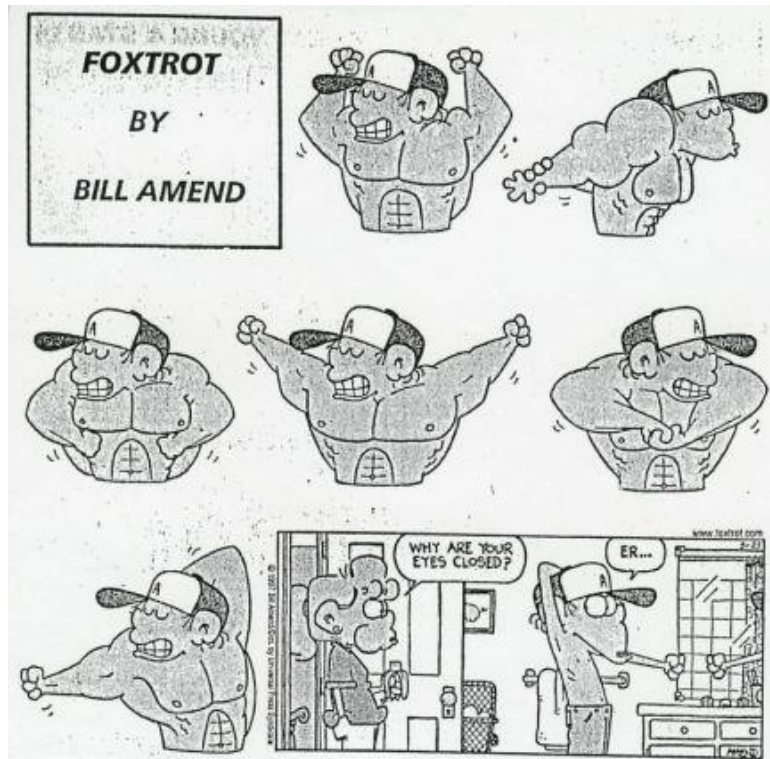


Training Young Athletes 16 and Up

By Susan Ellis



In this third part in the 3 part series on Training for Young Athletes we'll have a look at what the needs of the 16 and up group are. If you haven't read the first 2 parts, Training Young Athletes Under 12 – May 2008 and Training Young Athletes 12-15 Year Olds – June 2008, I suggest you do so now as it will give you a better understanding of the basis for this article. For those of you who haven't yet read [Find Your Edge](https://sportforlife.ca/wp-content/uploads/2018/01/SpeedSkatingLTAD.pdf), (<https://sportforlife.ca/wp-content/uploads/2018/01/SpeedSkatingLTAD.pdf>) I suggest you do that now too.

Hopefully the formative years in a variety of sports have laid a great foundation for you to build on in terms of aerobic endurance (aerobic capacity through long runs, cycling, other sports, and aerobic power through interval training and other sports), strength through free body weight exercises and an introduction to free weights, speed through sprint training and other sports, and agility, balance and coordination through other sports and fun drills.

Now it's time to get a little more serious and start doing more sport specific skating training, that is, if you really desire to become a national or world class speed skater. This doesn't mean that you need to drop all your other sports, music, social, school, or other activities and spend all your time as a speed skating hermit. That would be really unwise and not good for your overall development as a person. It just means you may need to take a hard look at the amount of time required to become a top notch athlete and start to pare back a bit on your other activities. It's called 'making choices'. Hey, not

everyone WANTS to be a top athlete, nor does everyone have the ability to be a top athlete. And that's OK. You are a person first, and your choices should reflect not only your ultimate ability, but also your desires in life. Some athletes with great talent decide they really don't want to spend the time training. And, there are many top class athletes who, at 16 really did not display the talent to become great, but heart, desire, and dedicated training took them to their dream goal, so don't give up just because you may not be the best in your class right now.

Again, it is very important to keep in mind that not all 16 year olds are alike in development. There could be as much as a four year difference in the physiological maturity of two 16 year olds (one of the reasons I've always disliked the age class system and been a big fan of ability competitions). A 16 year old with the physical maturity level of a 14 year old should not be expected to do the same things as a 16 year old in an 18 year old body. Parents and coaches need to be very careful not to overload those kids who are a little behind in maturity level to avoid injury or burn out. By the same token, athletes who have been ahead in sports because of advanced maturational development should not get discouraged when others start catching up to them.

Also of note is that girls tend to be ahead of boys in their physiological maturation rates, so girls, in general, can start to bump up some of the more advanced training modalities earlier than boys.

Kids up to the age of puberty are gifted with natural endurance. They can run and play forever it seems. But somewhere around puberty they start to lose this natural ability and it must be trained and trained specifically. Playing a soccer game where there is a lot of stop and go activity is not the same as developing the cardiovascular network needed to support aerobic power programs, lactic programs, and general recovery. Doesn't mean you need to give up soccer, because it's still great for developing aerobic power, speed, and agility, but you will not be able to sub an entire aerobic capacity workout for a soccer game. It might mean an extra 30' of running after the game to complete the program.

Young kids also have poorly developed anaerobic systems (high intensity, duration under 1-2 minutes), which is why, when they play, you will see them take frequent small breaks when playing games involving sprinting. As the athlete goes through puberty their ability to develop this system increases and it must be trained. Again, although sports like soccer do take care of some of this system, it doesn't take care of all of it, so specific work to maximize it (depending on maturation level) needs to take place. It is very important to lay the groundwork for the anaerobic system first though before moving on to the anaerobic development later on in the season. Aerobic capacity and aerobic power programs are still the priority during the summer training, while anaerobic training becomes more of a focus during the skating season.

