touch your nose to your knees. Hold this position for 20-30 seconds.

— Sit down and spread your legs apart keeping toes upright and legs straight. Bend forward and reach as far out in front of you as you can, keeping your back straight. Next, bend forward to one foot and slowly pull upper body down towards your knee. Repeat, bending forward over the other foot. Hold each position for 20-30 seconds.

### **Plows**

— Lie on your back with your hands at your side. With legs straight lift them slowly over your head and see if you can touch your toes to the ground behind your head, keeping your knees straight. Hold this position for 20-30 seconds. Then lower your legs to the starting position very slowly, so that you can feel each vertebra touch the ground.

### **Hip Flexes**

— Lie on your back and hold one knee with two hands. Pull that knee gently towards your chest. Now repeat with the other leg.

### **Hip Adductors**

— Sitting down, put the soles of the feet together and grab your toes, pulling your feet towards you. Slowly lean forward. Hold this position for 20-30 seconds.

### **Hip Abductors**

— Lie flat on your back with arms straight out to your sides. With your left leg straight, cross over and touch your toes to the palm of your right hand. Repeat for the right leg and hold for 20-30 seconds.

### **Thigh Stretches**

— Sit on your calves, so that your feet are tucked under your behind. Now slowly lean backwards as far as is comfortable, supporting yourself with your hands on the floor. Hold that position for 20-30 seconds.

### **Calf Stretches (Dog Stretch)**

— Get on floor on your hands and knees; hands shoulder-width; knees shoulder width apart and slightly behind hips; feet shoulder-width apart

#### Movement:

Inhale, and on the exhale stand up (hands stay on floor) and slowly push heels to the floor; continually push back from hands, keeping legs straight, working to create a concavity in back, working to bring the heels to floor; initially 30 seconds; extend to 60 second duration with increase in overall flexibility and improvement in alignment.

### **Buttocks Stretch**

— Start in a seated position with your legs straight in front of you. Take your right leg and bend it under your left leg; Pull your left leg towards your chest so that your right foot is to the right of your

right knee. With your right arm and hand, reach around your left thigh and grab the inside of your left foot. From this position, slowly turn the head as you sit up straight, and look over your left shoulder. Repeat for the other side and hold each position for 15-20 seconds.

### **Advanced Stretching Program**

The following program will take 10 - 15 minutes and is designed to produce strength throughout the full range of body motion. Leaders should practice these stretches prior to teaching them to a group.

**Program:** The following exercises are meant to be done in sequence. Once athletes have gotten comfortable with the required alignments and movements, they should transition from one position to the next with no more than a few seconds in between. Repeat program from the beginning for a more thorough, deep-muscle stretch is desired.

**Note:** Most of your athletes will find many of the positions hard to achieve initially, but after 3 - 5 sessions most will reach a level of flexibility in most positions to allow a more complete range of motion. Mastery of proper alignment and stability over a full range of motion requires regular practice of technique over a period of time— not unlike skiing

### **Standing Stretches**

#1: Readiness position

#### Alignment points:

- feet under shoulders, arms loose at sides; knees opened fully but not locked
- pelvis rotated forward, beneath spine, to remove arch in back
- “high” sternum (don’t cave in at chest)
- relaxed jaw

#### Movement:

Inhale slowly and raise arms over head making the largest arc possible. Lift arms by hands, not shoulders; exhale slowly and downsweep slowly, creating the largest arc possible. Repeat

### **#2 Forward Stretch**

#### Movement:

Begin in Readiness position (see above)

Inhale, and on the exhale, with pelvis rotated underneath, slowly lower chin to chest, slowly roll shoulders forward, and continue slowly rolling trunk downward, vertebrae by vertebrae until the hips start to break from vertical; pause briefly then continue until full forward extension is reached. Cross arms and relax; breathe; after 30 seconds, bend your knees and slowly lower yourself into a crouch, feet pointed forward, heels on the ground; when stable, place hands on heels and reverse the roll upward, pausing momentarily when hips reach vertical; releasing heels when necessary;

### #3 Dog Stretch

Beginning alignment:

On floor on hands and knees; hands shoulder-width; knees shoulder width apart and slightly behind hips; feet shoulder-width apart

Movement:

Inhale, and on the exhale stand up (hands stay on floor) and slowly push heels to the floor; continually push back from hands, keeping legs straight, working to create a concavity in back, working to bring the heels to floor; initially 30 seconds; extend to 60 and 90 seconds in duration with increase in overall flexibility and improvement in alignment

### #4 Repeat “#2: Forward Stretch”

#### #5 Side Stretch Left

Initial Alignment: Begin in readiness position.

Jump to three feet apart; turn right foot out at 90 degrees to neutral orientation; turn left foot in at 30 degrees; hips and trunk **remain in neutral orientation.**

Movement:

Keeping hips in neutral orientation, inhale and on the exhale slide hips toward the left, lean to the right and slide right hand down right toward right ankle; lift left hand to a 12:00 position; turn head to look at left hand; open chest, hips; hold 30 seconds, inhale and come up.

#### #6 Side Stretch Right

Initial Alignment: Begin in readiness position.

Jump to feet three feet apart; turn left foot out at 90 degrees to neutral orientation; turn right foot in at 30 degrees; keep hips and trunk in neutral orientation.

Movement:

Keeping hips in neutral orientation, inhale and on the exhale slide hips toward the right, lean sideways to the left and slide left hand toward left ankle; right hand lifts to a 12:00 position; turn head to look at right hand; open chest, hips; hold 30 seconds, inhale and come up.

