

The American Development Model--Summary

The American Development Model (ADM) is a blueprint for optimal athlete development that focuses on age appropriate training.

Problem

The current “system” of player development and competition is one that was put together in an ad hoc manner over many years, without the benefit of scientific research in kids’ development. This system has the following problems:

- 1) Too many games—our young athletes under-train and over-compete.
- 2) Adult competitive models, which include an emphasis on winning and expensive competition, have superseded skills training and age-appropriate player development.
- 3) The “critical” or “sensitive” periods of accelerated adaptation to training are not utilized.
- 4) Practice methods that emphasize an entire ice sheet per team harm player development and needlessly add to the sport’s expense.
- 5) Highly competitive selection processes eliminate late developing kids from the player pool prior to reaching their full potential.
- 6) Recreational hockey is short-changed in favor of expensive, high-level competition.

Solution

The American Development Model was created by USA Hockey as a way to solve these problems. The ADM is based on the principles of Long-Term Athlete Development (LTAD), originally developed by Istvan Balyi, an internationally recognized coach educator. The LTAD model links the development of players to their physiological and psychological growth.

The ADM is based on 10 principles, several of which I summarize below.

Ten Year—10,000 Hour Model

It takes years of practice to become an expert performer in any area. This concept is sometimes referred to as the “ten years” or “10,000 hours” rule, which describes the amount of practice needed to achieve true proficiency in any sport or activity.

What this means for hockey? USA Hockey has developed season and individual practice plans that are designed to increase the number of repetitions kids get in all hockey related skills.

FUNDamentals

All sporting success begins with the fundamental *skills of movement* and *core sports skills*. The fundamental movement skills include Agility, Balance, Coordination, and speed (ABC’s) and the fundamental sports skills include running, jumping, skating, and throwing. Research shows that kids who have both *movement* and *core sports skills* increase their chances of success in sports and are more likely to lead healthy adult lifestyles.

What this means for hockey? The ADM encourages kids to play multiple sports, especially at younger ages, thereby improving their overall athleticism. In the middle-teen years, as kids focus exclusively on hockey, they will improve more quickly and play at a higher level because they are better developed, more well-rounded athletes. The ADM seeks to develop the athlete first and the hockey player second.

