

# SKATERS EDGE

AN INFORMATIVE SPEED & IN-LINE SKATING JOURNAL

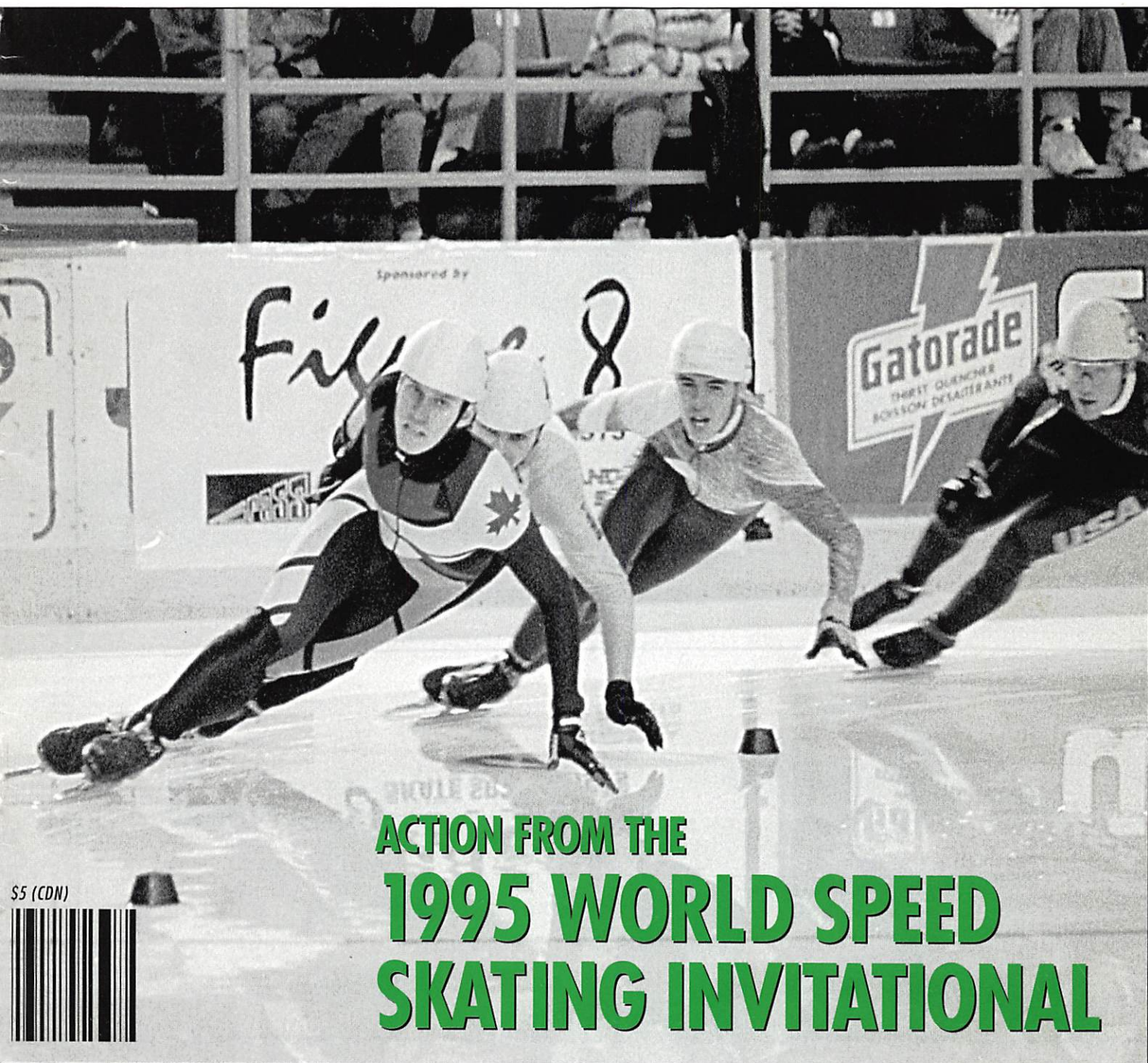
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**Tactics in  
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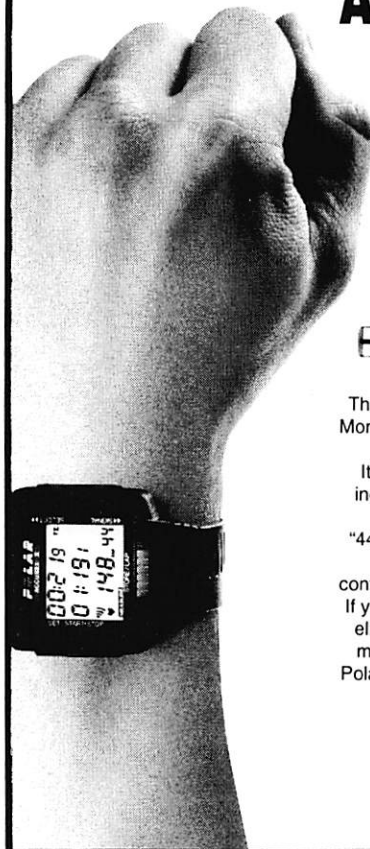


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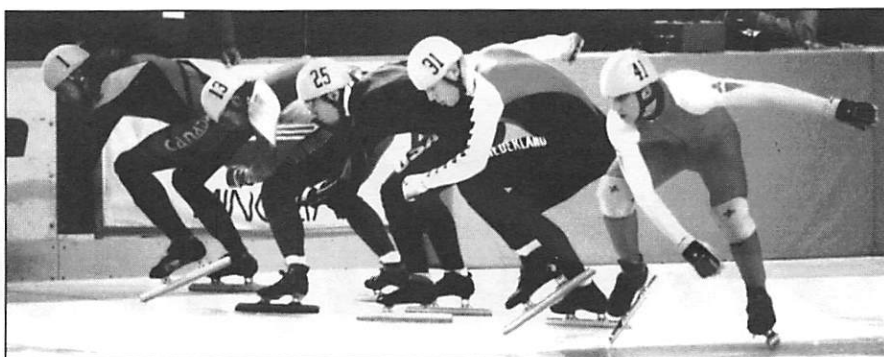
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December 1995

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**BRYCE HOLBECK** of Canada leading the way in action at the 1995 World Speed Skating Invitational in Ottawa.

**HOLBECK** is followed by **STEVE BRADBURY** of Australia; **MAURICE CARNIO** of Italy; and **SHILLING** of Team USA.

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**Authors Guidelines:** Skaters Edge will consider articles that are not offered to other publications. Articles should be typewritten, double spaced, on one side only. Preferred length is 1,000 to 2,500 words. Please submit two copies to the Editor at the editorial address above. Submissions on a computer disk in WordPerfect 5.1 format would be an asset. When submitting pictures, captions would be appreciated.

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# Speed Trap

.....

## Why do we have to do drills, coach?

by Andrew Barron with  
Marcel Lacroix & Mark Greenwald

### **T**HE AGE OLD QUESTION...

Skaters need to understand the purpose of training or drills to make them more meaningful, and for the coach to get their enthusiastic participation. Drills have, in many cases, been used with little imagination, to excess, or not at all due to limited ice time; the first two are usually within the control of the coach.

This season in the Olympic Oval Short Track program, a minimum of 1/3 of the ice sessions during the September/October period was devoted to exercises such as follows: (about 4 hours per week). During the summer, every second session will consist of these exercises (2 sessions/week).

#### **RESISTANCE AND SELLING OF THE PROCESS**

##### **1. Readiness**

Unless a need is seen for a change, or to try a new approach, it is difficult to institute a new program, or to convince the participants that returning to specific/skating drills are a functional component of their program.

##### **2. Understanding**

A good explanation and discussion will facilitate the new approach or process. Even if there is a reluctance/resistance to the program, at least when participants understand the rationale behind it, it is possible to lead them to discover the benefits of the exercises.

In case of continued resistance, the skaters need to be asked to buy into the ideas to give themselves a chance to evaluate whether they are, or could be, useful to

them. Athletes need convincing that they're in a win-win situation in using these exercises (i.e., they add to the total down time, to help build strength in the skating position, add to their ability to control their movements, etc.).

##### **3. Fun**

A further selling point for any new process, once an objective explanation has been forwarded, is to ensure that the activity is enjoyable. This is up to the coach and how he/she uses his/her experience and imagination.

#### **DRILLS FOR ADVANCED SHORT TRACK SKATERS**

##### **1. Objective**

To further develop/redirect the short track skaters' skills so that he/she can better manipulate his/her centre of gravity, and therefore body, to respond to any extraneous forces acting on his/her body/parts while performing the skill of short track skating in a race situation.

##### **2. Methodology**

This is accomplished by putting the athlete in novel situations in practice which will challenge their equilibrium, and asking him/her to successfully compensate for the unusual forces applied against them or positions that they most compensate for, or environment (ice or human) they must negotiate.

The goals are to develop a better kinesthetic sense and proprioceptive capacities. These movement skills can then



- B) 5-relay with one skater being pushed as resistance
- C) Coverage drill with international miscues

*Objectives:* skill/ timing/ co-ordination/ conditioning

**10. Pairs**

- A) Pair skate your partner (hold hands trying to throw partner off balance)
- B) Pairs leaning on each other
- C) Pairs bumping into each other from the side
- D) Unexpected Pair push
- E) Foot tap on corner as pushed through


*Objectives:* control/ balance

Once the skills have been mastered they can be incorporated into endurance laps or intervals for fun, variety and skill retention.

In a club setting, drills could be considered for 2 out of 3 sessions per week for the first 20 minutes of a 1 hour session. (It is always better in the formative stages of skill acquisition to practice a new activity when rested.) For elite skaters, with 5-6 sessions available per week, they could do 2-3 sessions per week early in the season and phased, after a month, to 20 minutes 3-4 times per week.

There is nothing that says these drills are the right drills, or the correct drills, or that there are wrong drills. The purpose of these exercises is to give the skaters as much experience in controlling what their skates and bodies can, and will do, to enable them to eventually do the same in a race situation.

The success of these exercises is in the hands of the coach. The coach must make them fun and meaningful.

Ask the skaters for ideas in new drills, use your imagination, and if the skaters are getting tired with the process...fire yourself (only kidding!!) 

*Reprinted with permission from Speedskating Times (Vol. 6 No. 6) through September 1, 1995. Andrew Barron is the National/University of Calgary Olympic Oval Short Track Coach.*

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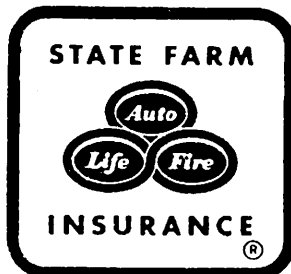
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What makes a good

# Official?

by Guy Chenard

Previous articles and numerous clinics that I have had the privilege to conduct over the past few years have, I hope, established my reputation as a booster of officials. There are few specialties in sports that offer comparable challenge, excitement and satisfaction as officiating. Unfortunately, the job can also leave one feeling unappreciated, frustrated and even abused. Rewards and frustrations come with the territory. Whether you experience mostly positive or mostly negative feelings depends on you. As the saying goes, "It's all in your head." The next articles will discuss the psychological dimension of officiating.

Athletes and coaches always expect flawless performance from officials. When errors are made they seldom hesitate to complain, often vociferously. Officials, then, are under constant pressure to perform. Handled improperly, this pressure can paralyze unprepared officials. Clinics and rule books necessarily emphasize the technical and mechanical aspects of officiating. Success, however, depends as much on confidence, judgement, decisiveness, concentration, and communication, etc., as it does on knowledge and positioning. In other words, officials, like athletes, must be mentally ready for every competition and mentally alert throughout the same

competitions. Psyching up is as important for officials as for athletes, and the same psychological skills that make successful athletes also make successful officials.

As with athletes, an official's ability to concentrate, maintain confidence, and relax under pressure must be systematically practiced. Also, once acquired these skills must be honed and nurtured or they will dissipate. Elite officials, like elite athletes, are seldom born; they are trained and the same psyching up exercises that benefit athletes apply to officials. In each case, training aims to give one the 'edge' necessary to bring forth their best qualities under stress.