### #7 Repeat “#2 Forward Stretch”

#### #8 Side Stretch with Twist Right

Initial Alignment: Begin in readiness position.

Jump to three' apart; turn right foot out at 90 degrees to neutral orientation; turn left foot in at 30 degrees; rotate hips, face, and trunk until they face the direction of right foot.

Movement:

Keeping hips directed to the right, inhale, and on the exhale reach forward with the left hand while pulling back with the right hip; bend forward and place the left hand on the outside of the right calf/ankle, twisting trunk; raise the right hand to 12:00, turn head and look upward at the right hand; hold 30 seconds— **pick a balance point on which to focus** the eyes; hold 30 seconds, inhale and come up.

### **#9 Side Stretch with Twist Left**

Initial Alignment: Begin in readiness position.

Jump to three' apart; turn left foot out at 90 degrees to forward orientation; turn right foot in at 30 degrees; hips, face, and trunk rotate until they face the direction of right foot

Movement:

Keeping hips directed to the left, inhale, and on the exhale reach forward with the right hand while pulling back with the left hip; bend forward and place the right hand on the outside of the left calf/ankle, twisting trunk; raise the left hand to 12:00, turn head and look upward at the left hand; hold 30 seconds— pick a balance point on which to focus the eyes; hold 30 seconds, inhale and come up.

### **#10 Forward Stretch**

### **#11 Side and Groin Stretch right**

Initial Alignment: Begin in readiness position

Jump to 4 1/2 - 5' apart; turn right foot out at 90 degrees to neutral orientation; turn left foot in at 30 degrees; hips and trunk are in neutral orientation; raise arms to parallel with floor; head faces direction of right foot

Movement:

Keeping hips in neutral orientation as much as possible, inhale, and on the exhale lower the right leg until the knee is over right ankle and the right thigh is parallel to the floor; inhale again and on the exhale place the right hand on the floor beside outside of right foot and brace arm against calf; bring straight left arm over head; hold 30 seconds, inhale and come up.

### **#12 Side and Groin Stretch Left**

Initial Alignment: Begin in readiness position.

Jump to 4 1/2 - 5' apart; turn left foot out at 90 degrees to forward orientation; turn right foot in at 30 degrees; hips and trunk are in neutral orientation; head faces direction of left foot; arms are raised to parallel with the floor.

Movement:

Keeping hips in neutral orientation as much as possible, inhale, and on the exhale lower the left leg until the knee is over left ankle and the left thigh is parallel to the floor; inhale again and on the exhale place the left hand on the floor beside outside of left foot and brace arm against calf; bring straight right arm over head; hold 30 seconds, inhale

and come up.

### **#13 Forward Stretch in Wide Stance**

#### Movement:

Begin in readiness position; jump to 5' apart keeping feet, hips, trunk in forward orientation; rotate pelvis forward; inhale, and on the exhale bend forward while sliding hands down the outside of legs; anchor hands as far down toward the ankles as possible and use as steady pressure to pull trunk gently and steadily lower; hold 45-60 seconds; inhale and come up.

### **Seated Postures**

#### **#15 Seated Forward Stretch**

#### Starting Seated Alignment:

Sit with straight or slightly concave back; legs straight and feet squared to neutral orientation—heels pushed away and the toes angled back toward body.

#### Movement:

Inhale and on the exhale, maintaining straight or slightly concave back, bend forward at thigh/hip joint and reach forward with hands and clasp toes; hold 30 - 45 seconds, inhale, come.

#### **#16 Seated Right Side Stretch**

#### Movement:

Begin with starting seated alignment; bend left leg to 90 degrees bringing heel of left foot to hip/thigh joint; sitting upright, place left hand on outside of right knee and twist trunk to the right; hold and breathe for 10 seconds; relax and twist back to face right foot; keeping back straight or slightly concave inhale and on the exhale fold at the hip/thigh joint, reach forward and clasp foot with your hands; hold 30 seconds, inhale and come up.

#### **#17 Seated Left Side Stretch**

#### Movement:

Begin with starting seated alignment; bend right leg to 90 degrees bringing heel of right foot to hip/thigh joint; sitting upright, place right hand on outside of left knee and twist trunk to the left; hold and breathe for 10 seconds; relax and twist back to face left foot; keeping back straight or slightly concave inhale and on the exhale fold at the hip/thigh joint, reach forward and clasp foot with your hands; hold 30 seconds, inhale and come up.

## **Chapter XIV**

### **First Aid**

This section focuses on cold weather-related first aid for frostbite, hypothermia, or dehydration. For a complete guide, the National Ski Patrol's Outdoor Emergency Care, by Warren D. Bowman, M.D. (ISBN# 0-929752-01-5) is also the text for their certification course.

## **First Aid - Cold Weather-related Concerns**

Someone must be available at every Club activity who is trained in First-Responder First Aid or basic first aid training. This section is not designed to provide that information. It focuses on cold weather related first aid for frostbite, hypothermia, and dehydration.

### **Frostbite**

Frostbite often occurs when skiers are exposed to the cold for a long time. Frostbite normally occurs on the exposed parts of your body: hands, feet, ears, nose and cheeks. The symptoms of frostbite are cold, white, frozen patches of skin.

There are two types of frostbite: superficial frost nip and deep frostbite.

Frost nip is a frozen, hard area on the surface of your skin. If you see a white patch on a child's face while you are out skiing, put your mitten over the nip—DO NOT RUB THE SKIN! Rubbing the skin will cause the ice crystals that are in the skin cells to tear the cells. If you have a long way to ski back to the lodge, find an extra sock or scarf to cover that area. As soon as you get inside, put the injured part in warm (NOT HOT!) water for about 20 minutes.

