

# A Clinic with Nikolai Anikin

By RALPH THORNTON

*We have had many requests from our readers for a reprint of this article by Ralph. Many things have changed since it appeared but sound fundamentals from the Russian Ski Team never change.*

*Ralph Thornton still teaches skiing at the highest level -- but he does it in his beloved Montana where he skis, climbs and leans into the wind. Returning only for the Birke and for a refill of LaNora's chili. As one of the discoverers of snow fleas, Ralph firmly believes in the environmental and personal awareness one develops through the sport of cross country skiing.*

*Editors Note: Snow fleas do indeed exist in the deep north forest. Come see for yourself -- any time there is a thaw. The Ski Research Group is pursuing a research proposal to train snow fleas to jump in unison on top of classic skis--enhancing the kick. Ralph has suggested that it may be possible to develop a new genetic strain with this preferred characteristic.*

Nikolai Anikin has brought the Soviet Method of Training for Cross Country Ski Racing to the United States. He hopes that future American Olympians can compete well with the Norwegian, Swedes, Finns, Italians and, of course, the Russians -- but maybe not too well with the Russians. While Nikolai is working hard to develop elite skiers he -- as most great coaches and instructors -- is very willing to share his training secrets with everyone. On a delightful fall weekend in September, I had the pleasure of learning from Nikolai at Camp Sagawau near Lemont, Illinois. Nikolai grew up in Ishim, a small town in Siberia that is 2,500 kilometers east of Moscow. He started skiing when he was five and thoroughly enjoyed those days when the temperatures were minus 40 or 50 degrees Celsius. School was canceled on those bitter cold days in Siberia but Nikolai's parents would still allow him to play

outside. Imagine the training value of skiing on slow snow at minus 50 degrees Celsius -- whew! His love for sports, especially cross country skiing, guided his future studies and work. After graduating from the Central Institute of Physical Culture in Moscow in 1954 he became a Master of Sports. He soon qualified for the Soviet national cross country ski team. Nikolai competed in two Olympic games and two World Cups. He won Olympic gold for the men's 4 X 10 km

top of this he feels equally at home teaching skiers at all ability levels. His goal is to make every skier better. Those that can, should be Olympic champions, others can win local races, and he certainly enjoys helping recreational skiers find ways to enjoy the beauty of winter and the sport of cross country skiing. His enthusiasm for the sport is clear. As our clinic group members improved their performance he beamed with joy. Nikolai moved from the racing ranks to coaching



*The shoulder on the poling side drops during the final phase of poling. As the other arm swings forward with a relaxed natural motion that shoulder rises.*



relay in Cortina d'Ampezzo, Italy along with teammates Fiedor Terentiev, Pavel Kolchin and the 1954 world champion Vladimir Kuzin. In 1960, at Squaw Valley, Nikolai won bronze medals in the 30 km and the 4 X 10 km relay. In 1961, at the famous Lahti Games in Finland, he finished second to Assar Renlund from Sweden in the 50 km.

There have been many great skiers, but few can readily transfer their knowledge and abilities to help other developing skiers become even greater. Nikolai is one of these. He has a wonderful personality, a keen eye toward technique and a strong knowledge of the skill progressions needed to be a great skier. On

in 1962. He coached the Soviet team at various levels including Junior Team coach and head coach of the Soviet national team from 1981 to 1986. After 1986 he was the Nordic Program Director for the Soviet Union Ski Federation. When I asked him how he liked that last position he shook his head, "Too many meetings, too many telephone calls, too much sitting at a desk, too many pieces of paper," he said. "I love to ski and I especially love to teach -- I belong outdoors with the athletes." He feels skiing is easy to learn and that cross country skiing would benefit anyone. He is especially willing to help anyone enjoy the sport. Nikolai also feels that while skiing

is easy to learn, winning races is very difficult and training is important. He is just as willing to put the effort forward to help good athletes become masters of cross country skiing and reach that winner's platform.