## NECESSARY QUALITIES

First, skaters and coaches expect **consistency**. Similar circumstances should result in comparable calls. Inconsistency creates confusion and frustration, both of which lead to protests and added pressure on the targeted official. Consistency means even rule interpretation throughout each competition. It entails thorough *knowledge* and *understanding* of applicable rules and sound *judgement* in interpreting these rules to fit and infinity of situations.

**Integrity** is perhaps the most important quality in an official in any sport. It means fairness, even-handedness in all situations, "Call it as you see it." It requires *courage*.

Coaches and spectators often react to the consequences of a decision. Officials must react to what they see, regardless of the occasion. Caving in to pressure causes loss of control and cascading errors. It can happen even at the highest level of competition with disastrous consequences. To "call it as you see it" also takes *poise*. That is, officials must stay calm; they must be able to relax often amid great excitement and under heavy pressure. Letting one's emotions take over, shifts focus away from the action and impairs one's judgement.

Officials must also act with **decisiveness**. Decisions must come promptly or they will be questioned. That is not to say that there can never be doubt, only that good officials must project an impression of certainty as to what they saw. In speed skating as in any other sport, meek officials might as well not show up. Decisiveness requires *confidence* in one's knowledge and ability. It is enhanced by *experience*, but absolutely requires the ability to *focus* and to stay *focused* regardless of distractions.

In speed skating, **team spirit** plays a big part in making an official's life enjoyable. Athletes, coaches and officials are a team; they are all dedicated to the same ultimate goal: enabling athletes to attain their full potential. Officials must relate to other members of the team. Effective *communication* and *respectful treatment* of all participants are key to establishing good team spirit.

Finally, **enjoyment** is as crucial a factor for officials as it is for athletes. Enjoyment equals *motivation*. Officials must be motivated to learn and practice, and they must enjoy officiating. Flagging motivation spells the end of an athletic career; the same holds true for officials.

Everyone has an opinion as to what attributes are necessary for speed skating officials. This exposé reflects but one opinion. I have made an effort to mention each attribute's main components to facilitate later discourse on methods of improving one's effectiveness. Officials, like athletes, must continually train to maintain their 'edge', and much of that edge is psychological. Our next article will discuss methods to acquire and maintain the qualities necessary to "call it right, as we see it, and when we see it, in all circumstances". 🐾

Guy Chenard is Vice President Officials for the Ontario Speed Skating Association.

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# Tactics

## in Short Track

*by Guy Daignault*

In the past I had the chance to see some very good races between Canada, New Zealand and France. In most of the finals it was difficult to predict who would win the race. I think that strategy and tactics made the difference on the ice. If strategy and tactics are important for international skaters they are also important for provincial and national skaters.

What is strategy? By definition strategy is a general racing plan. Each skater should have a plan before they go onto the ice.

- Many factors will guide a general plan:
- the technical ability of the skater (i.e., Do I have the ability to do an outside passing?)
  - the physical fitness (i.e., Can I sprint and keep my speed for the last three laps?)
  - the weakness of the opponents
  - the ice condition
  - the distance

In a strategy you want to plan what is the best race for you. This is where tactics start to play a role. Tactics are a series of actions that the skater will accomplish on the ice to realize the strategy plan.


Here's a list of different tactics used in short track speed skating:

- slowing down the pace by taking the lead
- to accelerate the pace with some short sprints
- to simulate acceleration or passing to create some reaction from the other skaters and maybe cause some trouble
- staying behind somebody anywhere he/she goes
- in short distance after a good start, do not skate at 100%, so that it's possible to increase speed at the end
- to be able to skate a tight track so that the person following you must make an effort to pass

- working in the front of the pack at any time of the race (never stay in 5th or 6th position)
- to simulate that you are tired to make somebody pass
- don't give up your position at any time in the race, skate close to the person in front and a little bit to the side

In having a strategy plan the skater can react quicker to any situation. With tactics the skater will make something happen rather than waiting for things to happen. With my experience as an international skater and coach I can tell you that a skater performs better when he/she makes things happen. In using strategy and tactics you start to control the race, you don't let the race control you.

Competition is the best place to practice strategy and tactics. Having said that it is important to realize that some competitions must be like training sessions where the goal is not to win but to try some new things. If you don't try you will never learn and trying means more than once. Watching videos is another way to learn about strategy and tactics. By watching videos you can pick up some moves that the best skaters accomplish and you can also learn some details about your opponents.

I hope this article will help you to improve your knowledge. Don't forget that if you don't try, it's impossible to learn. You may wish to review the excellent article by Mike Murray in the January '95 issue of SKATERS EDGE that described, in detail, some specific tactics that have proven to be very successful. 

*Guy Daignault was elected to the CASSA Hall of Fame in 1987. He is a National Short Track Coach.*



# Looking for Information?

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Check any article and mail this form with your cheque to the Ontario Speed Skating Association. See Table of Contents page for mailing address. The articles listed below have appeared in past issues of Skaters Edge and are an average of 1 to 3 pages in length. The articles have been written by some of the leading experts in speed skating.

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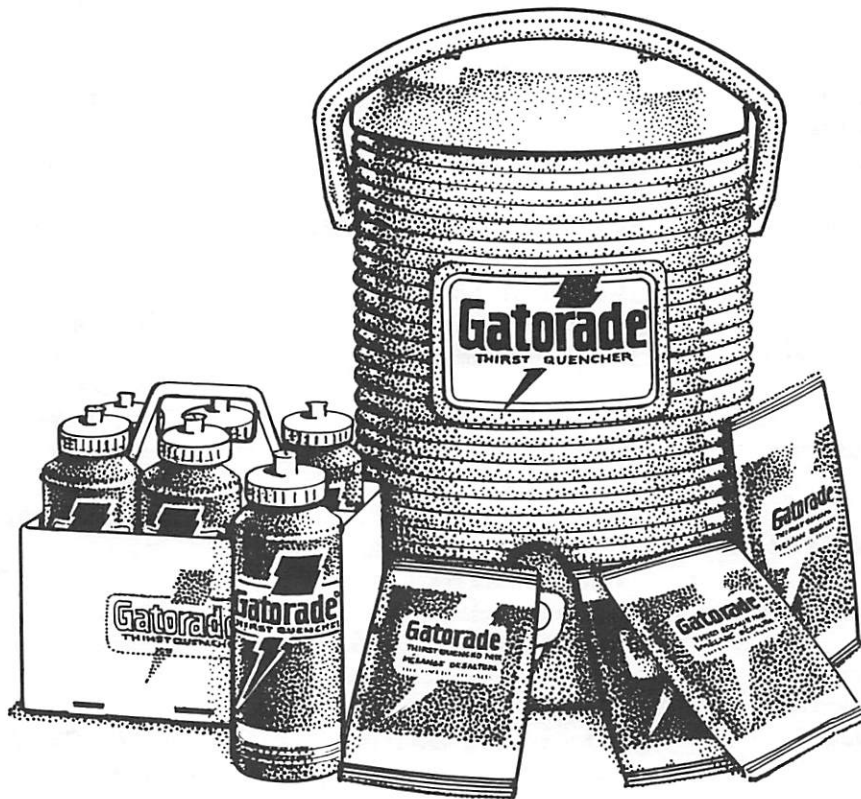
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# Letters

Dear Ian (Hennigar, Executive Director,  
Ontario Speed Skating Association):

... On behalf of Robert, Peter and myself I want to thank you for your interest, your dedication and your support over the years.

Yours truly,  
Claire Nolette

Dear Ian, Charles & Ryan:  
(Ontario Speed Skating Association)

Thank you for your hard work and effort to have a great day/evening of racing. (I) really appreciated all your support.

Sandra Chenard, Meet Co-ordinator  
1995 World Speed Skating Invitational

(Editor's Note: Referencing the 1995 Media Excellence Award she recently received from the American Dietetic Association, the following note was received from Nancy Clark - Athletes Kitchen.)

Thank you for your support!!

Nancy

Ian (Hennigar, Executive Director)  
(Ontario Speed Skating Association):

Congratulations on the successful competition (1995 World Speed Skating Invitational).

Janice Dawson, Technical Co-ordinator  
Alberta Speed Skating Association

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### SAVE ON A 3-YEAR SUBSCRIPTION

# 40-30-30 or 60-15-25

by Nancy Clark, MS, RD

**"Nutrition facts have a shelf-life of about three years" once said the venerable Dr. George Sheehan. This seems to be the year for shaking the shelves and challenging traditional sports nutrition advice about carbohydrates in the sports diets. The result is that nutrition confusion abounds among many of today's athletes.**

Today's messages that bombard you via ads in many sports magazines tell you to eat fewer carbs, more protein, and more fat. And don't forget the chromium pills if you want to burn fat, so "they" say (FALSE). The makers of some sports nutrition products recommend a 40-30-30 diet (that is, 40% of calories from carbohydrates, 30% from protein, and 30% from fat). This differs from the traditional 60-15-25 sports diet. The ads include lengthy biochemical explanations about why you should switch to their products and diet program. But the garbled advice may leave you wondering if their new plan is better than what respected sports scientists have preached for years.

To our misfortune, the traditional sports diet has evolved into 3 over-simplified (and partially inaccurate) tips:

1. To fuel your muscles, eat abundant carbohydrates – at least 60 to 70 percent of your calories should come from cereal for breakfast, wholesome breads and fruits with lunch, piles of pasta and veggies for dinner. And as "they" say, don't worry about protein (FALSE), because most Americans eat two to three times what they need.
2. To protect your heart-health as well as reduce body fat, "they" say to avoid all foods with fats (FALSE), and try to eat no more than 20 grams of fat per day (about 10% of your calories from fat).
3. Exercise to lose weight; the longer the better (FALSE) to rid yourself of fat thighs and spare tires, so "they" say. Athletes who abide the inaccurate interpretations tend to perform suboptimally and then become attracted to the convincing testimonials in the 40-30-30 ads. But can past research and science be all so wrong? Doubtful!

If you are among the many athletes wondering about the best balance of carbs, protein, and fat to eat for optimal health and performance, here is my advice. Hopefully, it will clarify your confusion. My opinions are based on the following basic assumption: *Athletic people who are health-conscious often take nutrition information to the extreme. They think: If some carbohydrates are good, then more must be better. If too much protein is bad, a no protein diet*

must be better. If some fat is bad, a no fat diet must be better. These athletes often under-value the importance of protein and fat in their sports diet.

Among the athletes I counsel at SportsMedicine Brookline, I commonly confront this black and white style of thinking that ranks foods as being either good or bad, right or wrong. This style has gotten many sports-active people into nutritional problems. The following case studies exemplify some of these nutritional problems and offer practical solutions that may be better for you than the slick (and expensive) new sports nutrition products.

- Jim, a cyclist, complained "I lack energy. For the past three years, I've eaten a high-carbohydrate, low-fat diet. Recently my times have gotten slower and I'm taking longer to recover. I bought some of the sports bars that promote a 40% carb-30% protein-30% fat diet, and I feel much better. Are the bars and diet magical?" Although Jim thinks he feels better because of magic ingredients in the \$2.50 sports bars, that's doubtful. He more likely feels better because he has added some protein to his deficient bagel-and-pasta diet. Even a high carb sports diet should include adequate protein to build and repair muscles and aid with recovery. Jim needs the protein equivalent of 2 cups of milk or yogurt per day, plus a small serving of protein at lunch and dinner. Plus he needs some fat to balance the carbohydrates. Fat takes longer to digest and provides sustained energy to fuel him through a long bike ride. Jim's performance had deteriorated because of too many carbs and too little protein and fat.

- Anna, a runner, complained about her inability to lose weight. "Life is unfair. I've added on two hours of exercise every day. I don't eat any fat, and I haven't lost fat. In fact, I've gained weight. I've even taken chromium pills but they don't help." Anna had forgotten that calories count - even calories from fat-free carbs. Because a low-fat diet tends to lack satiety (that is, the pleasant feeling of fullness that accompanies a fat-containing food), Anna felt incessantly hungry. She'd eat not only one bagel but then another and another,

then graze on some pretzels, apples, and other fat-free foods. She never created the calorie deficit that is required to lose weight.