Deep frostbite is when the entire thickness of skin and the underlying tissue are frozen solid. Seek out medical attention as soon as possible

### **Hypothermia**

Hypothermia normally occurs when exposure to cold is made even worse by wet weather, wind, and exhaustion. The symptoms are:

- uncontrollable fits of shivering,
- vague, slowed, slurred speech,
- memory lapses and incoherence,
- immobile, fumbling hands,
- frequent stumbling or a lurching gait,
- sleepiness,
- apparent exhaustion, i.e. an inability to get up after a rest.

The procedure for treatment is:

- \* Insulate the victim from the snow/cold surface.
- \* Get the victim out of the wind or rain.
- \* Strip victim of all wet clothes.
- \* Get victim into dry clothes and a warm sleeping bag or bed. Placing well-wrapped, warm rocks, (not hot) in their sleeping bag will hasten recovery. Body heat from having another person in the sleeping

bag will also help warm them.

\* Build a fire.

\* Give him or her warm drinks.

### Minimum Temperature Guidelines

The New England BKL's recommended minimum temperature guidelines are based largely upon the following information. Please take into account the children involved and their clothing, the length of the workout, the intensity and distance of the workout/event, and the protection offered, or not, by the terrain (hills, trees to protect from wind). See page 37 for the NEBKL Race, Train, Ski Temperature Recommendations.

### Cold Weather Guidelines For Children

Translated by Torbjorn Karlsen

Professor Ulf Aaseboe is the chief physician of the pulmonology department at the University hospital of North Norway. "I think it's irresponsible to organize energy demanding ski races for children if it's below -10 Celsius," says Aaseboe . . . . Lots have been written about elite skiers developing asthma as a result of hard training and racing in extreme cold conditions. Almost 40% of all Norwegian adult (elite) skiers have asthma. The percentage for the average population is seven. "The injuries can last a lifetime. The children's air-ways than be greatly damaged," warns Aaseboe. "Children's lungs are more sensitive than adults." (full text available at SWHN webpage, [www.swnh.com/SWNH\\_Cold%20Weather%20Guidelines.htm](http://www.swnh.com/SWNH_Cold%20Weather%20Guidelines.htm))

### FIS Minimum Temperature recommendations for Popular Cross-country Competitions:

387.1.1 "There are three main factors to be considered... regarding cold weather safety: the temperature, the duration of exposure, and the clothing and other protection against cold weather. These factors taken together with any other relevant information such as "wind chill factor" must be taken into consideration when making a decision regarding cold weather."

		<u><b>BKL Minimum Temperature Guidelines</b></u>		
$^{\circ}\text{C}$	$^{\circ}\text{F}$	<u>Celsius</u>	<u>Fahrenheit</u>	<u>Effort Level</u>
0	32			
-5		-23-11 $^{\circ}\text{C}$	11 $^{\circ}\text{F}$ & warmer	- race full course; train intervals; and easy ski
-11	11	-12 to -14 $^{\circ}\text{C}$	10 to 6 $^{\circ}\text{F}$	- for races/hard effort events, minimize course/ route into woods rather than in fields, easy ski
-15	5	-15 to -18 $^{\circ}\text{C}$	5 to 0 $^{\circ}\text{F}$	- racing not recommended; no intervals, keep moving
-18	0	below -18 $^{\circ}\text{C}$	below 0 $^{\circ}\text{F}$	- easy skiing only, alternate 10-15minutes outside, with proper clothing, then inside; indoor activities highly recommended.

## **Dehydration**

Dehydration can easily occur on an extended tour because of overexertion and perspiration. It is made worse by breathing cold, dry air, which absorbs a considerable amount of moisture from the lungs.

The symptoms of dehydration are extreme fatigue, light-headedness, and thirst. Dehydration can be prevented by:

- dressing in layers that can be removed before excessive perspiration causes heat build-up,
- drinking plenty of fluids.

It is strongly recommended that skiers carry a plastic bottle of fluid in their fanny pack when they are on an extended tour.

Eating snow relieves a dry mouth, but it does not satisfy water requirements. It takes approximately 10 cups of snow to make one cup of water. In addition, eating snow lowers your body temperature and increases vulnerability to hypothermia.

## **Conclusion**

Frostbite, hypothermia, and dehydration are all serious, life-threatening conditions. All can be prevented through proper preparation. All can be caught in their initial stages through close observation. The key then is not treatment, but prevention.



## **Chapter XV**

### **Setting Up Competitive Events**

In this section you will learn how to integrate competitive events into your overall club program. The procedures for organizing and running cross country ski races for BKL skiers is explained.

For organizers of multi-age events NENSA's [Race Organizers Handbook](#) is another resource.

## Setting Up Competitive Events

Competition is a distinct part of the overall NEBKL program. While not all children want to participate in races, each local BKL Club needs to provide for those children who do. In this section you will learn how to integrate the competitive aspects of cross-country skiing with your overall program. You will be led step-by-step through the process of organizing and running racing events for BKL skiers.

### Philosophy of Competition

It is the responsibility of NEBKL leaders, coaches, and parents to provide children with the skills and knowledge to pursue skiing beyond BKL should they choose to do so. As with all NEBKL activities, competitions are designed to teach each young athlete to participate to the best of his or her respective abilities. No child should be forced to compete.

### Cautionary Note

The long-term developmental needs of each child must be observed by club leaders, coaches, and parents. Racing children two and three times a week, and racing children longer distances risks their long-term development. While it is true that all children develop physically and mentally at different rates, the danger of “rushing” young athletes is well-established.

