

## Coaching & the Female Athlete Triad

By Mark Lonsdale

No, the *Female Triad* is not some secret Tong society dedicated to the athletic domination of their inferior male counterparts. But if you are a coach, you should know what this is and how it can impact your female athletes.

So beginning with what some coaches already know – females are different from males; and yet in judo we tend to train boys and girls (men and women) together as one homogenous group. This is actually one of the positive aspects of judo training. In most cases, judo students of both sexes will naturally gravitate to working out with training partners of a similar size, weight and strength, but not necessarily the same gender. It is often up to the instructors to mix-and-match pairs so that their judoka have the opportunity to test themselves against stronger opponents; and to build their confidence or hone their techniques against weaker ones.

Also understood are the obvious physiological differences between females and males, in that the fairer sex genetically has less upper-body strength, particularly in the arms, back and shoulders. While skeletal muscles make up approximately 36% of women's body mass, they account for 42% in men. On top of that, the male ego continually strives for more muscle mass, exemplified by the often voiced, but seldom achieved quest for "bigger guns" and "six-pack abs."

Developing greater upper-body strength has always been a challenge for females with aspirations of becoming firefighters or police officers, particularly if they wish to make elite units such as the SWAT team. In most cases they must undertake a strict pre-academy resistance training program just to make the minimum required standards.

But female athletes have been successful at developing the required strength for other endeavors. Female Olympic sprinters and speed skaters develop massive thigh muscles, while competitive swimmers invariably have excellent shoulder and lat (*latissimus dorsi*) development. But those wishing to compete successfully in judo require above average abdominal core and upper-body strength. Granted, much of the power in a throw is generated in the legs and calf muscles, but grip fighting and grappling require significant grip and arm strength. As they say, "no grip – no throw."

In very basic terms, that covers what some coaches already know. But there are three conditions unique to female athletes that are not as well known or understood by male coaches. These three interrelated medical conditions<sup>1</sup> have been termed the "Female Athlete Triad."

They are:

1. Disordered eating & Energy deficit
2. Bone loss & Osteoporosis
3. Menstrual disturbances / Amenorrhea

### EATING DISORDERS

Eating disorders and the resulting energy deficits are two of the most serious concerns for female athletes. At the extreme, eating disorders can be manifested as *anorexia nervosa* & *bulimia nervosa*.

Simply not eating, or immediately throwing up what one does eat, can have serious consequences for any female – not just athletes. These include decreased bone mineral (calcium) density; gastrointestinal problems; cardiovascular abnormalities; and psychiatric problems such as anxiety, depression, and even suicide. Female athletes who consume fewer calories than they

expend inhibit their potential for optimal growth and reduce their capacity to reach maximum peak performance.

As a result, coaches must be very careful how they address issues of weight or appearance, particularly in weight-classification sports such as judo and mixed martial arts (MMA). Apart from the obvious health issues, drastic cuts in bodyweight can also result in loss of muscle mass, strength and endurance.

As with too many other segments of modern society, the number of overweight and obese girls is on the rise. Recent statistics indicate that nearly half of girls aged 12 to 19 fall into this category. These girls are confronted by cruel social discrimination in the form of taunting, ridicule, and isolation. Combined with the psychological, social and physical health costs, they are too high for anyone, much less a child or teen, to have to pay.<sup>2</sup>

### **BONE LOSS**

As discussed above, from an athletic perspective eating disorders can adversely affect performance and result in loss of bone density. A dietary deficiency in essential vitamins and minerals, such as calcium, increases the possibility of sports related injuries, breaks and fractures. Even worse, disordered eating and menstrual dysfunction are common risk factors for *osteopenia* (condition) and *osteoporosis* (disease), where bone mineral density is lower than normal.

It is important for a coach to know that the critical years for maximizing bone mass density start with the pre-pubertal and pubertal stages, and extend into the early twenties. Energy deficits during this time can lead to impaired bone mineral density acquisition and increased risk of stress fractures.<sup>3</sup>

Of further importance, sport is not only for the young. As women get older, if they maintain a healthy level of physical activity and get the required calcium, they can stave off the onset of *osteoporosis* – more so than those that have never learned the value of exercise and are totally sedentary.

### **MENSTRUAL DISTURBANCES**

The less evolved Neanderthals of our species are apt to make jokes about the changes in the female personality (PMS) during the menstrual cycle, without realizing that menstruation has a very real impact on female athletes.