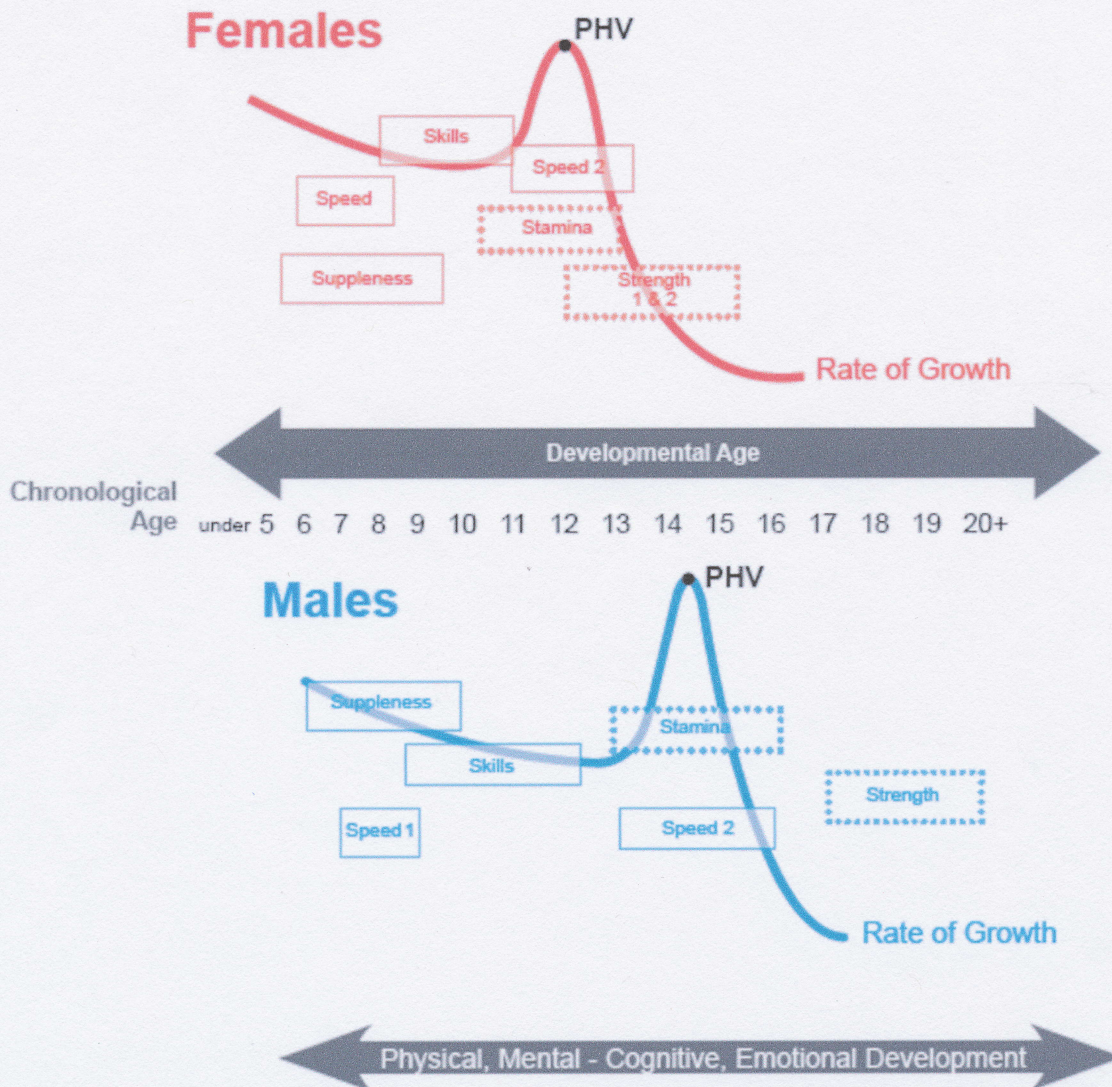
Specialization

Sports are classified as early specialization or late specialization. An example of an early specialization sport is women's gymnastics, where girls hit peak performance in their teens. Like most contact sports, hockey is a late specialization sport and kids don't reach their full potential until full growth maturity. Early specialization (focusing exclusively on one sport) in a late specialization sport creates unbalanced musculature, increases the chances of burnout, and causes a premature performance peak.

What this means for hockey? The ADM encourages kids to become well-rounded multi-sport athletes. Athletes are also encouraged to take two to three months away from the sport every year to prevent burnout.

Windows of Trainability

There are "windows of opportunity" or "receptiveness" during a child's growth for the development of speed, suppleness (flexibility), skills, stamina, and strength. Missing these opportunities will significantly and negatively affect a child's ability to reach their full potential. The graph below depicts a child's developmental age across the X axis (from left to right).



The solid red lines depict female and male growth rates in centimeters per year. As you can see, females hit their Peak Height Velocity (PHV)—the largest number of centimeters in height they add per year—around age 12 and boys achieve PHV near age 14.

Each box represents a critical window of opportunity—a period of time where that particular physical capacity can be developed fastest and most thoroughly.

There are critical windows of opportunity for acquiring the attributes of speed 1 (quick twitch speed, first two steps-speed), suppleness (flexibility), skills (passing, stickhandling, skating, shooting), strength, stamina, and speed 2 (multiple strides). You can also see that these windows differ slightly for boys and girls.

This is very similar to the learning process for a second language. Research shows that the “critical window” of opportunity for learning a second language in childhood, prior to age 12. Although adults can learn a foreign language, but the process is typically much more difficult and time consuming. Why is this so? The language centers of the brain become set after puberty and lose the flexibility needed for easy learning.

Similarly, for example, it's easiest to learn the hockey skills of skating, passing, stickhandling, and shooting during the window of trainability (approximately 8 to 12 years of age). After that, the brain becomes more set and further development of these skills is more difficult and time consuming.

Although kids can improve in a particular physical attribute outside of the window of trainability, doing so requires more time and effort and the attribute is rarely acquired to the same degree that it is if learned inside the window.

What this means for hockey? Coaches are encouraged to develop season plans and practice plans that focus on the particular physical capacities that are most trainable for his/her kids. For example, when coaching eleven year-old boys or girls, coaches should focus heavily on basic hockey skills, including stickhandling, passing, skating, and shooting because these skills are most easily acquired during this period. When coaching six, seven, and eight year-olds, coaches are encouraged to employ practice plans that emphasize quick changes in direction (speed 1).

In addition, coaches working with kids in the skills window (9-12 years-old for boys and 8 to 11 years-old for girls), should reduce the number of games in favor of practices. The repetition necessary for skill development is far easier to acquire in practices than it is in games.

For more information on the American Development Model, click through the various links on this Web page. Also, the Level 1, 2, and 3 Coaching Manuals include a complete description of the American Development Model and Long-Term Athlete Development.

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