Children who race several times a week may experience short-term success but truly jeopardize long-term development. They are more susceptible to injuries as well as physical and psychological burnout.

Children who consistently race distances longer than those recommended for their age group risk neuro-muscular development of the speed that is their natural gift. Psychologically and neuro-muscularly, they quickly become efficient at moving themselves over the snow at a conservative pace.

In almost every case children who race too often or who race at distances which are too long, are doing so to please an adult.

### Racing Opportunities

Clubs that are too small, or feel too inexperienced to hold their own competitions can participate in the races of neighboring clubs, or in district races. Volunteering to help others is a great way to learn how to run competitions yourself. Leaders should contact their district chair or contact the NENSA Administrative Office to find out more about these opportunities. Also, many NENSA races feature a BKL race prior to the main event. Contact the NENSA Administrative office or consult the website to find out more about these events.

### Organizing a Cross Country Ski Race

Organizing a cross-country ski race requires planning. Poorly organized races are frustrating and discouraging to both competitors and parents. Procedures must be thought out in advance and

communicated clearly to the team of workers. Beginning race organizers should observe activities at a host club before running their own race. Volunteering to work at other club's races is a great way to learn.

Equipment required to run a ski race is minimal and inexpensive. Race administration techniques vary. The suggestions here are provided as a basic outline to help the organizer establish procedures for a local club.

### **Choosing the Course.**

Choose the cross-country race course prior to race day. An ideal course is a fair test of a racer's speed and technique and, lastly, endurance. Racing is fun for kids when they go fast, when they feel fast. Courses that reward endurance above speed are discouraged

The terrain should be smooth and undulating with no extremely sharp gradients. The course should have smooth turns that leave skiing rhythm uninterrupted. A limited number of bumps and sharper turns have their place on courses for the older, more experienced BKL racers. More difficult features such as steep, long uphill and downhill with high speeds and sharp turns may be added to courses for older junior and adult skiers— but they are not recommended for BKL skiers.

### **Distance and Terrain guidelines for Bill Koch Youth Ski League Races**

- **Lollipopers (age 5-7)** – No more than 500meters. Although flat terrain might appear easier, it is actually more difficult to ski than rolling terrain, with its rests and opportunities to change techniques. If there is some terrain parents should be encouraged to help with the less capable kids - little push up the hill, or a little hand holding on the way down.
- **J5 (age 8-9)** – 2 kilometers with no more than 20-25 meters (65-85 feet) of total elevation gain and a maximum single climb of 10 meters (35 feet).
- **J4 (age 10-11)** – 3 kilometers with no more than 30-40 meters (100-135 feet) of total elevation gain and a maximum single climb of 10 meters (35 feet).
- **J3 (age 12-13)** – 4 kilometers with no more than 40-55 meters (135-180 feet) of total elevation gain and a maximum single climb of 15 meters (50 feet).

As with every other guideline put forth by NENSA for the Bill Koch League, the objective here is to make racing fun for as many kids as possible. At this age the goal is to create converts to the sport of cross country skiing; at a later age is when we worry about creating superstars.

As more challenge is desired, it is preferable to focus on courses with technical challenge of skiing skills, i.e. compression dips, turns, etc., rather than more climbing. Conversely, if a club or district has a lot of skiers who have never raced before, a course could be laid out just for them, regardless of age, that might be only a kilometer long with no climbing.

When it comes time to put together the courses for a festival these guidelines are more important than ever. When all of the districts and clubs come together at the festival, bringing with them an incredible variety of skiing ability, they should know what to expect. Consistency is important. The

less time a skier at the festival spends worrying about how long or how hard the course is, the more time they can spend focusing on going fast, or having fun, or whatever their particular goal is.

To insure course distances and climbs are within the recommendations, event directors can:

1. Use a topographic map to help estimate the high difference from known points on your course. While not 100% accurate it will give you a sense of the terrain.
2. Use an inclinometer \* to measure the angle and a tape to get the distance and some basic geometry to calculate the approximate rise, again this is not exact but it will get you pretty close.

\* Suunto hand-held clinometers are precision instruments used all over the world by surveyors, engineers, cartographers, geologists, miners, architects and many others who need to be able to measure heights, vertical angles and slopes quickly and easily. One suitable for our purposes is available for \$115 from [www.benmeadows.com](http://www.benmeadows.com). Product support at 1-800-241-6401.

The unit of measurement for cross-country courses is the kilometer, or 0.62 miles. All courses should be measured in the fall with a 50 meter (160 foot) surveyors' tape, a 50 meter rope, or a measuring wheel.

### **Course Preparation**

Trails must be packed to a width which allows two skiers to pass. An eight foot width is adequate with good snow conditions. Hills and fast corners require wider packing.

The course is marked clearly and at frequent intervals with flags, arrows, signs or painted snow. Trail junctions require special care; insure that markers point in a clear direction. The following color coding scheme can be used to mark courses:

<b>CLASS</b>	<b>COLOR</b>
J5	yellow
J4	red
J3	blue

### **Emergency Medical Plan**

An emergency medical plan should be present in written form at all race sites. It should include:

- 1) detailing the quickest and safest access and exit routes to various points on the course
- 2) names of people who are on the EMP Team
- 3) location of first aid equipment
- 4) location of nearest available medical facility

At least one snowmobile staffed by an EMT or medical personnel should be stationed at/near the start/finish line.