The optimal window of trainability for strength for girls is immediately after they reach full height (PHV: peak height velocity) or when they start having periods, while for boys

it is 12 to 18 months after PHV. Up until this time younger or less mature athletes should have been doing some form of free body strength training and learning how to do strength training with dumbbells and barbells using light weight and high repetitions. Once you reach your ideal strength training window you can start using heavier weights and less reps, but ONLY with proper technique and proper supervision. If you CHEAT on your technique to lift more weight so you can look like the macho man (or woman) of the gym, you are cheating yourself, and sorry, but you are WASTING YOUR TIME! Learn to do it properly and you will be so much stronger and further ahead. Until you reach peak height velocity reps should remain above six to avoid injury. Once PHV is reached you can start bringing the reps down even more.

The key to a good strength training program (or any program for that matter) is variety. You need to train the different components of strength needed in speed skating – strength endurance, maximum strength and power. If you just do the same old program of 10 reps, using the same old exercises every session, you will increase strength to a certain point and then reach a plateau. An experienced weight trainer can help you design a program which varies the reps, tempo, rest, and exercises to help you continue making strength gains. If your trainer is giving the same old every day, then find a new trainer!

Strength training exercises should always use a full range of motion, not only to promote strength over the entire muscle, but for increased flexibility. So squats should be done to where the bottom of the ham string touches the top of the calf, bench press brought down to the sternum, calf raises down so the heel is lower than the toe, etc.

This is also a good time to start using Techni-Cords™ for specific strength training as well as continuing your technical training on them. (See Specific Strength, Power, Endurance – Part 1 – Straightaway – May 2006, Specific Strength, Power, Endurance – Part 3 – Corners – July 2006 and Specific Strength, Power, Endurance – Part 4 – Starts – August 2006 for specific Techni-Cords strength training). While seat belts and other non-stretch training devices do work to develop strength, the movement is not as specific in terms of direction as Techni-Cords. Turn cables are too flimsy to give the adjustable resistance that Techni-Cords do. The Japanese National Team has recently started using Techni-Cords simply because they work better than other devices and have more applications than other things (straights, corners, starts, lay ins).

All kids love to jump, and they do it as play. But formalized jump training in volume should be avoided until athletes reach their peak height. That's not to say you can't do some jump training but you need to be careful of how much you do as you are growing to avoid injury to growth plates.

Jump training (plyometrics) helps develop explosive power needed for starts and high intensity sprints. Jump training can be done in combination with weight programs or as a stand-alone program, and can be done in skating position, or using boxes or jumping over implements.

Also in this phase, more time is dedicated to developing strength and specific muscular endurance in the skating position using skating imitation programs, inlining, slide board and as mentioned above, Techni-Cords programs.

Flexibility work is extremely important through the growing years (and forever after until death do us part) to avoid injury and to maximize performance (see Flexibility Training – May 2007). The difference between you and “Buddy Touchhistoes” winning a race could be that Buddy can actually touch his toes and you can’t. Bummer, eh.

It is impossible (and dangerous) to write out a program here that would apply to all skaters in this phase as there is such a variety of maturity levels. Programs in this phase need to be individualized to suit the needs and maturity level of the athlete. Summer Training – May 2003 gives you an outline of the periodization of summer training for older athletes, while Building Endurance – October 2007 goes into how to train the different energy systems.

During the early part of this phase skaters may train up to six days a week, one time per day. As the athlete matures the training can gradually be ramped up to twice per day, 6 days a week. One rest day per week is essential for recovery for even Olympic athletes.

A typical week in the early part of the summer training season (April-May) may look like this:

Mon	Tues	Wed	Thur	Fri	Sat	Sun
Weights	Run 60' or cycle 90' P= max - 60 + flexibility	Weights	Run 60' or cycle 90' P= max - 60 + flexibility	Weights	Run 60' or cycle 90' P= max - 60 + flexibility	Off

A typical week in the middle part of the summer training season (June to late July) may look like this:

AM	Weights	Run 60' or cycle 1.45' P= max - 50	Weights	Include in WU: sprints: 5 x 10" r2' R6' Imitations @ 80% intensity: 2 x 6 x 1' r1' R5' + 30' jog	Run 60' or cycle 1.45' P= max - 50	Include in WU: 4 x 100m accels Run or cycle (on flat) 3 x 10' r5' Pulse and intensity is max you can sustain for entire 10'	Off
PM	Technical imitations 6 x 2:15 r2' + 30' jog	Flexibility	Easy 30' recovery run		Easy 30' recovery run	Flexibility	

A typical week in the latter part of the summer training season (late July to mid Sept) may look like this:

AM	Intervals: 2 x 6 x 30" r30" r6' High intensity imitations/ Techni-Cords power/ skating jumps	Run 60' or cycle 2 hr' P= max - 50	Weights including Techni-Cords strength	Include in WU: sprints: 5 x 10" r2' R6' Skating imitations or jumps @ 85% intensity: 2 x 6 x 2' r5' R8' + 30' jog	Weights including plyo jumps	Include in WU: 4 x 100m accels Run or cycle 3 x 12' r5' or 5 x 8' Pulse, intensity, cadence is max you can sustain for entire 10'	Off
PM	Easy 30' recovery run	Flexibility	30' high intensity run		Easy 30' recovery run	Flexibility	

Remember! Each athlete is individual so this is not the gospel!

Sit down with your coach and design a program that will help you to maximize your performance, not only this year, but in the years to come. It's a long road to the Olympics (or whatever level you are going to) but the right training can help you get the most out of your potential in each step along the way.

If you don't have a coach who is capable of writing a program for you try to find a coach in your area in another high level sport who may be able to help you out. (Sorry folks, I can't do this for you as I am already swamped with camps, clubs, and writing these monthly tips!)

Hope you have found this series helpful to your training!

Next month – Sue takes a break! Not really, but with summer camp season here I'm gonna be hopping so tune back in September for more ☺