In 1989 Nikolai came to the United States as part of a program for education exchange with the United States. A

mates that permit it and without highly trained, motivated, licensed and well paid coaches it will be very difficult for the United States to become internationally competitive. Nikolai thinks there will continue to be those few individuals like Bill Koch who rise to the top but they will be few and there will not be regular appearances by Americans on the victory

successful way of making anyone who desires to be a better skier. The foundation of the Soviet Method is training with emphasis on the classical techniques. Classical skiing techniques build up more endurance than skating, strength levels are generally higher and these strength levels do not deteriorate as rapidly during the winter. Nikolai feels that the

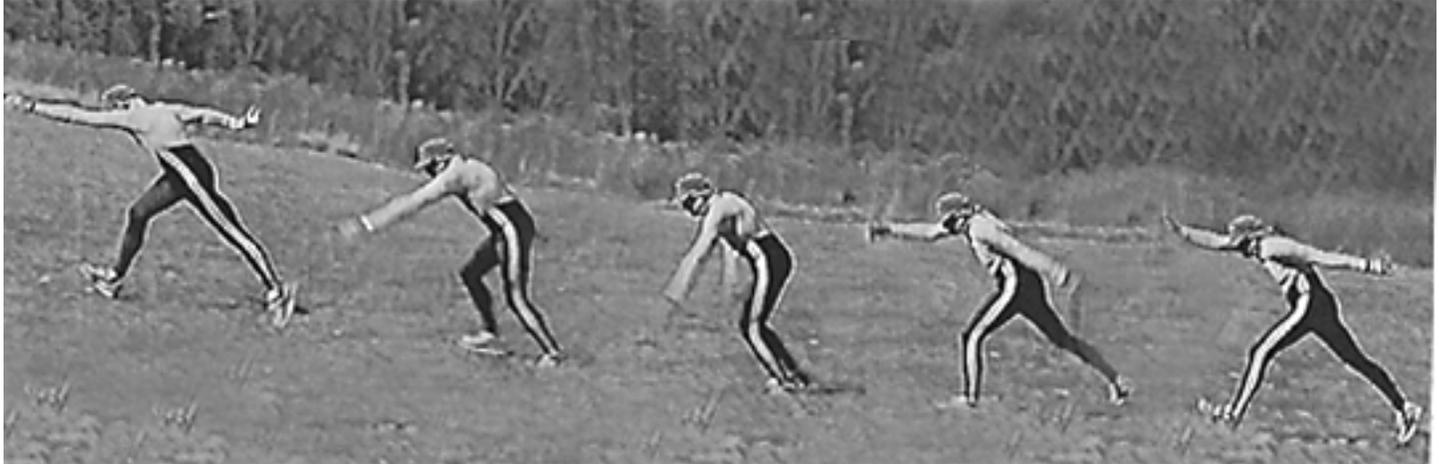


Fig. 5 Full extension (straightening) of rear leg at completion of push-off.

Fig. 4 Bounding Imitation: Push-off on rear leg is nearing completion and foot is still flat.

Fig. 3 As feet pass there is good forward lean.

Fig. 2 Bounding Imitation: Immediately after completion of push-off, rear leg relaxes and begins to swing forward in a natural motion.

Fig. 1 Bounding Imitation: At completion of push-off rear leg is straight.

freestyle skiing coach from the United States went to the Soviet Union and Nikolai came here. He was dismayed to learn that the United States does not have a unified school program for physical fitness and that there is no program to certify and license cross country ski coaches. In the Soviet Union physical education was treated just like the other traditional courses of science and math. Students who did not pass the minimum physical fitness requirements or who couldn't ski 10 km in a certain time were required to spend more time in training. They had to reach certain goals in order to pass to the next grade. The physical fitness programs included training in a wide variety of sports including, of course, cross country skiing.