Low-fat diets "work" only if you eat fewer calories than you burn off; no amount of chromium will alter that. Too much exercise can leave you too hungry and tired to have the energy you need to eat less. Anna finally lost weight when she added some fat and reduced her exercise. "Initially I didn't believe your advice, Nancy, but it worked!"

*The bottom line:* When it comes to choosing a proper sports diet, remember that 25 to 30% of your calories can appropriately come from fat (that's a little fat at each meal). A fat-free diet commonly limits dietary protein (because fat and protein tend to come together, such as in cheese, hamburger, peanut butter, and even chicken). The ultimate sports diet needs to include the right balance of foods, as suggested by the Food Pyramid: the foundation of every meal should be carbohydrates, accompanied by generous amounts of fruits and vegetables, plus adequate protein from some low-fat dairy and protein-rich foods. No special sports bars nor confusing food plans are needed to achieve the athletic success attainable with a tried-and-true, traditional diet program. 🐘

*(Editor's Note: The American Dietetic Association, the nation's largest group of nutrition professionals, selected Nancy Clark as the 1995 recipient of their Media Excellence Award, stating they "recognize her important contribution and commitment to educating consumers about food and nutrition issues through the media.")*

*Nancy Clark, MS, RD, provides private nutrition consultations at her SportsMedicine Brookline office. Her popular books offer additional advice: Nancy Clark's Sports Nutrition Guidebook (\$18) and her nutrition guide for endurance athletes The New York City Marathon Cookbook (\$23). Send a cheque to Sports Nutrition Materials, 830 Boylston Street #205, Brookline MA 02167.*

## C • O • N • T • E • S • T

# September Contest Winners

The winners in September's hunt for "JOHN'S JIG" were:

**JENNA WRIGHT** (Quinte)

**KATE OLIVEIRA** (Kitchener)

**DAVID CLAMEN** (Ottawa)

Congratulations!

.....  
**LET'S FIND  
"JOHN'S JIG"!**



*This is only a sample and is not eligible for prizes. Look elsewhere for JOHN'S JIG.*

Once again, John Cavar, OSSA's President, has hidden a jig on one of the pages in this issue of Skaters Edge. He advises us that it may be used as an underline, a paragraph heading, separation line between articles, etc. It could be anywhere: horizontal, vertical. So-o-o-o, put on your detective's cap, get out your magnifying glass and... all the best!

When you find "JOHN'S JIG", send a note by mail or FAX to the Ontario Speed Skating Association, 1185 Eglinton Avenue East, North York, Ontario M3C 3C6 (FAX: 416-426-7385) stating the exact location of JOHN'S JIG, including the page number. Remember to include your t-shirt/sweatshirt size as well.

Three winners will be selected from a random draw on February 15, 1996 to win prizes for being great detectives. Happy reading and good luck!

## Overend New CASSA Vice President Short Track

by Ian Hennigar



## American Skating Union (ASU) 1995 Banquet Highlight

The prestigious (ASU) President's Award was presented by President Jim Chapin to four people in recognition of their dedication and contributions to the sport of speed skating at the local, state and National level.

(One of the four recipients was) Joyce Leggatt, Vice President of External Affairs for the Canadian Amateur Speed Skating Association, who has served as that body's representative to the ASU for several years, attending North American meets and Executive meetings in (the USA) and the (ASU's) annual Convention. She is also one of the Canadian members on the North American Committee which is dedicated to strengthening the North American competitions. 🐾

*(Editor's Note: Joyce Leggatt is a former President of the Ontario Speed Skating Association.) The above is an excerpt from an article in the June 1995 issue of Racing Blade. Reprinted with permission.*

## Koss issues challenge to promote peace

Norwegian speed skater, Johann Olav Koss is a five-time Olympic medallist and holder of three World records, but he's doing his best work off the ice.

Koss was in Calgary in August helping the Canadian Olympic Association and UNICEF Canada launch a national education program aimed at supporting the Olympic Truce, which promotes international peace and understanding.

"I challenged the COA to do this," said

Koss, who is now retired but is taking a year off medical school to promote the program. "They have taken the challenge."

A resource kit titled The Olympic Truce: Days of Peace for Children will be distributed free in January to about 13,800 elementary schools across the country.

"There will be several things (in the resource kit) to show Canadian kids how they can help children who suffer by war and conflict," Koss said.

Tom Overend of London, Ontario has been officially appointed by the CASSA Board of Directors to fill the vacancy left by the resignation of Louis Grenier as the Vice President Short Track.

"Louis was sorry to resign from the CASSA Board", according to CASSA President Henrietta Goplen. Louis, the father of three young children including a beautiful new daughter, has also accepted a new position in the computer field. "The main reason, of course, is that Louis, as Vice President of Short Track, did not want to jeopardize his sister's coaching career", stated Goplen. His sister, Natalie Grenier, is now CASSA's Head National Short Track Coach working out of the Montreal Training Centre.

President Goplen noted that Louis Grenier (the 1983 World Short Track Champion) devoted many volunteer hours in his sincere effort to fulfill his role on the Board.

Tom Overend is no stranger to the CASSA Board. He held the V.P. Officials and Coaching Portfolio for several years when it was one combined position. "I am excited to be back", Overend said.

Tom has been involved in the sport since he was PeeWee skater in British Columbia. He is a former Olympian and was the CASSA Technical Director in the late 70s.

Overend will be up to speed in his new portfolio as he was an active member on the Short Track Committee for the past several years.

Good Luck, Tom, and thank you Louis for your past contributions. 🐾

*Ian Hennigar is the Executive Director of the Ontario Speed Skating Association.*

The Olympic Truce slated to take place during the 1996 Atlanta Olympics is designed to enable UNICEF to improve existing programs to meet children's urgent needs for such necessities as clean water, nutritious food and health care.

Koss, UNICEF Special Representative for Sports, said they are developing a new "sports in a box" project that will provide athletic equipment for impoverished children around the world. 🐾

*Reprinted from The Toronto Star Friday, August 18, 1995.*

# Self Bending Blade available in the new year

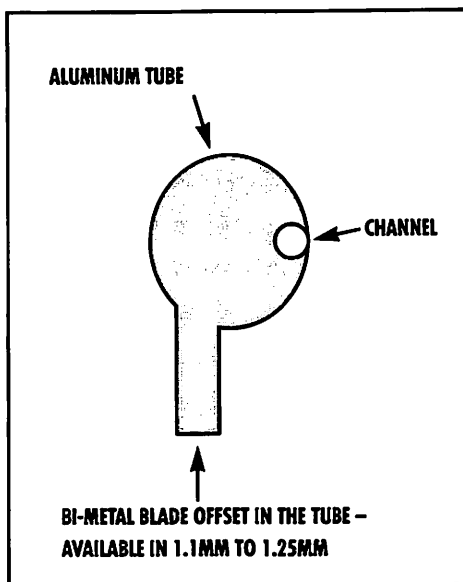
by Ian Hennigar

Zandstra Sports Inc. of Holland has patented a unique system that will allow skaters to set and keep an exact blade bend. This unique system is now in the final stages of testing and is expected to be available in January 1996.

This revolutionary system is made from an extruded aluminum tube with a cylindrical channel running the length of the tube. The channel (like duct work to a central heating system) is on the right hand inside of the tube (see sketch).

A piece of graphite runs the length of the tube inside the channel. An allen key is used to tighten the rear end of the channel tube by removing the tube plug. The more the system is tightened the greater the bend is applied to the tube. A calibration system is being finalized for the system. A skater will be able to set the exact same bend for his/her blade in less than one minute!

In addition to the bending system, this blade will feature a blade set in an offset




tube. This will eliminate the chance of a skater leaning so far over that the tube contacts the ice causing the blade to lose contact with ice. The offset also reduces the amount of flex between the tube and the blade making the entire system stiffer.

Zandstra has also added two thin grooves to the inside edge of the tube where it makes contact with the blade to enhance the adhesion capacity of the glue. Through Zandstra's extensive research and development, a new glue is now being used that will tolerate the demands of bending the blade. This new glue is now being used on all Zandstra blades.

Like Zandstra's current short track blades and the Excalibur blades from Australia, each end of the blade has a rivet through the blade and tube to ensure that the blade remains fixed in the tube.

This new Zandstra blade will be available in either 1.1 millimetre or 1.25 millimetre widths.

This new technology could be as important as the moulded short track boot created by Raymond Laberge in the 70s! 

*Ian Hennigar is the Executive Director of the Ontario Speed Skating Association and a former Provincial Coach.*

## Canadian Skaters Shatter World Mark

MONTREAL (CP) – Home ice was kind to Canadian short-track speed skaters at an 11-country meet [October 29].

Frederic Blackburn, from Chicoutimi, Que., won the 1000 and 3000 metre finals and joined his teammates to win the 5000 metres in a world-record time of seven minutes, 2.47 seconds at the International Challenge meet.

Marc Gagnon and brother Sylvain, both of Montreal, and Derrick Campbell of Cambridge, Ont., were the other members of the relay squad which beat the record of 7:09.76 that Korea set at last year's world championships.

The performances delighted a crowd of 2,500 at the Maurice Richard Arena. Organizers said attendance was more than double the amount for a similar international event last year.

Korea and Japan were among the short track speed skating powers absent this year.

Blackburn and Marc Gagnon, who both earned 13 points for winning two events at the Montreal competition, continued their keen but friendly rivalry.

"It's so close between the two of us that you can't really say one of us is better than the other," said Gagnon, who was headed for a second-place finish in the 1000 metres but was disqualified for dangerous skating near the finish line.


Natalie Grenier, a coach with the Canadian team, said, "They're all good speed skaters. We have a lot of depth and they keep pushing each other, in training and in the events."

The 22-year-old Blackburn is already a veteran of the Canadian squad. He was a

double silver medalist in the 1992 Olympics and was third overall at the 1995 world championships.

He rebounded from a fall in the 500 metres on Saturday to beat out Jonathan Gougoux of Cacouna, Que, in the 1000 metres. Blackburn's time of 1:31.58 was almost 27 seconds ahead of Gougoux, the only other finisher after the Gagnon brothers were disqualified.

The 3000 metres was an all-Canadian final. Blackburn won in a time of 5:17.94, Marc Gagnon was second in 5:18.02, while Bryce Holbech of Abbotsford, B.C., finished third.

Chinese skaters fared well in the women's events held yesterday. They took the top three spots in the 3000 metres, with Heil Yang Yang winning in 5:45.62. Second place went to Xiang Zhang Dong, and Jilin Yang Yang was third. Montreal's Christine Boudrias was fourth, a fifth of a second from a medal. 

*Reprinted from The Toronto Star, October 30, 1995.*



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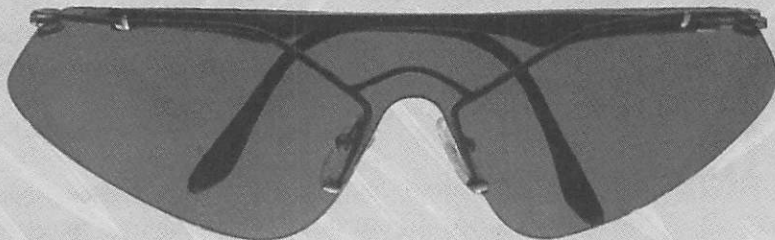
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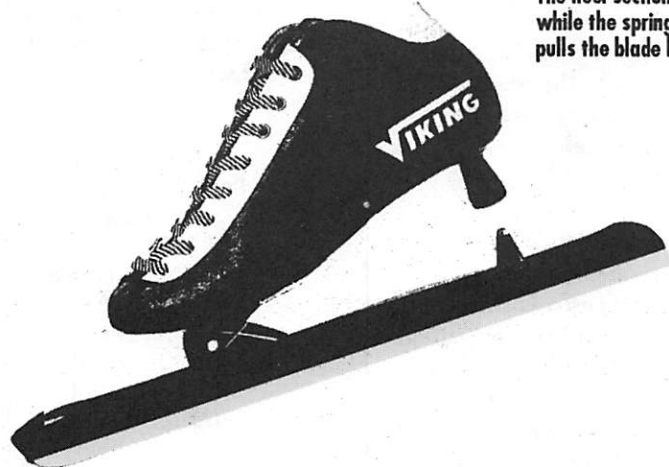
at upcoming  
**Ontario Speed  
Skating Events  
in the 1995/96  
Season.**



# "Klap" skate earns applause

by Carl Foster, PH.D

**T**here is an old saying about "building a better mousetrap". I interpret this to mean that if you have better technology you have an advantage. The in-line community recognized this long ago; in-lining being almost as much about better technology as being fitter. Ice speed skaters on the other hand are about as technologically unsophisticated as any group of athletes around. There simply hasn't been much technical innovation since the development of the skinsuit a generation ago. Sure, there were stories about the "Darth Vader" skate boots that the Norwegians had developed. But on the ice, Koss won with plain old Vikings. Actually there were some innovations in the blades on his Vikings, innovations that the Dutch didn't use. In any case, ice speed skating has not been the home of the techno-weenies.