For some young girls and women, their menstrual period can pass all but unnoticed, but for others it can cause serious discomfort, cramps and mood changes. High performance athletes can also experience a menstrual dysfunction known as amenorrhea – the absence of menstrual period in women of reproductive age, brought on by low body fat, low caloric intake and training intensity.

This also has a lot to do with very low percentage body fat as that is what helps produce the required hormones for a normal cycle. Interfering with this, especially with females who are sensitive to thyroid deficiencies can trigger thyroid dysfunction which affects their whole metabolism.

Considering the complexity of these interrelated conditions, it is highly recommended that there be a female coach in every judo club and on any team with young female athletes. This is of greater importance with pre-teens and teens that will be more comfortable confiding in a female coach. Consider the girl who gets her first period during a practice and is wearing a white judogi – if this situation is not dealt with carefully it may be the last time she steps on the mat.

However, there are situations where male coaches find themselves coaching female athletes. This happens at both the local and national levels in judo; and especially with high performance elite females competing on the international circuit.

## RECOMMENDATIONS

Coaches must:

- Develop training programs for female athletes that reflect the physical and physiological differences between males and females.
- Understand that weight gain is a normal part of puberty and adolescence, and that female athletes may feel self-conscious about their bodies.
- Communicate to their athletes that optimal health is required for optimum performance and to reduce lost training time. This requires healthy eating habits and a sensible approach to weight management.
- Develop programs and information to dispel misconceptions about body weight, body composition, and athletic performance. For female athletes, attempting to look like an emaciated runway model would seriously degrade their health and performance.
- Understand that females involved in endurance sports, such as long distance running, and weight classification sports, such as judo and MMA, can feel pressured to drop pounds to reach unrealistic body weights. They will often perform best in the weight class closest to their genetic predisposition.

Finally, it is appropriate to reiterate that coaching females in judo is different from males. According to Sandra Hewson, an active competitor and development coach, females have different kinds of drive, needs, and values in their quest to succeed. They may like to be tough, but when they get off the mat they need to know that they can dress up and still be a princess. It needs to be okay for them to have muscle definition in their arms and shoulders and still wear that sexy strapless dress.

*Sections of this article were drawn from a paper generated by Coaches BC (British Columbia)*

<sup>1</sup> Hobart & Smucker, 2000

<sup>2</sup> Tucker Center, 2007

<sup>3</sup> Coaches BC

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*Special appreciation to Sandra Hewson, BSc (Hons) Sports Science, for her proof-reading and insights. Sandra has a Masters in PE and Human Kinetics; is a Competition Development Coach; and is a member of the Canadian Judo Team to the 2012 Commonwealth Games*



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Editor's Comment:

*In addition to judo activities, I have been a middle school teacher for many years. Among other science topics, I teach a Grade 8 unit on Human Development and Reproduction. I started a Cross-Country (running) program 15 years ago that now attracts 80-100 5th-8th graders each year. I also have a daughter who left judo at age 15 and returned in her early twenties.*

*Because of this, I have seen the complex issues of puberty and adolescence up close and personal. Both boys and girls are changing physically, emotionally and intellectually, sometimes at a rapid pace. While they share common concerns of social acceptance and feeling awkward, there are gender-specific ones as well. Added to that are the difficulties experienced by early and late "bloomers."*

*For male athletes, the changes of puberty are generally positive: increased height, muscle mass, and therefore performance. "Early bloomers" experience a boost in self-esteem from improved sports performance (and popularity with the girls!), but this can be temporary and lead to frustration later on. "Late blooming" boys can experience a great deal of anxiety as they wonder if they will ever catch up to their peers.*

*For young female athletes, the story is quite different. While they gain some muscle and strength, the necessary increase in body fat for becoming reproductively mature can be detrimental to performance in activities like gymnastics, dance, track, and of course, judo. Added to that is an increased emphasis on physical appearance and of course the inconvenience and discomfort of menstrual cycles. "Early bloomers" have the most difficult time, and may quit sports altogether. "Late blooming" girls usually continue to excel in athletics, but because of the payoff for postponing puberty, the danger of developing an eating disorder at this age is quite high.*

*Sadly, adolescence is also a time when we lose students in judo, and especially girls. While this may be partly due to the natural tendency of young people to turn their attention to new pursuits, if we can provide a consistent, positive environment in the dojo while adolescents are struggling with all of these changes, we might have a better chance of retaining them. Attending to their social needs doesn't hurt, either!*

--Joan Love, Vice-President, USJA; Editor, *Growing Judo*