Coaches must be well trained but they must also be able to make a living as a coach. The volunteer method we use in the United States does not allow either to be the case for the majority of coaches. This results in a coach spending less time coaching and learning, and consequently a poorer program. Without a nationally organized program of athletics that include cross country skiing in those cli-

platform of international races. He feels that this could be reversed in time to show great strides for the Salt Lake City Olympics in 2002 but that it will not be easy.

Winning is certainly important but Nikolai firmly believes that the Olympics are not for victories but for participation instead. He feels the same way about other great races like the Birke -- to be there and participate is victory in itself. You don't have to stand on the top step of the winner's platform. He has decided to remain in this country with his wife Antonina Anikina, a superb coach in her own right, and their children. They helped form the Gitchi Gummi Ski Association and presently live in Duluth, Minnesota where they are training top level athletes as well as providing quality clinic experiences. Nikolai plans to ski in his first American Birkebeiner during February 1996.

### The Soviet Method

Nikolai brings to the United States the Soviet Method of Training for Cross Country Ski Racing. There can be no doubt that it is a successful way of preparing top athletes. It is also a very suc-

primary reason this is true stems from the fact that skating requires a fairly quick tempo which leads imperceptibly to excessive intensity training. Over time and throughout a season this results in a weakening of the skier's basic conditioning. As a result strength and endurance decline. It is more important to follow a conservative step by step approach to athlete development using 70% training in classical skills and only 30% training using skating techniques. The results of this combination were proven during preparation for the 1988 Olympics in Calgary. The Soviet team was divided into two groups. One group trained 70% of the time using skating techniques and 30% classical. The second group reversed the percentages to 70% classical and 30% skating. At the beginning of training the groups were generally well matched and the athlete's previous performances did not indicate any bias in either group toward classical or freestyle skiing. The reason for the division was due to a difference of opinion between the head coaches and a desire to improve training overall. The results tell the story. During

the 1988 Olympics the skating group won one silver medal; the classical group won three gold. These gold medals were not just in classical events either. The training method using 70% classical skills transfers to better skating performance. The classical skills develop more aerobic conditioning, greater strength levels and better stamina, both within a race and within a racing season.

Vladimir Smirnov is a great example of this training bias. Smirnov actually used classical technique during the 30 km freestyle event at the World Cup races in 1985 while the others were skating. He finished 26th. Smirnov did not abandon the classical skills, however. He just added training in skating techniques and continued to rely on the classical skills for 70% of his training program. The results of this make for legendary stuff culminating in three gold medals at the Thunder Bay World Cup. A truly rare accomplishment done only once or twice in the past.

The Soviet Method also relies heavily on muscle relaxation techniques. Muscles typically work for .2 seconds while it takes about .7 seconds for recovery. Since any specific muscle might be unneeded for three and a half times as long as it is used for propulsion, it is imperative that, for maximum endurance, the muscle be completely relaxed when it's not working. During poling, for instance, the arm swings down and back when pushing. When the pole push is complete the arm relaxes. There is some follow through followed by a return swing forward. This follow through and return swing forward must be accomplished by a natural relaxed pendulum motion and not from a conscious effort of the skier. Any tenseness in the arm, tightness in the hand or unnatural push forward in the arm is a waste of energy that results in reduced endurance, disruption of timing and lack of efficiency.

Repetition is important to learning. It is useful to work on a technique by working on individual skills in a step by step fashion. Each skill builds upon what was learned before. Relaxation skills can be learned in this way also. We started our training session with Nikolai by going for a mile run to get warmed up. This was followed by some light stretching exercises that focused on muscle relaxation. Standing straight up we did the twist while keeping the arms relaxed.

Following each twist of the hips the arms would swing wide. This focused on relaxation, of course, but also helped stretch for the activities to follow.