**VIKING'S KLAP SKATE.**  
The heel section swings free while the spring in the front pulls the blade back.

There is, however, technical innovation on the horizon even for ice speed skaters. During a visit with Dr. Jos deKoning this spring, I learned some details of a new skate developed in Holland, the "Slap Skate". Although this skate has been under development for some years, only recently has enough data been collected to demonstrate the potential benefit of the slap skate.

For those of you not familiar with the slap skate, it is a blade, attached by a hinge in the front, which allows the heel connection to swing free during the push-off. A spring attached near the front of the skate pulls the blade back into position during the recovery phase of the stroke. The effect is not unlike that of a cross country ski boot if a spring were connected to bring the ski and boot back together. The slap

skate was clearly in evidence at the Olympic Oval Finale in Calgary this past winter.


Jos convinced several Dutch junior skaters to switch to the slap skates last year. He then followed their performance and compared it to a comparable group of skaters who continued to use conventional skates. The control group, using regular skates, improved 2% over the previous skating season (about 2.5 seconds in 1500m), about what you would expect junior skaters to do. The skaters on the slap skates improved 6% over their previous skating season (on regular skates). Thus, representative skaters making the switch to slap skates would be about 5 seconds faster by the end of a season than had they remained on conventional skates. The data are remarkable.

More remarkable is that the Dutch elite skaters have been unwilling to try and change over to the slap skates. Coaches, however, tend to be conservative. Our U.S. national team coaches (one of whom is Dutch) have had a very cautious attitude towards the concept of trying the new skates. Importantly, there are as yet no data addressing how much improvement a relatively mature skater might expect when switching from conventional skates to slap skates. Certainly a coach can be expected to be conservative when dealing with skaters that are already internationally competitive. Jos indicates that for him, the difference between conventional and slap skates is 8-10 seconds. But Jos, who does about 2:10 for 1500m on slap skates, is not an elite skater. Clearly, the slap skates represent an interesting idea, one that might allow a 6:15 in the 5000m or 13:15 in the 10,000. Yet changing technique may cause a 6:50 5000 skater to 7:30. We're waiting for the first brave established skater to give them a try.

There are at least two possible mechanisms by which the slap skates might help you skate faster. First, because you can now use plantar flexion (pointing your toe)

during the push off, you will have a longer push and have more total muscles to push with. We know from studies with conventional skates that the longer the push off, the faster the skater. So, it may be as simple as better biomechanics. They may be particularly advantageous to in-liners trying to make the transition to the ice since learning how to stay back off the front part of your skate blade is one of the most difficult things for in-liners to learn. Alternatively, you may not have to sit as deeply to have a push off that is as long as you currently get with conventional skates. Since we suspect that blood flow is progressively restricted in your legs as you sit deeper and deeper, not having to sit so deeply may improve endurance by allowing better blood flow. Ken Rundell at the Lake Placid OTC has data demonstrating that  $VO_{2max}$  during skating is higher as your knee angles increase. As we have discussed many times before, higher  $VO_{2max}$ 's usually mean faster skating.

The good news is that Viking makes them and that they attach to Marathon boots. As yet, they have not successfully developed a bracket for in-lines that can take advantage of this principle (K2 and Rollerblade are you listening?). The slightly increased height of the apparatus and the issue

of gravel having one more troublesome place to go have been impediments. However, if the performance advantage is as large as the data suggest it is, next summer will bring slap skates to the roads. Move over in-liners, the ice guys are about to become techno-weenies. 

*Reprinted with permission from the October 15, 1995 issue of Speedskating Times (Vol. 6 No. 7). Dr. Carl Foster is Director, Cardiac Rehabilitation and Exercise Testing, Co-ordinator, Sports Medicine/Sports Science USISA. (EDITORS' NOTE: Skaters Edge has verified with Speedskating Times that the skate discussed in this article is called the "Slap Skate". Viking's version of this skate is called the "Klap Skate".)*

**They may be particularly advantageous to in-liners trying to make the transition to the ice since learning how to stay back off the front part of your skate blade is one of the most difficult things for in-liners to learn.**

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# Precision Blade Bender

## now available


by Ian Hennigar

The new, and now available, Pennington Precision Blade Bender has been designed to be the best short track blade bender in the world. The bender has a long arm with an easy grip handle to enhance the leverage for ease of operation. The hard plastic concave contact tire ensures a great bend. The self-holding blade supports slide to allow for custom bends. Bender has easy adjustable stop for speedy and accurate use.

This precision made unit is very sturdy and uses top-of-the-line construction methods. The centre axel is made of hardened steel, a ball bearing system is used in the wheel mechanism, and all the bolts are made of high tensile steel. All of this weighs a sturdy 2.6 kilograms.

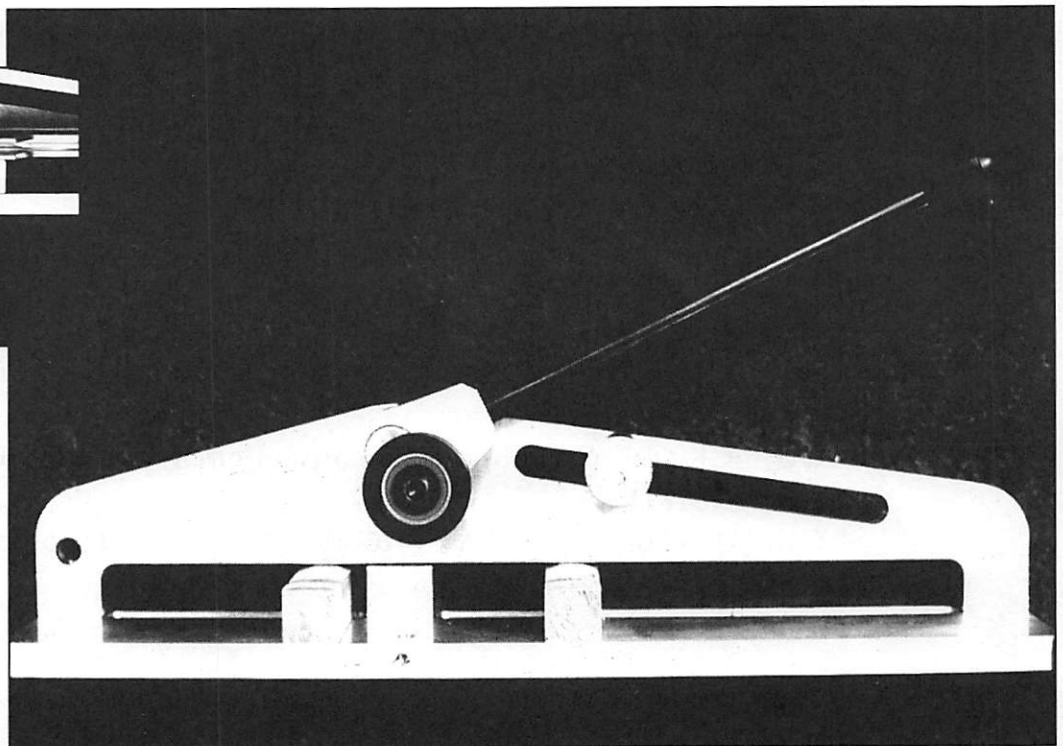
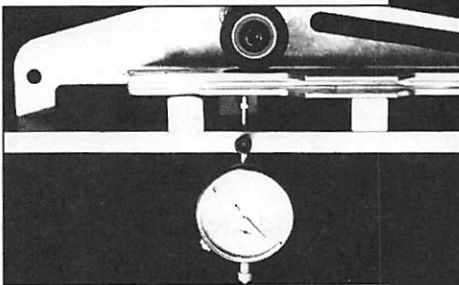
The unit has been designed for the fitting of an optional dial gauge directly

below the contact wheel by a 6mm cap screw. The gauge allows the user to measure the deflection and rebound when bending to make micro adjustments. The gauge is also the only objective method to duplicate or measure the size of the bend.

The Precision Blade Bender is available through the Ontario Speed Skating Association for \$300. The optional dial gauge is available for \$100. Every top level short track club or coach should have one of these. To order please call 416-426-7010 or FAX 416-426-7385. Payment can be made by MasterCard, VISA or cheque. 

*Ian Hennigar is the Executive Director of the Ontario Speed Skating Association. He is also a former Provincial Coach and competitor.*

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# Canada Dominates 1995 World Short Track Invitational

by Ian Hennigar

Canada continued to dominate the medals in Ottawa at the 1995 World Short Track Invitational, the second of three international events on the North American Short Track Speed Skating Tour.

Canada's male short track skaters swept the overall standings at the first event of the Tour in Lake Placid, New York, October 21-22. The Ottawa event, held on the evening of Tuesday, October 24 at the Civic Centre, saw Canada dominate the team-styled competition by winning the Nation's Cup Trophy with a total of 96 points followed by Italy with 60 points, the United States with 55 points, the Netherlands with 37 and Team International (comprised of skaters from Norway, Sweden, Great Britain and Canada) with 32 points.

Stellar performances were given by Frédéric Blackburn, Isabelle Charest and Marc Gagnon. Gagnon, a two-time World Champion and Olympic medalist, clocked the fastest time in both the 1500m (2:24.71) and 500m (44.03) races beating Derrick Campbell by one hundredth of a second. In the Men's 3000, Dave Versteeg, from the Netherlands almost lapped the field early in the race. He was able to hang on to win



**AUTOGRAPH SIGNING  
AT THE 1995 WORLD  
SPEED SKATING  
INVITATIONAL:**  
Marc Gagnon, Hillary  
Mills, Annie Perrault,  
Frédéric Blackburn.



**TEAM CANADA  
ON THE TOP AGAIN!**  
Winners of the 1995  
Nation's Cup Trophy. Team  
Italy, 2nd; Team USA, 3rd.


Photos by Joanne Dawson



**JONATHON CAVAR,**  
Team International,  
leading his 500m race  
followed by skaters  
from the Netherlands,  
USA and Italy.

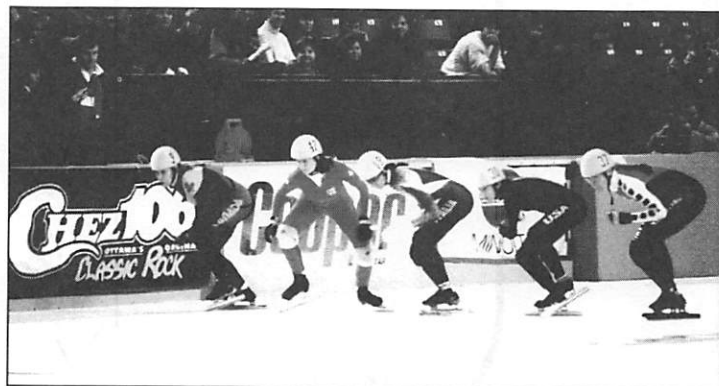
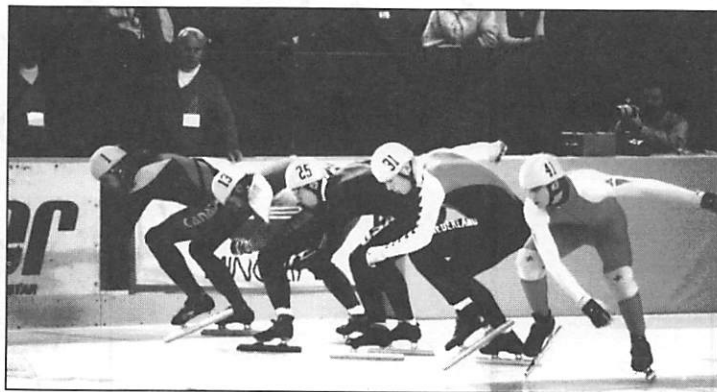
the race in a time of 5:04.62. Second to 4th place finishers were all within 3 tenths of a second with Steven Bradbury of Australia placing second, followed by Bryce Holbeck of Canada and then Tony Guskowicz of the United States. It was a great race! The Women's racing was also very exciting. In fact, in the five 500m events, 1st to 4th place was separated by less than two seconds except for instances that resulted in disqualification. The Canadian women team members won every 500m race they were in!