## Race Equipment Checklist

Collect all equipment in advance:

Start Lists (eg. p.149)	Start and Finish gates	Bibs
Clipboards (at least 3)	Shovels/rakes	Refreshments
Pencils	Snowmobile	Trail markers
Magic Markers	Track setting sled	Money box
Three stop watches	Bullhorn	First Aid supplies
Trophies, ribbon	BKL Manual	Emergency Medical Plan

A minimum of three clipboards is necessary: one is used to record registration information, including bib numbers; a second is used to record finishing times; the third is a spare in case of precipitation. Stopwatches must have a 30 minute capacity.

## Race Personnel

The following personnel are essential to the smooth running of a cross country race. One person may fill several positions, especially in smaller races, but he/she must be able to perform all of his/her duties.

Chief of Competition is responsible for preparing the race; supervises the race; assigns duties to the other race personnel.

Technical Delegate is responsible for enforcing the rules and ensuring a safe and fair competition. All personnel are under the T. D.'s control. T.D.'s may be FIS Officials.

Chief of Course prepares the race course and marks the courses so that racers can follow the courses easily; sets track, positions the checkers and closes the courses as needed.

Race Secretary registers racers, distributes bibs; posts results, prints results and distributes awards.

Chief Timer times the race accurately and records the times of each racer; calculates results and team scorings.

Starter starts racers at a determined interval; operates the start clock and insures that the racers are at the starting line in their proper order.

Finisher is responsible for reading aloud for the finish recorder the finish time and bib number of each finishing racer; operates the finish clock/watch.

Finish Recorder is responsible for recording the finish time of each finishing racer; repeats the time back to the finish timer.

Bib Recorder is responsible for recording the bib order of finish of the racers; records their finish times as a double check on the first finish recorder; repeats bib number of finishing racer back to the finish timer and the first finish recorder.

Pre-Caller announces the bib number of each finishing racer; equipped with a loud voice or a bull horn.

Back-up Timer operates back-up watch for either the starter or the finish timer.

Controllers/Stewards direct racers on the course; check off racers on check sheet if laps are involved.

Bib Collector is responsible for collecting bibs from each racer crossing the finish line.



Aid Station Attendants serve hydration fluids/refreshments at finish line

Forerunners ski the course before the first racer starts in order to improve the track; forerunners should check the course for fallen branches, obstructions, and windblown sections of the course and make quick repairs if possible or communicate problems to the Chief of Course.

Post Runners ski the course behind the last racer; check to see that all the racers are safely off the course; closes the course by taking down all signs and flags.

Wax Consultants post a suggested wax for the race in the registration area for racers and coaches to consider in choosing their wax; this person should be proficient in the art of waxing. They should have the temperatures, both at start/finish and on course, posted with the times taken prior to the race and at start time.

Race Jury includes the T.D., Chief of Competition, Chief of Course, and two (2) coaches/leaders. They answer rule issues and decide on issues of safety or trail configuration.

### **Race Procedures**

The following tasks are arranged more or less chronologically, although some of them will be going on in different places simultaneously.

#### Pre-Race:

- the Race Secretary registers the racers by class
- establish a registration area to record registrants by name, club, sex and class
- assign bibs in racing order by appropriate group
- boys should precede girls in every class
- seeding the racers in each class is the decision of the host club.
- the Chief of Course inspects the course to insure that the track is in good condition and the markings are accurate
- the Chief of Course stations responsible Checkers at strategic points on the course, eg, turns, junctions and road crossings
- Checkers should be equipped with appropriate materials: paper and pencil for checking off racers, shovel/rake for patch work where the snow is thin, radio, etc

#### Race Start:

- at least two forerunners should ski out two to five minutes ahead of the rest of the field.
- racers are briefed on often violated rules (see Reminder to Racers).
- the Start Recorder lines up racers by class in racing order behind the starting gate. A typical procedure is to start the racers singly or in pairs every 30 seconds or one minute.
- an "Attention. 5-4-3-2-1-go" countdown is usually used
- at "go" the stop watches are started or the start watch time is recorded. Note: the clocks will run continuously for the duration of the race. They are not stopped as a racer finishes. A



back-up watch is used in case the first one fails.

- late starters' starting procedure is determined by the starter. Racers who miss their starts may be run at the end of their classes, and their actual start and finish time recorded; or they may be started, without interfering with the regular start order, and their start time remains that on the start list. Usually an interval of 5 minutes is left between classes.
- the starting procedure is continued until all racers are on course. Please note that prior to starting the last racers, the first racers may be finishing. Be prepared to record finish times as they happen.

### Race Finish

- a separate finish team of recorders is important.
- finish team of three people can record finish times effectively. The Finish Timer, reading the watch calls out the time (i.e., 30 minutes, 25 seconds...26 seconds..27 seconds...) as the racer approaches the finish line. The two Finish Recorders record bib numbers and finish times on clipboards. The First Finish Recorder repeats the time and the Second Finish Recorder repeats the bib number. A cool head and a quick pencil is needed because several racers can finish together. Station a pre-caller 20 to 30 meters from the finish line with a bull horn or loud speaker to call out the numbers of approaching racers.
- a post-runner should ski the course and close it after the start of the last racer.
- the finish times are posted from clipboards #1 and #3 to clipboard #1. The Chief Timer computes elapsed times for each racer and places are recorded for each racer by class. All results should then be double-checked. Unofficial results are often posted immediately for coaches/leaders to review.
- post the official results and let them be observed so that any protests can be made. Award all ribbons and medals in a public ceremony. Communicate the outstanding efforts of all participants. Acknowledge the sponsors and thank the site, coaches, and volunteers.
- official results should be sent to all district teams, as well as the local news media.