The Soviet Method is a patient method. Athletes are not pushed too hard too fast. This is true both from the stand-



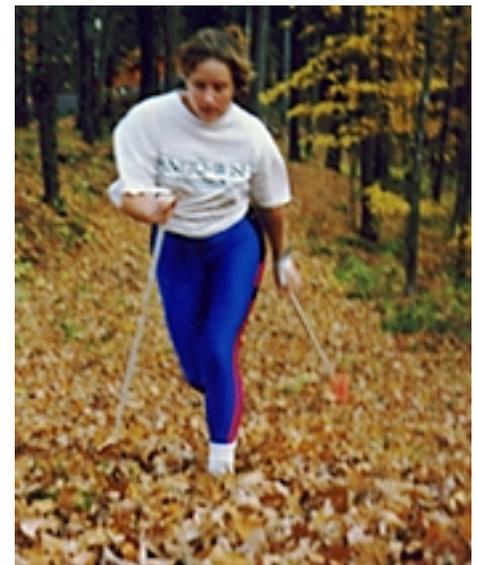
*Ski walking. Good forward lean is evident as the hands and feet pass each other. The closer leg is flexed and the foot is flat while the far leg is swinging forward in a natural relaxed pendulum motion.*

point of a career as well as a season. Developing young Russian athletes participate in games until they are at least 17 years old. Only then are there truly important competitions. Promising athletes are nourished with patience. Many, like Smirnov, have relatively poor results when young but if the coach recognizes promise then the athlete is brought along slowly and steadily. Young athletes are encouraged to participate in activities that advocate a desire to participate in athletic activities and at the same time promote an appreciation for the outdoors and a love of winter. Vladimir Smirnov's early training included long hikes in the mountains punctuated with rest and games. The philosophy is that summer is for relaxation and winter is for health. This method yields great skiers with long careers who constantly desire to improve while they thoroughly enjoy the winter experience of their sport. Over developing a young athlete too fast will often result in a poorer performance level that is short lived. The same holds true on a seasonal basis. Training begins in early summer with activities that are not ski

specific but yield benefits in the form of strength and endurance. Skiing begins on roller skis in mid to late summer and plays a more important role in training as the seasons progress. When snow skiing starts the focus is on long slow distance training. Early season races are important only because of participation -- good results are secondary. The most emphasis on racing occurs from mid to late season when the more important races are held.

As the winter season approaches the training for cross country skiing should be very specific, even in dryland exercises. Nikolai suggests a series of dryland techniques to improve on-snow performance. Surprisingly he does not rely strictly on roller skis. Roller skiing is used for training but other dryland activities are perfected first. The series includes ski walking, walking imitation of skiing, bounding imitation of skiing and bounding imitation with ski poles. All of these employ the classical technique. Later there is a blending and adaptation of these exercises to skating skills.

Ski walking is an exaggerated form of walking that begins to approximate the body positions of the diagonal stride. There is a longer step, good forward lean and an arm extension like the diagonal Turn to NIKOLIA ANIKIN, Page 7



*This photo also shows the difference in the shoulders during poling.*

stride. The head is held in a relaxed neutral position. The neck is straight resulting in a point of vision approximately four or five feet in front of you. Lifting the head high results in tension that causes

a reduction in muscle efficiency. You can start by walking -- good fast walking on your favorite ski trail. Some of the important parts of ski walking, as well as the diagonal stride, can be learned and practiced in your home in front of a mirror. Practice forward lean, then add an arm swing. Remember to completely relax each arm at the end of the swing and

your upper body lean forward forming a more or less straight line from your head, through your back and down your rear extended leg. This lean can be approximated by falling forward from the feet. After the push-off of your rear leg your back relaxes and becomes a little rounded, your shoulders relax and become rounded, your rear leg relaxes and begins to swing

more reach with the forward leg. Keep your rear foot flat longer, well into the push-off. The heel of the rear foot should stay on the ground until almost full extension. This allows the opposite hip to be pushed up and over the forward leg by the push-off. A common error here, as well as on-snow, is to bend the rear foot and leg too soon or too much. The rear leg



Fig. 4 Forward hand begins to plant pole. Forward leg is slightly flexed. Rear leg fully extended at completion of push-off.