Winning the Men's Figure 8 Flying Drag'n Drop was Jonathan Gougoux of Quebec. This exciting exhibition race saw 8 skaters at the start line. After 5 laps the last skater on each lap was dropped from the race until there were 4 left. The final four battled it out for 3 laps with Gougoux coming out first in a very close and thrilling finish.

Over fifty skaters from eight countries competed at the inaugural World Speed Skating Invitational, including skaters from six of the top ten ranked countries in the world. 

#### START OF THE MEN'S 1500M

(L-R: Marc Gagnon, Canada; Diego Cattani, Italy; Tony Guskowicz, USA; Vincent Wolvers, Netherlands; Jonathon Cavar, Team International)  
Starter: John Graham, Assistant Start: Hilary Casey



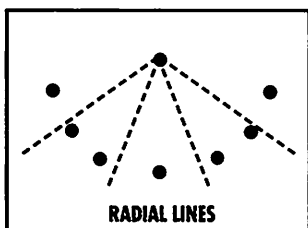
**1500M WOMEN'S START.** (L-R: Tania Vincent, Canada; Carol Anne Chenard, Team International; Maria Urbani, Italy; Erin Gleason, USA; Danielle Bekkering, Netherlands) Starter: Tom Johnson, Assistant Starter: Hilary Casey.

*Ian Hennigar is the Executive Director  
of the Ontario Speed Skating Association.*

# The PIVOT

..... by Michel van Musschenbroek

FIGURE 1

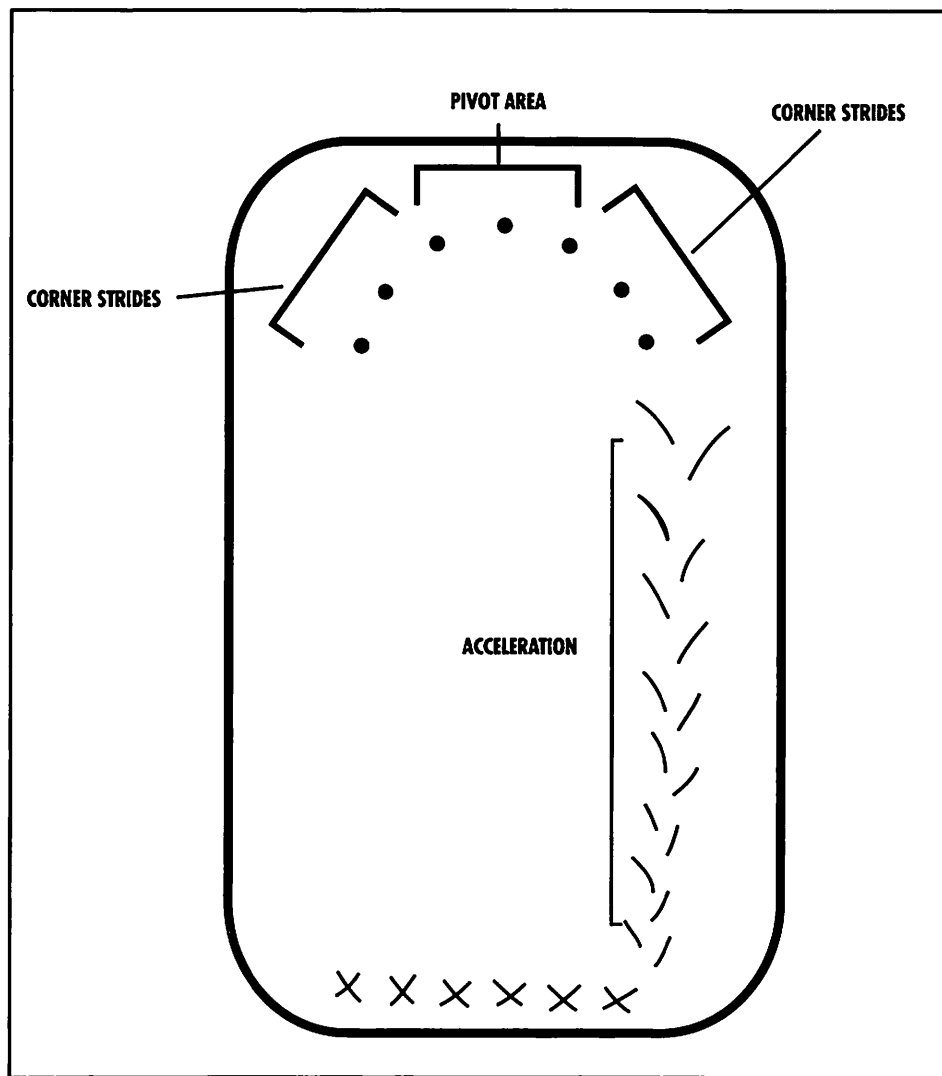


**T**his topic is on the minds of all short track speed skaters and coaches throughout the arenas of the world. What I would like to write about is not whether you should, but rather how you should, when you decide to pivot.

Many factors make a good pivot happen. Speed, angle of entry, proximity of other skaters and other external variables can affect your efficiency at this. However, the body position, which is the most critical, can be controlled. As you know, there is no body part that can be neglected. Your

head, shoulders, arms, hips and legs are the main areas that need to be addressed while executing the pivot. Having these under control will allow you to control your centre of gravity, thereby ensuring the stability of your skates when riding those terrible ruts. By keeping the weight over the centre of the blade you have the best chance of support, as it is at this point which the most amount of metal is in contact with the ice.

FIGURE 2



## SO HOW TO PIVOT PROPERLY?

Working from the ice upwards let's analyze what makes a good pivot. To better aid in this endeavour, look back to the cover of the last "Skaters Edge" and observe one of the pivot kings, Derrick Campbell.

The supporting leg, or pivoting leg, is bent at a good angle. Having a bent leg will allow one to absorb the centrifugal force prevalent in the corner as well as compensate for any ruts in the ice. Having a bent leg also lowers your centre of gravity making it more difficult to "tip over". The recovering leg is tucked neatly under the body. This not only prevents you from getting tangled up with somebody, it is also much safer for the skater behind you. If your recovery leg is too far back, your upper body will begin to fall forward causing the weight to drift forward and increasing the odds of doing a face plant. Exposing your blade could also get you disqualified. This is strictly enforced at the finish line. If you are constantly endangering other skaters the referee may see fit to warn you.

The hips are "leaning in". This is a term used to describe the angle of the hips in relation to the axis of the curve. (The angle in relation to the ice is determined by the speed and height of skater, and not something completely controlled.) If radial lines were extended from the axis of the corner they would run directly through the two



hip bones (Figure 1). This will allow the leg to push in a perpendicular extension to the radii allowing for maximum acceleration using the centrifugal force as the push. (When the leg finishes the extension it may not necessarily be at a right angle to the axis. However, by trying to follow the lines we optimize the length of the push, increasing efficiency.) Keeping the hips at a right angle to the axis also allows for less stress on the blade. With radial extensions, the rocker of the blade is allowed to naturally carve the ice through the corner; you will feel in control as most of the blade is on the ice providing stability. Otherwise, the gliding path of the skate will not be one that is desired and you will be trying to compensate by putting undue stress on the legs, skates and blades.

The torso is relaxed allowing the lungs to expand properly. Being bent over is obviously part of the body position used to reduce air drag, however, too much hunch may affect your breathing. This part of your technique is fairly personal. As long as you are not affecting your skating, just relax when you consider your body position.

The shoulders are also relaxed but have a very definite effect on the body. Understanding that the shoulders and hips are connected by the spine, it is very important that the shoulders be in line with the radial lines. They may not be perfectly parallel but they should be close; look again at Derrick. Pretty good isn't he!!!!

From the shoulders we have the arms. Similar to a tightrope walker with a balancing pole, the arms help us maintain lateral control; remember, the blade is only a millimetre thick. The right arm should be in control, and not wild, and remain an extension of the line through the shoulders. The purpose of the left arm is *not* to be a support, but to give the skater the sense of comfort and reassurance needed when cornering as fast as they do. The

extension of the arm is pointing towards the axis of the corner so as to not affect the shoulder rotation. I cannot stress how important it is to keep your hand to the side. If you extend the arm too far into the corner, reaching ahead, it will cause your centre of balance to drift ahead of the apex of the blade. When this happens you begin to grind your weight into the ice slowing down the pivot and your speed. It also leaves you more susceptible to falling.

Lastly, we have the head and eyes. Derrick is looking into the corner where he/she is going, not down at his feet, and

certainly not at the skaters behind him.

Having looked at how to pivot, let's examine where and for how long. National Coach, Andrew Barron, has mentioned that there are many reasons why one pivots. Unfortunately, there are many skaters who are losing a lot of speed due to the positioning and length of the pivot. Therefore, after having mastered the art of pivoting, work on the where.

Ideally, the pivot should only happen between the third and fifth marker on the corner. A very

good drill for practising this, is as follows (Figure 2):

- Line up at one of the goal lines
- Accelerate up the length of the ice
- Enter the corner with a couple of corner strides
- Upon reaching the third block commence the pivot
- At the fifth block start to skate again

As a coach, position yourself on the inside of the corner and observe the technique and length. Begin the drill at 50% allowing the skater to acclimatize themselves to the drill and then increase the intensity.

Now having talked about this, let me give some food for thought to all skaters and coaches while watching the pivot masters. The next time you watch Frederic

Blackburn, Derrick Campbell, Nathalie Lambert or any smooth skater pivoting, pay close attention to the cadence of the stride frequency. What you will begin to find is that the pivot is not necessarily a stop in corner striding, but a delay. When the skaters begin their "pivot" the knee is bent considerably more than when they finish it. They are, in fact, still skating the corner; what they have done is increased the duration of the push by slowing down the rate of extension. I believe that it is this reason that makes the difference between the good and the not so good.

If you have any comments on this article please forward them to me. I would love to continue studying the pivoting phenomena. Just send the comments to Michel van Musschenbroek c/o The Ontario Speed Skating Association, 1185 Eglinton Avenue East, North York ON M3C 3C6 Canada.