### **A Reminder to Racers and Coaches**

- 1) Be prompt in registering. Don't forget your entry fee (if there is one).
- 2) Tour the course before any races begin.
- 3) Be waxed and ready at the start of the race. Take care of and secure your own equipment.
- 4) Line up according to your number. Don't be late.
- 5) Stay warm while waiting to start.
- 6) Listen to the starter's instructions.
- 7) Wait for the go signal.
- 8) Track with courtesy.
- 9) Yield track to overtaking racers at the first command. Keep your poles clear of the track.
- 10) Follow the course markings or the checkers' instructions while on the course.
- 11) Move out of the way when you finish.
- 12) Give your bib to the bib collector.
- 13) Dress in warm clothes right away.
- 14) Don't ask the timing officials questions.
- 15) Don't pace any racers. Pacing is skiing alongside, behind, or in front of a racer for more than 25 meters.

- 16) Keep clear of the tracks when not racing.
- 17) Give racers equipment (wax, poles and one ski) but you don't help them physically, eg, apply wax or put on their poles or skis.
- 18) Cheer for everybody.
- 19) Have fun.

### **The New England BKL Festival**

One of the largest nordic events in New England is the New England Bill Koch League Festival. It is a two-day celebration of youth cross-country skiing that annually features over 400 racers, most of whom are accompanied by their families. The Bill Koch Festival rotates to a different state each year and features a "theme" that emphasizes the fun of participating in cross-country skiing. There is an opening ceremony, complete with a parade of all the athletes representing their Districts, a graduation ceremony for the 2nd year J3s, a pasta dinner, games, and any possible event that can be done on skis or snow. For many BKL skiers, the Festival is the culmination of their season, a chance to see ski friends from far away, a chance to ski at a new venue and make new ski friends. Each NEBKL Clubs sends a contingent of skiers and families to the Festival. Information on the New England BKL Festival can be obtained at the NENSA Administrative Office.



### **Summary**

The competitive side to cross-country skiing can be challenging, exciting, and rewarding to many or all of your club members. Adequate preparation is the key to running races smoothly and safely. Attending and working on races held by other clubs will give you the confidence and expertise to hold your own competitive events.

Consult your District Chair for more information about racing programs in your area.



**Chapter XV**  
**The Cross-country Skier Lifestyle: Training Year ‘Round**

## **The Cross-country Skier Lifestyle: Training Year ‘Round**

Cross-country skiing is not just a winter sport - it's a way of life. It's a love of being outside, playing with friends, exploring trails, learning or making up new games and new sports. A cross-country skier gets to play outside year round!

At this stage human and athletic development, ages of 6-13, the focus is on general athleticism - agility, balance, speed, strength, endurance. The best approach to training young skiers is an instructional program which builds basic aptitudes. Skiers younger than age 10 benefit from a loosely-structured program which focuses on fun and general fitness. Older children can learn the basics of ski technique. However, skiers who are 11 to 13 years old should be extremely committed to competition before they train more than three to four days per week. A BKL parent/leader can encourage and guide healthy, active Bill Kochers to do the following:

### **Diversify.**

Enjoy a wide range of activities, games, and sports to develop a wide range of motor skills.

### **General Fitness**

The young skier can develop overall physical fitness and athleticism during the off-season through a variety activities. Voluntary participation in these activities allows a child to stay fit naturally. Club activities can encourage group participation in off-season sports, games, events. These activities should encourage endurance, heart and lung development, power and body strength. Below are some suggestions:

### **Running**

Vary the distance, terrain, and speed. Fun games and relays can help build a young skier's speed .

### **Hiking**

Explore! Bring last year's ski poles along, or swing your arms when hiking to simulate skiing. Older children may want to carry a backpack or a waterbottle carrier.

### **Bicycling**

Master the two wheeler! Where it's safe to bike, bike to school, to the store, to your friend's house, to the park. Helmets are a must!!

### **Swimming**

Learn to swim. Be a part of a swim team. Perfect your dive.





### **Canoeing, kayaking and rowing**

Canoe to explore a lake or a river. Canoe to get to a picnic sport. Canoe-camp with your family. Paddling is a great activity for the upper body.

### **Gymnastics**

Is great for developing strength, agility, balance, and flexibility.

### **Ball Sports**

Tennis, basketball, baseball, football, softball, are wonderful for the hand-eye coordination, speed

and agility, and teamwork they develop. Be cautious, because often as competitions increase, these coaches will increase the intensity in the workouts, which can cause mental and physical burn-out. And the athletes will lose valuable aerobic endurance work, key to physical development at this age.

### **Soccer**

Soccer is terrific for developing speed and agility. It's a game best played with friends, and develops teamwork.



### **Natural Weight Training**

Chores are the ideal 'weight training' for kids at this age! Weights and machines aren't fun or productive yet. Instead, carry out the garbage, help stack the woodpile, haul some hay to the garden.

### **Roller skiing**

Roller skis are great fun, but it takes a lot of time to get comfortable on them. In general, Bill Kochers shouldn't do this specific-type training until they are 13 years or older. If you do, make sure you're closely supervised by coaches for both safety and technique reasons. Roller skiing should emphasize double poling and skating, not diagonal striding. A helmet and gloves are absolutely necessary. Rollerblading is fun, too, and good for balance and agility, but are too fast to develop endurance. The same hazards exist as in roller skiing - speed, pavement, and learning bad technique.