Fig. 3 As feet pass -- hands pass, good forward lean.

Fig. 2 Just after push-off -- rear leg relaxes.

Fig. 1 Bounding Imitation with Poles At completion of push-off.

let it come forward in a fully relaxed pendulum motion. Your upper body should rise and fall with each arm swing. Since this motion comes from a good diagonal stride technique you can visualize it by watching some of those Lillehammer or Thunder Bay videos and transferring the arm motion into a dry-land technique. Remember, though, relaxation of the arms while swinging forward is the key.

As you begin to feel better and more relaxed in your early efforts of ski walking you can include more aspects of the diagonal stride. Add a complete push with your leg. Keeping your foot flat until the push-off has begun is important as is a completely relaxed forward swing of the leg following push-off. Include a long step, greater than one meter for most people. Your legs should feel the stretch with each forward reach and push-off. The forward foot is planted with an almost straight leg. During the entire ski walking phase it is essential to maintain a good forward lean --Nikolai reminded us that standing up straight is great for ballet but terrible for skiing. If you view yourself on video, or use your shadow for a poor person's video, you should see

forward and your opposite arm continues to follow through. Your hip also relaxes immediately after the push-off -- that is your right hip relaxes after the push-off with the right leg. These must be natural motions and not contrived. The forward arm swings pendulum-like to an almost straight ahead position. As the forward arm swings down the arm straightens at your side and continues to swing with little bend to the rear. It is valuable to practice this motion frequently. It helps to make more difficult motions automatic and certainly aids transfer to the motions of the diagonal stride on-snow.

Next, progress to a walking imitation of the diagonal stride. Walking is easy, for everyone except big city high school kids who haven't learned how; ski walking is a little more dynamic and difficult; the walking imitation of skiing is even more dynamic. Continue to practice ski walking but add more extension to the arm swing. The arm swing now approximates the arm swing of almost all cross country skiing motions. Different techniques require modifications from this basic position but all techniques start with this relaxed natural motion. Add a stronger push-off with the rear leg and

should be straight after the push-off and should swing forward pendulum-like from the hip with only a relaxed bend at the knee. Remember this is not a running motion, it is a walking imitation of skiing. Bending the rear leg too much after push-off causes your center of mass to be too far back. It results in a sitting back position and you'll waste too much energy staying upright and at the same time your push-off will be weaker. Even longer steps are possible when the hip moves forward with the leg. Longer steps can be initiated with longer arm motions and relaxed and flexible hips.

These movements are difficult to accomplish. Remember Nikolai's admonition that skiing is easy to learn at the basic level but these advanced motions require practice, practice, practice and more practice. Learning new techniques or correcting long held faults require understanding that comes from the muscles up to the brain. As the body learns, understanding is achieved by the brain. If the brain understands the body can learn more. Perfection takes time. That's why practice and development of

skills is so important. Ljubov Egorova spent many years achieving poor results but her coach noticed steady improvement in her technique. She won a gold medal in the 1991 World Cup and at Lillehammer in the 5 km Classical for Women she was 20 seconds ahead of Manuela Dicenta to win the gold in 14:08.8. This was her fifth Olympic gold medal. Vladimir Smirnov, as I said earlier, is another example of patience. He experienced only occasional good race results and won only two silver and one bronze at Calgary. He is now unquestionably the best men's cross country skier in the world having stood on the highest step at Lillehammer and three times at Thunder Bay. Patience, practice and persistence are the keys to success.