Thank you very much and good luck to all of you this year! 🐾

*Michel Van Musschenbroek is a former Technical Director of the Ontario Speed Skating Association and former coach at the Brampton Optimist Speed Skating Club.*

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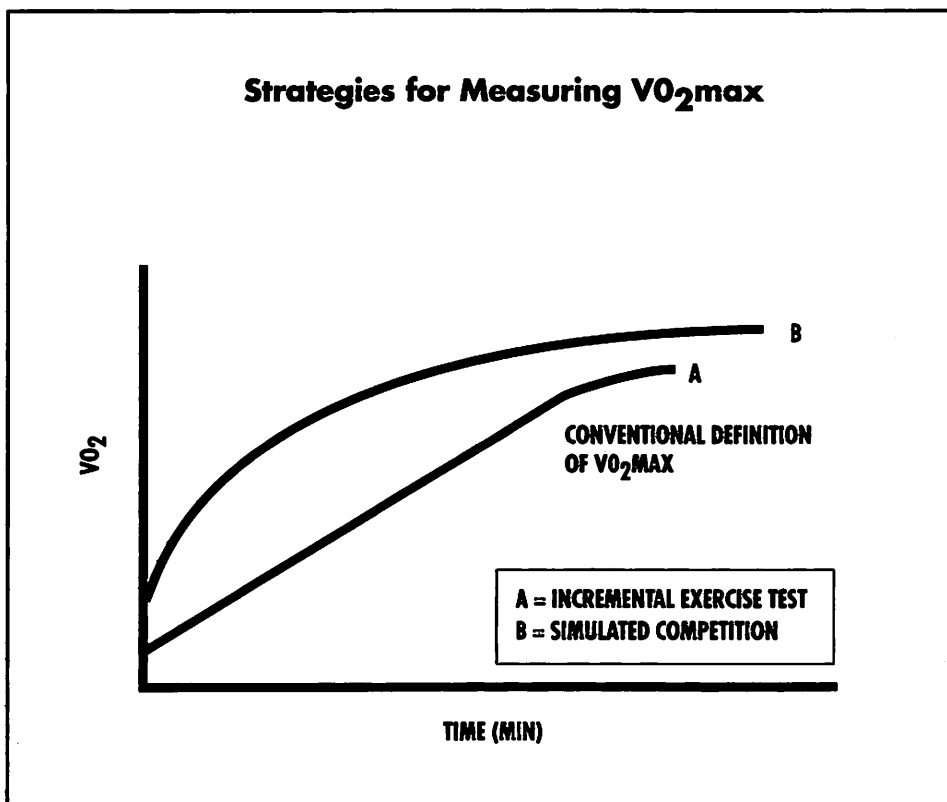
***Your head, shoulders,  
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executing the pivot.  
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# VO<sub>2</sub>max New view on

by Carl Foster, PH.D

As I explained a couple of years ago, one of the very first things an exercise physiologist learns about is oxygen uptake (VO<sub>2</sub>). When humans exercise, most of the energy comes from fuel being burned in the presence of oxygen. Thus, it should not be surprising that the athlete who can consume the most oxygen should be able to do the most work. Accordingly, one of the earliest observations made by exercise physiologists was the highest VO<sub>2</sub> during exhausting exercise (VO<sub>2</sub>max) was very high in athletes successful in endurance sports, including Swedish speed skaters. During our early studies with American ice speed skaters, we were somewhat surprised to observe that VO<sub>2</sub>max was not all that high. However, on reflection and consideration of the propensity of American skaters to be successful in sprint events, the lack of high values for VO<sub>2</sub>max made sense.




Usually, VO<sub>2</sub>max is measured during progressively incremented exercise, for example cycling, while increasing the power output by 25 watts per minute. Typically VO<sub>2</sub> increases in a more or less linear fashion. As VO<sub>2</sub>max is approached, the rate of increase in VO<sub>2</sub> decreases, ideally resulting in a plateau of VO<sub>2</sub> (Curve A). Depending on the motivation of the subject and some details of the way the load is incremented, a true plateau may or may not be observed. About five years ago we made the observation, as part of another study examining responses during simulated competition on a windload braked cycle, that the highest observed VO<sub>2</sub> was significantly higher than could be demonstrated during a progressively incremented test (Curve B). This, we felt, was an interesting finding that challenged one of the "sacred cows" of exercise physiology. We have, more recently, demonstrated that the same phenomenon occurs

even in normal individuals and patients with heart disease. We feel that the ability to take very brief rests, by backing off the pace for a few seconds, which all of us know how to do, allows us to maintain muscle lactate concentrations within nominal limits. Since the breaks are fairly brief, the oxygen transport system never has time to slow down, and the final  $VO_2$  goes higher and higher. During conventional exercise tests, muscle lactate may build up to critical levels before the oxygen transport system has time to get fully engaged. As evidence of this, many subjects remark after conventional exercise tests that, "I could have kept going if I just had five seconds to rest my legs."

During a recent visit with Jos de Koning a biomechanist/physiologist at the Free University of Amsterdam, we discussed our observations with this new method of measuring  $VO_2$ max. He has, independently, made similar observations of a higher  $VO_2$ max during a 4K simulated time trial compared to a conventional incremental exercise test. We have typically chosen to use time trial distances that are related to skating distances - 3K, 5K, 10K - rather than to the international cycling time trial distance - 4K, since one

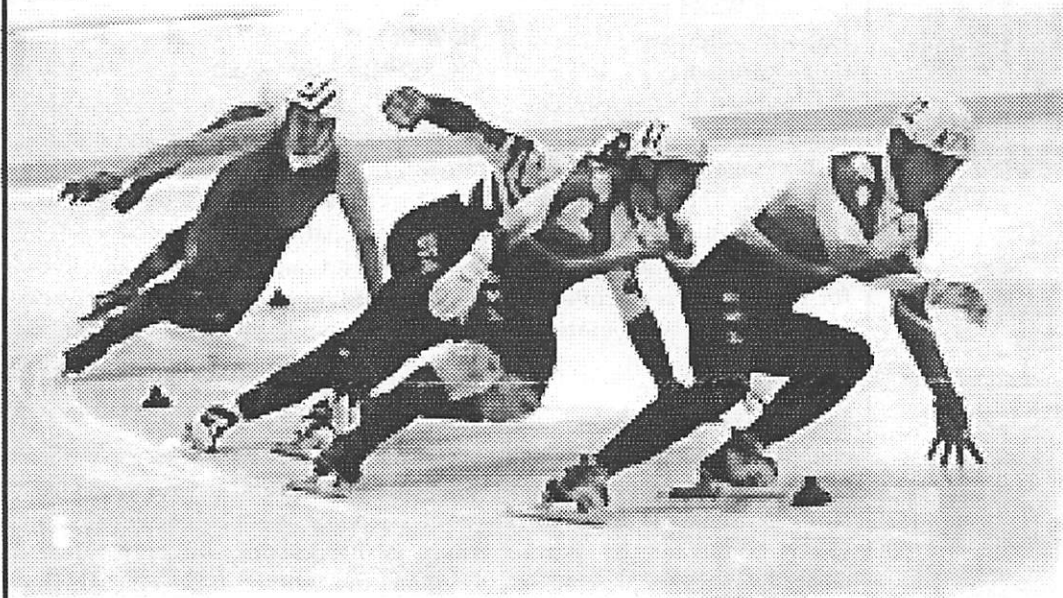
of our other goals has been to teach something about pacing to the American Junior National Team. Our Juniors emerge from pack-style racing with very little experience in the longer metric events. On the basis of some work we did with Nate Mills several years ago, we have come to feel that the time trials can be a useful method of practicing pacing in the longer events. Thus, it seems that the concept of  $VO_2$ max may need to be reconsidered.

Comfortingly, however, we still see the highest values in the best endurance skaters. As I remarked some months ago, some of the in-line specialists (Quinn, Arrietta, Pena, Feia) who had moved to Milwaukee to try their luck on the ice, had very high values for  $VO_2$ max. We recently completed testing of the U.S. All Around National Team. You should not be surprised that David Tamburrino (5th place in the World All-Around Championships last winter) and KC Boutiette (usually very successful in the longer in-line events and the only in-liner who has successfully made the transition to the ice) have very high values for  $VO_2$ max (>85ml/kg). KC, in fact, has the highest value I've ever measured in any human, skater or otherwise. As we have discussed in months

past,  $VO_2$ max is not the only thing that matters in speed skating. Technique is overwhelmingly important. Also, there are probably some important differences in how  $VO_2$ max measured during running or cycling is converted to skating. We all know that  $VO_2$ max skating is only a percentage of the running/cycling  $VO_2$ max. My suspicion is that some skaters get a higher percentage than others, but we don't have specific data on this (primarily because  $VO_2$  is ordinarily fairly hard to measure during skating). The next logical step in research is to use a similar technique to evaluate the aerobic possibilities during skating by doing a time trial during skating. Unfortunately, I don't have a big treadmill that will allow skating studies (field studies with air bags can be done but are pretty difficult technically). Maybe I'll be able to talk some of my better funded friends into doing the study, or maybe I'll win the lottery! 

*Reprinted with permission from the September 1, 1995 issue of Speedskating Times (Vol. 6 No. 6). Dr. Carl Foster is Director, Cardiac Rehabilitation and Exercise Testing, Coordinator, Sports Medicine/Sports Science USISA.*

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## HOW DOES THE FUNDRAISING WORK?

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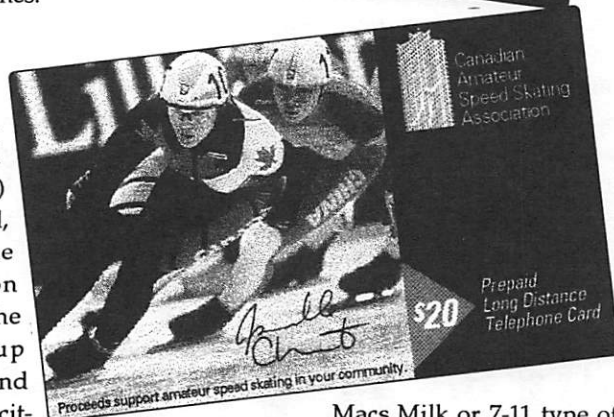
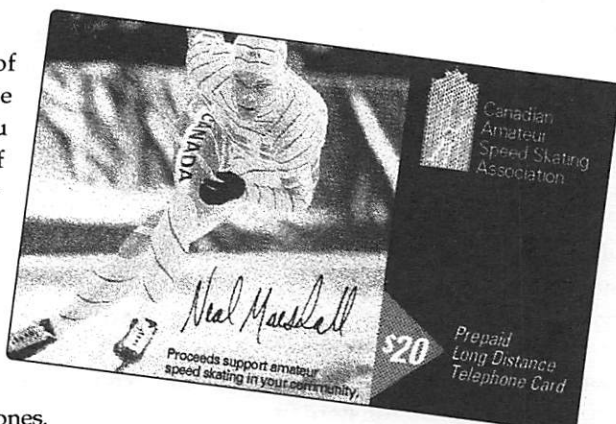
card features an exciting race photo of Olympic Silver Medalist and two-time World record breaker, Isabelle Charest. Each of these "must have" cards are autographed by the respective skater.

Ten dollars (\$10) from each set of Prepaid Phone Cards sold will go directly to the local club, while another \$5 is earmarked for the respective Provincial and National Associations.

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Macs Milk or 7-11 type of phone card. However, it is still a good value for the consumer!

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Each province had the choice to participate in this program. If your provincial association chose not to participate and there is interest in your club, please contact the Ontario Speed Skating Association at (416) 426-7010 or FAX us at (416) 426-7385.

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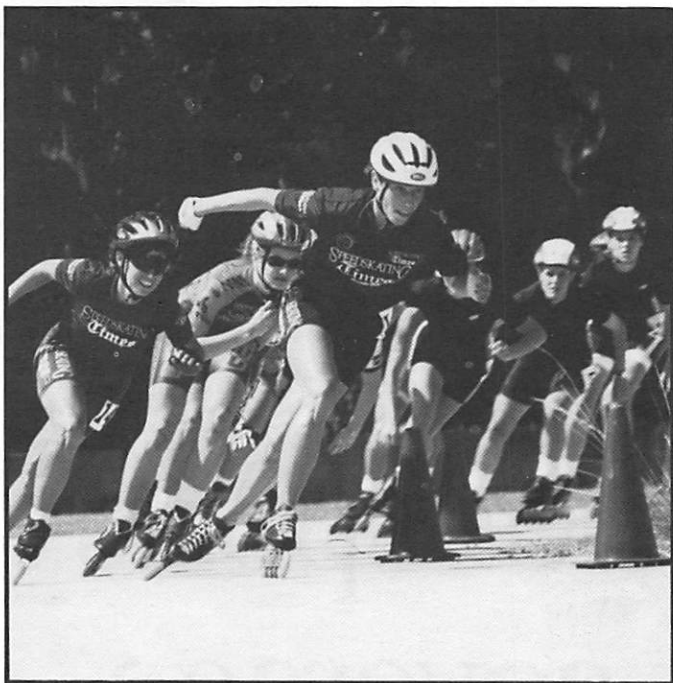
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## Cross-Training

(Resistance Training)

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In an effort to continue our appreciation of cross-training and its enhancing effects on performance during speed skating, we'll examine the benefits of, and reasons for, resistance training.