### **Training Specifically for Competition**

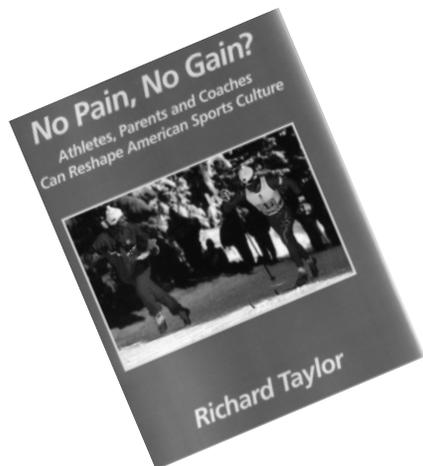
There are always a number of Bill Koch League participants who are interested in the excitement and challenge of cross-country ski competition. But it cannot be emphasized enough: **most children are not oriented to the complexities of competition!**

Many younger children love to compete for the fun of it, but they are not as likely to enjoy *training* for an event. Older children may want a training program which improves their skiing performance, but they may not be ready for an arduous program. A coach and parent must be aware of a skier's motivation for competition and develop a long-term program consistent with the skier's physical development.

When your Bill Kocher is ready, physically and mentally, for more specific training and competition, contact NENSA's Program Director for a Coaches' Training Guide for Junior skiers.

Patrick Cote - NENSA Program Director  
c/o P.O. Box 99  
Westford, VT 05494  
pat@nensa.net

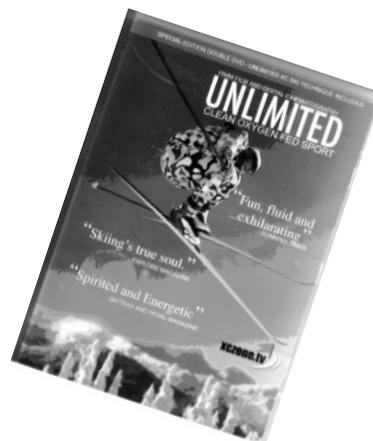




# CROSS COUNTRY SKIER



# L.L.Bean



## Resources for the Bill Koch League Parent/Leaders

### Books ~ For Parent/Leaders

Better Training for Distance Runners. Martin & Coe, Human Kinetics Publishers, 2nd edition (March 1, 1997) ISBN: 0880115300

Children and Sports Training: How your Future Champions Should Exercise to Be Healthy, Fit and Happy, Jozef Drabik, 1996. Stadion Publishing Co. ISBN: 0940149036

Coaching Young Athletes. Martens, Christina, Harey, Jr., Sharkey. 1981. Human Kinetics, Box 5076, Champaign, IL 61820. ISBN: 0-931250-24-2

Cross-Country Skiing, ed. Heikki Rusko, IOC Medical Commission Publication, Blackwell Publishing, 2003. "I have misgivings about the section on biomechanics by Gerlad Smith because it was done without electromyography." - Dick Taylor

Developing Talent in Young People. Dr. Benjamin Bloom, editor. 1985, Ballantine Books. ISBN: 034531509X

Introduction to Winter Sports: Cross-country Ski Curriculum Outline. Donna M. Smyth, Ed.D for SnowSports Industries of America (SIA). Cross-country instructional units for grades K-12. [www.winterfeelsgood.com](http://www.winterfeelsgood.com) > educators' links.  
\_\_\_\_\_ [http://www.winterfeelsgood.com/downloads/helpful/fairfax\\_curriculum\\_xc.pdf](http://www.winterfeelsgood.com/downloads/helpful/fairfax_curriculum_xc.pdf)

Just Let the Kids Play: How to Stop Other Adults from Ruining Your Child's Fun and Success in Youth Sports. Bigelow, Moroney, Hall. 2001. Health Communications, Inc., 3201 S.W. 15th Street, Deerfield Beach, FL 33442-8190. ISBN: 1-55874-927-6

NENSA's Race Organizer's Handbook. Available by contacting NENSA, [info@nensa.net](mailto:info@nensa.net)

NENSA's Coaches' Training and Resource Guide. " "

NENSA's Ski Festival Handbook. Timeline, Flow charts and resources for putting on the BKL Festival, a regional or local ski fest. " "

National Ski Patrol's Outdoor Emergency Care, by Warren D. Bowman, M.D. (ISBN# 0-929752-01-5)

No Pain, No Gain?: Athletes, Parents and Coaches Can Reshape American Sports Culture. Richard Taylor. 2001. Mechanic Street Press, PO Box 16, Bethel, ME 04217. ISBN: 0-9718865-0-4

Total Training for Young Champions: Proven conditioning programs for athletes ages 6-18. Tudor O. Bompa, PhD. 2000. Human Kinetics, PO Box 5076, Champaign, IL 61285-5076. ISBN0-7360-0212-X

## **Books ~ For Kids and Adults**

(\* available through New England Ski Museum)

\* Trouble with Trolls. Jan Brett. 1992. G. P. Putnam's Sons, 345 Hudson Street, New York, NY 10014. ISBN: 0-399-22336-3

\* Ollie's Ski Trip. Elsa Beskow. 1989. Floris Books, 15 Harison Gardens, Edinburgh. ISBN: 0-86315-091-8

\* The Race of the Birkebeiners. Lise Lunge-Larsen. Illustrated by Mary Azarian. 2001. Houghton Mifflin Company, 222 Berkeley Street, Boston, MA, 02116. ISBN: 0-618-10313-9.

\* Snowflake Bentley. Jacqueline Briggs Martin. Illustrated by Mary Azarian. 1998. Houghton Mifflin Company, 215 Park Avenue South, New York, NY 10003. ISBN: 0-395-86162-4 (Caldecott Medal).

Cross Country Cat. Mary Calhoun, Illustrated by Erick Ingraham. Harper Trophy. ISBN: 0688065198

## **Videos/DVDs**

### **XCZone**

Suite 401-99 Fifth Ave Ottawa Ontario, Canada k1s5p5  
819-827-4836, [gravity@xczone.com](mailto:gravity@xczone.com), [www.xczone.tv](http://www.xczone.tv)

XCZONE.tv is a leader in clean oxygen fed sport cinematography. Producing films/DVD and multimedia for nordic skiing. Feature films, instructional videos and national/international events coverage.