To add more realism to these dryland techniques move up to the bounding imitation of skiing. This requires the ability to accomplish good walking imitation of skiing but adds an even stronger push-off. You'll now experience flight as you have both feet off the ground for brief periods. Good skiers doing this technique will be off the ground for four to six video frames or 1/5 of a second. This technique is best practiced on long gradual uphills. Be sure to rest between runs. Finally get your poles to accomplish bounding imitation with poles. You'll cover more distance. Be sure to maintain the relaxed extended arm swing practiced earlier. The pole is planted just behind the forward foot. The arm is flexed slightly at pole plant, flexes a little more during the first part of the pole push, then begins to straighten. The arm is straight when it is next to the body and continues to push on the pole in a follow through that lasts until well after the push-off of

the rear leg. This exercise is very ski specific and can be done in almost any park or ski area. A common fault seen on video is keeping the toes of the forward foot too high when that foot strikes the ground. This is a symptom of lack of relaxation of the leg and foot as it swings forward. Learn to relax. Why would you want to waste energy by keeping tension in your foot when it is not needed. You might need that energy at the 45 km mark of the next marathon you ski! Another fault is running instead of imitation skiing. Running involves bending and lifting the rear leg instead of the natural relaxed pendulum motion.

There are other concepts that transfer to on-snow skiing. You can achieve improvement in speed by lengthening the stride. This does not mean you are pushing harder, it means that you are stretching further and using your energy to cover more ground in the same time period.

Another subtlety is a pre-load of the leg just prior to the push-off. This is the last thing Nikolai commented on during video critique sessions. He did not emphasize this action for anyone who had other faults to correct because it can be the most difficult to achieve and depends on the timing and completion of all of the other motions. This pre-load is accomplished by a slight flexing of the forward leg following completion of the push-off of the rear leg. This preload can be compared to the bend of the knees just before the jump in a basketball jump shot. It is also an extremely important part of all skating strides. This pre-load and push-off provides a much greater push in the direction of travel (down the track) instead of upward.

Other skiing motions can be approxi-

mated on dryland with varying amounts of success. The double pole motion can be practiced but actually pushing with poles is impossible. The skating techniques of V-1, V-2 and V-2 alternate can be accomplished as dryland techniques much like bounding imitation with poles. The keys to these movements are the pre-load and push-off with a straightening leg followed by a relaxed pendulum swing of the leg; the push-off and relaxed pendulum-like forward swing of the arms; and the forward compression of the upper body to add strength and power to poling.

Nikolai believes that in-line skates are very poor for imitation of ski skating techniques and strongly suggests that athletes use roller skis instead. The whole range of motions on roller skis are more closely related to snow skiing than the motions accomplished on in-line skates. An interesting note is that while the Russians rely on classical skills for 70% of the training, they spend 70% of their roller ski time skating. Skating techniques on roller skis require greater strength and balance, especially on skis with slow wheels.

Another area of discussion that came up during the clinic with Nikolai concerned pole length. It was apparent in the bounding imitation with poles exercises that when the poles were too long they interfered with many of the classical skiing skills. They interfered so much so that you could visualize the lose of efficiency. The best pole length for classical skills seems to depend on the terrain. In general poles should be of a length to easily fit in the armpit when standing off of your skis. The poles could be 5 cm longer for very flat courses and



## ***A brief description of the techniques:***

***Ski Walking*** is an exaggerated form of walking that begins to approximate the body positions of the diagonal stride. There is a longer step, good forward lean and an arm extension like the diagonal stride. The head is held in a relaxed neutral position.

***Walking Imitation of the Diagonal Stride*** is a closer approximation of skiing than ski walking. There is a stronger push-off, a longer stride, more forward incline and a greater extension of the arms. The rear foot remains flatter longer during the push-off.

***Bounding Imitation of the Diagonal Stride*** includes a very strong push-off where the rear foot remains flat until almost the full extension of the leg, a long stride, good forward lean, full extension of the arms to simulate poling and relaxed forward swing of the arms and legs in a natural motion.

***Bounding Imitation of the Diagonal Stride with Poles*** Adding poles to the bounding imitation of the diagonal stride produces a very close approximation to actual skiing. The pole is planted just behind the foot due to the lack of glide but in actual skiing the pole would be planted even with the foot.