Strength and conditioning coaches for top-level athletic teams have known for many years the importance of muscular strength in relation to performance and injury prevention. Muscles which are exercised at their maximum capability to contract are more susceptible to injury and fatigue than those which are used at only a percentage of their maximum ability. An example of this is the fact that in the NFL, the injury rate is 100%, and professional football is an explosive, power-related sport. Professional runners, however, don't suffer as many (or as serious injuries), and their sport doesn't require the use of maximum muscle force.

### HOW STRENGTH WORKS FOR YOU

If your quadriceps (thigh) muscles are able to extend your lower leg (leg extension exercise) against a weight of 250 lbs for one repetition, you wouldn't do well in a test which required multiple 250 lb leg extensions; your muscles would be fatigued after only one repetition. However, if you were to attempt to perform the same test using only 150 lbs, your performance would be much better; in this test you would be working at 60% of your maximum.

As a muscle is exercised closer to its maximum ability to contract, it fatigues more rapidly. Therefore, your ability to effectively perform an activity is contingent, in part, on your muscular strength. If your quadriceps muscles are not sufficiently strong to allow you to maintain a low skating position (Fig. 1), you cannot develop a powerful, effective stroke. In order to develop your stroke, you need leg strength (attempting to skate in a low-seated position will cause fatigue to inadequately prepared muscles as they lack the strength necessary to support that position).

But if your legs aren't strong, how do you develop good skating technique? Well, that's the incongruity that arises; it's a vicious cycle: you can't learn to skate well without adequate leg strength and you can't develop functional leg strength during skating unless you're in the correct position for a prolonged period of time.

Fortunately, there are other ways (besides skating) to develop strength in the leg muscles. One method is resistance training (known to most people as weight training). Strength increases can be noted in as little as four to six weeks.

### WEIGHT TRAINING

Here is some general information regarding weight training for strength.

Weight training can provide you with several physiological adaptations including ligament and tendon strength increases and an increase in the mineral content of bones. These adaptations can reduce the chance of injury from training or racing. In addition, the increased strength provided by weight training can allow you to increase the intensity or duration of your workouts without fatigue setting in.

The major weight training exercises to perform to build leg strength include those specifically aimed at the quadriceps (the front of the thighs), the hamstrings (the back of the thighs) and the gluteals (the buttocks). The quadriceps and hamstrings are almost exclusively stabilizers (muscles which don't directly contribute to the desired resultant motion) during skating, while the primary mover muscles (resulting in desired resultant motion) are the gluteals. To convince yourself of which muscles are most useful, take a good look at a short track skater's physique; it will become readily apparent which muscles do most of the work.

**EXAMPLES OF EXERCISES TO IMPROVE THESE MUSCLES ARE:**

- QUADRICEPS:** Leg Extensions - Seated
- HAMSTRINGS:** Leg Curls - Prone (Face Down)
- GLUTEALS:** Hip Extensions (Leg Press)
- ALL THREE:** Squats Leg Press/Supine Squat

Concentrate on applying force with the heel of the foot; not the ball of the foot. If needed, get someone who knows the equipment you're using to show you how to do a hack squat with the equipment. This will focus the majority of the work on the gluteal muscles.

**WEIGHT LIFTING GLOSSARY**

**REP** (repetition): One complete movement of an exercise. One rep of a bench press would include lowering the bar to your chest and then raising it back to its original starting position.

**SESSION:** An entire weight lifting session would include all of the time spent in the weight lifting area, including warm-up, exercise (weight lifting as many sets as necessary for each specific exercise), and cool-down.

**SET:** One set of an exercise is a group of reps. One set of 12 reps means performing the exercise 12 times consecutively without resting in between reps.

**TIPS ON BEGINNING WEIGHT TRAINING**

When beginning weight training you can start by performing 10 to 15 reps of each exercise with a weight that you consider light enough to complete the 10 reps without straining, yet not so light that 15 reps is easy. This weight is usually selected by

trial-and-error and may need some refinement

Once you determine the correct weight to use for each exercise, you will probably use that same weight for several sessions. The indication that it is time to increase weight is when you feel that you can perform the required number of reps easily. At this point the weight must be increased in order to elicit a further increase in strength.

Key points to remember when weight training are:

- 1) For the first 2 to 3 weeks of a weight training program, 3 to 4 sessions per week usually result in greater gains than only 1 or 2 sessions. Afterwards, 2 to 3 sessions per week is adequate and will allow sufficient recuperation as you increase weights used and number of sets performed per exercise.
- 2) After 2 to 3 weeks, reduce to between 8 and 12 reps per set.
- 3) After 3 weeks, increase to 2 sets per exercise.
- 4) After 5 weeks, increase to 3 sets per exercise.
- 5) For maintenance of strength, some studies suggest that one weight lifting session per week is sufficient; results may vary between individuals.

Though all of this information may seem complicated, it is actually rather simple once you have done it a few times. The results are worth the effort; once you have

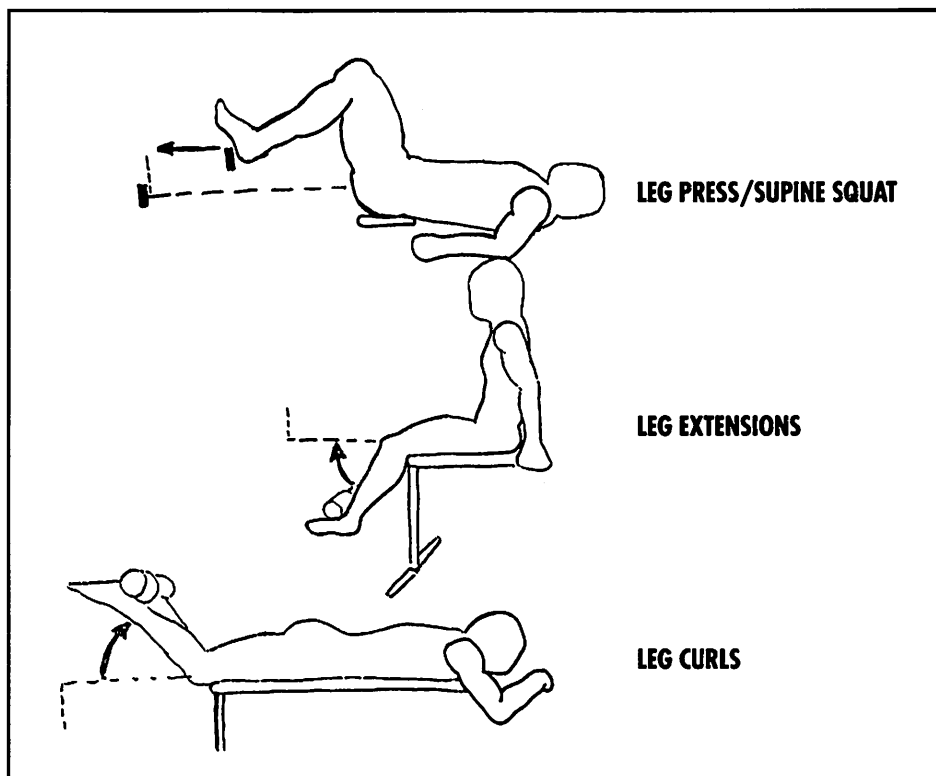
tried weight training, you will definitely notice the effects. You can monitor your progress by recording the weights used for each exercise, as well as the number of repetitions performed for each movement.

**WHAT TO EXPECT**

Functionally, during skating, your most noticeable change will come in a few weeks, when your ability to maintain a "good position" while skating will become apparent. You should be able to "sit deeper" (as long as you have used weight training to develop the muscles in the positions in which they will be used), and push harder after these first few weeks of training.

Don't be discouraged if you initially experience a week or two in which your performance doesn't improve. This is typical, and ordinarily a transient phenomenon. As your strength increases, fatigue should decrease, and performance should improve. Remember, a significant majority of the top athletes in sport today use some sort of resistance training in their daily routine; you can gain tremendously by mimicking a few of their "tricks".

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# Stubborn as a goat, temper like the southern winds

## *Clas Thunberg of Finland – The Greatest!*

by John Hurdis

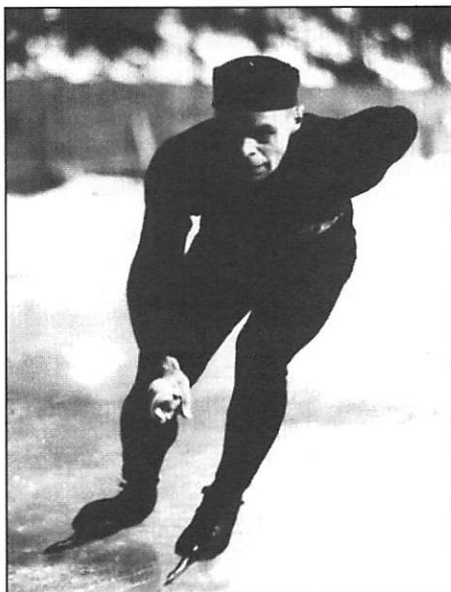
The Norwegians described Clas Thunberg as a “fighter, stubborn as a goat, fights like a bulldog, has a temper like the southern wind and has Finnish guts”, and due to this character he was suspended many times from international and national events.

Thunberg was born in Helsinki on April 4, 1893 and started his skating career when he was almost 19 years old. He entered the Finnish championships when he was 22 years old and a year later set a Finnish record. At 27 years old he won his first Finnish championship. Throughout his skating career he was his own coach and was a member of 5 clubs: Kronhagens Idrottsförening; Helsingfors Skridskoklubb; Sparta; Helsingin Luistelijat and the Helsingin Luistinkiihtäjät.

The name Clas Thunberg first appeared in the I.S.U. World Championships in 1922 when, in Oslo, Norway, he was placed 3rd in the overall standings. The following year in Stockholm, Sweden he won the World title. In 1924, at his birthplace, he did not place but the following year (1925) in Oslo he won his second World title with three 1st places and a 2nd place.

In 1927, in Tampere, Finland, he was the runner-up and for the years 1928, 1929 and 1931 he held the World championship title (his last title win was when he was 38 years old). He entered these championships in 1933, 1934 and 1935 but his best placings were in 1933 when he was 6th overall at the age of 40!

At the Winter Olympic Games in 1924 and 1928 he won 7 Olympic medals: 5 Gold, 1 Silver and 1 Bronze. One of the Gold medals was for an overall win in 1924, a practice that disappeared after that year. The 1995 edition of the “Guinness Book of Records” gives Thunberg the honor of winning the most speed skating medals in the Winter Olympic Games.



Between 1929 and 1932 he held four World records: the 500m (42.8) in 1929; the 500m (42.6) in 1931 (breaking his own time); the 1000m (1:28.4) in 1930 and the 3000m (5:19.2) in 1932.

In 1922 he entered the European championships taking the title for that year as well as in 1923, 1928, 1931 and 1932. In 1924, 1927 and 1929 he was the runner up. Thunberg entered the 1934 and 1935 Europeans but did not attain high placings.

When you look at 7 Olympic medals, 4 World records and 5 World and European titles you have to place him in the category of “The Greatest” in the pre-World War II era. Only the great Norwegian speed skater, Oscar Mathisen, equalled Thunberg’s wins for World titles, and he won only 3 European titles.

In 1926 Thunberg tried his hand at indoor (short track) speed skating in North America, but unlike his predecessor, the great Axel Paulsen of Norway who skated there in the mid-1880s, he did not fare so well.

In 1981 Arthur R. Goodfellow (a noted skating historian) wrote in his book, “The

Skating Scene”, that in 1926 “the Race of the Century” took place at New York City’s “Madison Square Gardens” between Clas Thunberg of Finland, World and Olympic Champion; Charlie Gorman of Canada, the North American Indoor Champion; and Joe Moore of the U.S.A., four times National Indoor Champion.

The competition drew 13,000 interested spectators the first night but Thunberg, like Axel Paulsen (Norway) back in 1883, used long outdoor blades and was unable to make the short indoor turns. He was beaten so badly by Moore and Gorman that it was practically “no contest”. On the second night of racing the public gave it very little support.