### **National Cross country Ski Education Foundation**

Raises money to support developing U.S. skiers. World cup, instructional, and fun videos are available from their website, [www.NCCSEF.org](http://www.NCCSEF.org). Recommended:

### **Torbjorn Sport**

For world cup, instructional, and fun videos. [www.torbjornsport.com](http://www.torbjornsport.com). See also **Ski Equipment Catalogues**.

### **New England Nordic Ski Association (NENSA)**

Pineland Dr.Suite 301 A,  
New Gloucester, Maine 04260  
phone 207-688-6503  
[info@nensa.net](mailto:info@nensa.net)

## **Ski Equipment Catalogues**

### **Akers Ski Inc.**

PO Box 280

Andover, ME 04216-0280

207-392-4582/[www.akers-ski.com/ccsaa.htm](http://www.akers-ski.com/ccsaa.htm)

Cross country specialists for more than 45 years. Touring, racing, back country gear, apparel, waxes and accessories for all ages and abilities: many hard to find items. Free nordic sports catalogue and ski sale flyer. Expert advice, fast courteous service, low prices. Order on-line now.

### **Eastern Mountain Sports**

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### **Reliable Racing Supply - Inside Edge**

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1-800-223-4448 mail order , 518-793-5676 retail store , [dave@reliableracing.com](mailto:dave@reliableracing.com)

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### **Sportime Physical Education** catalogue (for rubber chickens, etc)

PO Box 922668, Norcross, GA 30010-2668

(P) 800/238-5700 (W)[www.sportime.com](http://www.sportime.com)

### **TorbjornSport, Inc.**

PO Box 980970 Park City, UT 84098

435/645.8181, [info@torbjornsport.com](mailto:info@torbjornsport.com)

We pride ourselves in our knowledge of the products we carry, and cross country skiing in general. We are former Olympic and National Team coaches, we are Masters National Champions, and we are coaching some of the best skiers in the United States and the World. We sell PRO-SKI rollerskis and SOLDA Glide Wax because, in our experience, they are the best products available.

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## **Nordic Skiing Websites**

### **New England Nordic Ski Association**

[www.NENSA.net](http://www.NENSA.net)

Pineland Dr.Suite 301 A,  
New Gloucester, Maine 04260  
phone 207-688-6503  
[info@nensa.net](mailto:info@nensa.net)

### **United States Ski Association (USSA)**

[www.ussa.org](http://www.ussa.org), 801/649-9090  
100 Kearns Blvd., Park City, UT 84060

### **New England Ski Museum**

[www.skimuseum.org](http://www.skimuseum.org), 800/639-4181  
Parkway Exit 34B/PO Box 267, Franconia, NH 03580-0267

### **National Cross-Country Ski Education Foundation**

[www.nccsef.org](http://www.nccsef.org)

The National Cross-Country Ski Education Foundation is a membership based non-profit organization founded to promote the development of cross-country ski racing through the funding of activities that broaden entry level participation, challenge youth to achieve higher goals, and support efforts that will eventually lead to success in international cross-country skiing competition by U.S. Athletes.

### **Ski Industries of America (SIA)**

[www.winterfeelsgood.com](http://www.winterfeelsgood.com).

“Winter Feels Good” is a program developed by SnowSports Industries America to show how non-motorized winter sports — snowboarding, alpine skiing, cross country skiing and snowshoeing — can help adults and children achieve health and fitness through the winter months, no matter what their current fitness level is.

### **Swix Sport USA**

[www.swixsport.com](http://www.swixsport.com)

Go to their Swix School and the Wax Wizard, for tips and streaming video on how to wax for kick, glide, prep new skis, and how to clean skis.

### **Toko USA**

[www.tokous.com](http://www.tokous.com)

Log on to find the wax for regional ski races and more.

### **Cross Country Ski TrailSource**

[www.trailsources.com](http://www.trailsources.com)

Cross Country Ski TrailSource website is an online adventure guide to the best nordic ski trails around the planet! In addition to trail descriptions, the website provides lodging, guidebooks, maps and contact info.

**XCSki Resorts.com**

www.xcskiresorts.com

11 Mulherrin Farm Road Hanover, NH 03755

603-643-0920 or 877-725-6471, rblohr@earthlink.net

The internet's newest source for xc skiers to find xc ski news and places to ski in North America. Details provided about leading xc ski areas, special events and offers, top 10 lists and product information.

**Cross Country Ski Area Association (CCSAA)**

www.xcski.org

Cross country ski recreation and vacations. Hundreds of U.S. and Canadian cross country ski areas, nordic centers, and xc trails form the Cross Country Ski Areas Association. Cross country ski snow reports. Snowshoeing trails too. Information, products and destinations for nordic skiers.

**Nordic Skiing Magazines/Newspapers****American Cross Country Skiers (AXCS)**

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info@sxcskiworld.com/www.xcskiworld.com

World's largest xc website. News, general information and educational articles. Something for everyone. Official home of the American XC Skiers and American Ski Marathon Series.

**Cross-Country Skier Magazine**

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**New England Bill Koch League Parent/Leader Manual**

Dorcas D. Wonsavage, Editor

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New England Nordic Ski Association (NENSA), Pineland Dr.Suite 301 A,

New Gloucester, Maine 04260

phone 207-688-6503

[info@nensa.net](mailto:info@nensa.net)