Outdoor (long track) speed skating was his forte, however, and while on the North American continent in 1926 he raced at Saranac Lake and Lake Placid, N.Y. “The Racer” (published by the Canadian Amateur Speed Skating Association) Vol. 8, No. 5 April/May 1973, recorded that “Thunberg still holds the North American records for the 6 lap track in the 660 yds. (52.4), the ¾ ml. (1:55.8), the 1 ml. (2:38.2) and the 1 ½ ml. (4:12.6) and he had also held the 880 yd. (1:15.2)”.

He married a lady named Alice (who is still living); they had two children. By profession he was a building contractor. After World War II the Government of Finland sent him on a tour to Norway, where he was very popular, to raise money to rebuild Finland. He also received an high decoration from the Government for his prowess as a sportsman.

Clas Thunberg was 80 years old when he passed away on April 30, 1973. He left behind him a legacy of speed skating achievements. 🏔️

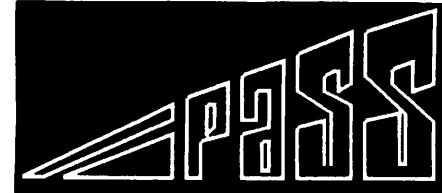
*Our thanks go to Sauli Pollari, the General Secretary of the Finnish Speed Skating Association and Arthur R. Goodfellow of Texas for giving us additional background data on Thunberg to prepare this article and to the I.S.U. for the use of the photograph.*

*John Hurdis has been involved in speed skating for over 51 years in Great Britain, South Africa and Canada. He is also a CASSA Hall of Fame inductee. He is the greatest historian of speed skating data in Canada and authored a history book about speed skating in Canada.*



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# The Evolution of the Short Track Skate

by David Kendall

In the modern era of short track racing, the elite skater uses a precision blade that provides him with the greatest speed possible without sacrificing control. Yet the creation of these state-of-the-art short track blades has been relatively recent; it was only two decades ago that one could use a short track blade for both short track and long track racing.

In these early days, the only major difference between short track and long track skates was in the length of the blades. Short track skates sported a shorter, more compact blade that allowed for better cornering. But time caught up with these simple skates, and as competitors and manufacturers searched for ways to make their skates quicker, this old skate soon became obsolete.

Among the first major developments to the short track skate was the placing of the blade slightly off center. Specifically, the blade was rotated a little to the left of where it had formerly been so that the blade now ran slightly diagonal to the center of the skate. Consequently, when one looks directly down a pair of short track skates, the blades can be seen to be pointing to the left ever so slightly. This improvement was combined with higher cups on the blades (cups being the vertical "pillars" that attach the blade to the skate) so that the distance between the skate and the ice surface increased. The net effect of these two developments was that a skater could lean more when cornering. This, in turn, allows one to go faster because an increase in speed is now offset by the better balance afforded the leaning skater.

A second key development in the evolution of the short track skate was the changing of the skate's construction and material. Initially, short track skates were made of a soft leather that fitted tightly to the skater's ankle, much like a glove fits a hand. Unfortunately, this type of construction did not lend much support to the skater's ankle. However, this problem was rectified by making the boot rise higher above the ankle and by using a

heavier leather in construction. These changes created greater support for the skater's instep and ankle (and this superior support is sorely needed by short track skaters who face very tight corners during their races).

However, the biggest change to the short track skate did not occur until the early 1980s. It was then that short track skating saw the introduction of a moulded skate boot that featured a specially designed, detachable blade. The prototype of this skate was designed and manufactured by Raymond Laberge of Ste. Foy, Quebec. The joy of this particular skate lies in its adjustable blade. While a skater can readily change blades on this skate, he/she can also (more importantly) adjust his/her blades' direction to his/her own liking. In effect, the skates become like custom-built skates; the skater simply adjusts the blades to the position best for his/her particular style of skating.

Many Canadians have won World Championships on this type of skate and most top skaters worldwide prefer this type of skate too.

While at the 1989 World Championships, I talked to Mike Allan, one of the few manufacturers making precision short track skates. Allan took me on a tour of his precision engineering plant, a plant that does only two things: custom engineering for personal clients and careful manufacturing of the popular Swift blades.


I asked Allan why he got into making short track blades. He responded that he had raced as a skater years before, but that he had left the sport to concentrate on running his own business. However, after his business became firmly established, Allan decided to return to skating, if only for personal fun and fitness. But Allan couldn't find any good blades on the market.

This was a problem easily rectified. Allan decided to use his precision company to make "Swift" blades, not just for himself but for anyone. The Swift blades soon caught on and today they are widely used.

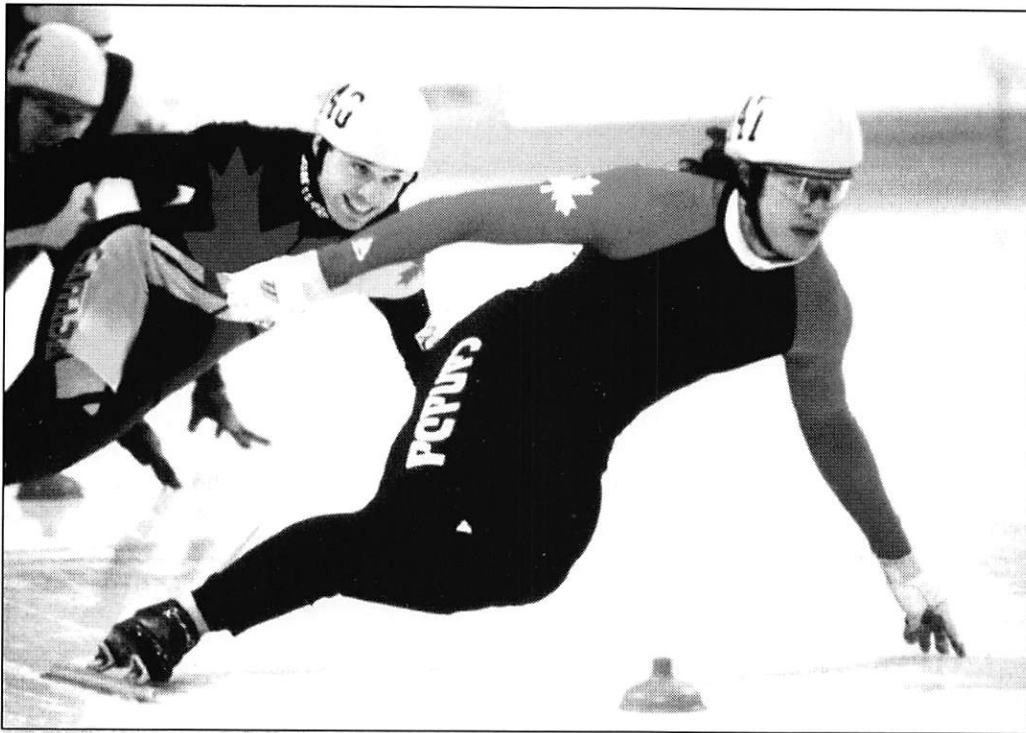
Swift blades are made of a bi-metal construction. What this means is that the blades are made of two metals put together one on top of the other. The bottom part of the blade, which is the part that glides over the surface of the ice, is made of a very hard metal. This metal provides excellent support for when the blade cuts the ice and glides forward. On the other hand, the top part of the blade is made of a softer, more pliable metal. This metal bends some when the skater pushes forward, giving him increased flexibility. Together both metals give the skater superior glide and increased flexibility.

It is obvious that today's short track skaters have access to skates that would make the skaters of old jealous. While newcomers can reap the benefits of over two decades of research and development without having to experiment on their own, it is important to remember that the latest in skate technology takes considerable time and skill to master.

With these caveats noted, it is also important to recognize that skate technology has indeed improved short track skating. Skaters are racing faster than ever before and World records are in constant danger of being broken. Undoubtedly, skate technology has been a major contributing factor to these faster times, and quality skates are becoming easier to find. There are at least four major companies making short track skates now: the aforementioned Swift of Great Britain, Chevron Aerosport (also of Great Britain), Bont of Australia, Pass of Great Britain and SK of Toronto.

This resurgence of skate manufacturing bodes well for the sport. One can only wonder what new technological innovations will arise in the future. But one thing is for certain: better skates will always make for better skating. 

*Reprinted from Skaters Edge, September 1989. Dave Kendall is a regular contributor to Skaters Edge. He has been involved in speed skating for over 30 years.*



## *A STRIDE AHEAD*

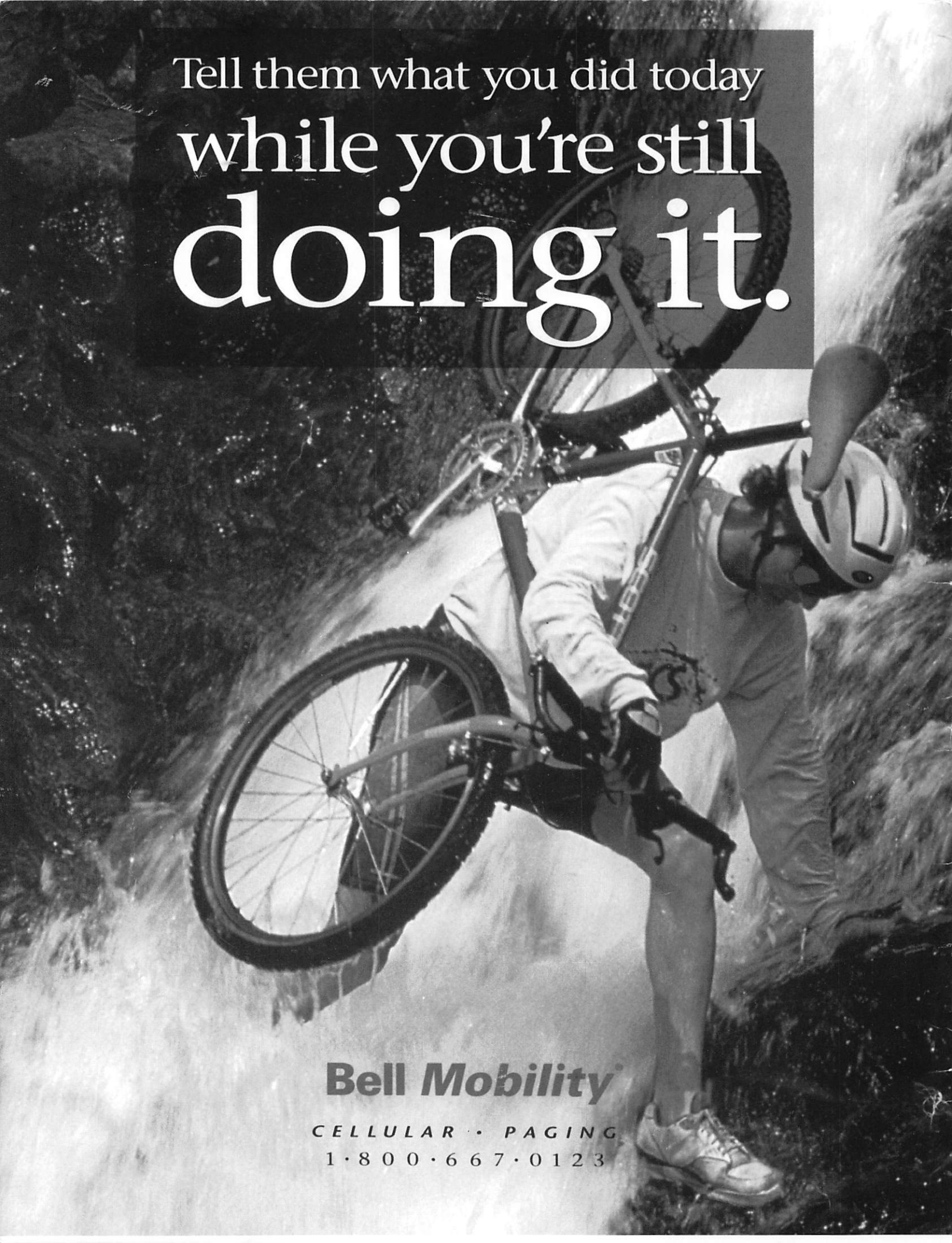
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