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SPINE & SPORTS: Female Athlete Triad syndrome can lead to serious health consequences

When an athlete takes in too few calories to meet their energy needs, this relative energy deficiency sets in motion a metabolic breakdown process that leads to serious health consequences. Young female athletes are most vulnerable. Energy deficiency in a young female athlete will affect immunity, bone strength and the ability to repair from the stress and strain of exercise. Researched for more than 40 years, there are three entities - disordered eating, loss of menstrual cycle and subsequent bone loss - that are the hallmarks a syndrome called the "Female Athlete Triad" or simply, "the Triad." All female athletes should be screened for the Triad.

Dysmenorrhea or amenorrhea are the first clues that the Triad exists, but usually signs and symptoms and the resulting health consequences are not always obvious. A history might reveal disordered eating such as binge dieting, as well as frequent cycles of weight gain and weight loss, psychological issues such fear of weight gain or family-related stress, or social issues such as living in an abusive environment. Young female athletes with the Triad have symptoms that can include frequent dizziness when arising from a sitting or bent-over position (orthostatic hypotension), chronic or persistent joint pain, recurring injury or an inability to fend off illness.

Calorie deprivation, even without any eating disorders, will alter hormone levels, menstrual cycles and bone development. Female athletes suffering with the Triad might reveal growth of hair on the arms and back on physical examination, or experience cold or discolored hands and feet. Routine blood tests are often normal, so when the Triad is suspected it is necessary to evaluate hormone levels such as follicle stimulating hormone or luteinizing hormone, both of which affect the menstrual cycle. If the athlete has a history of stress fracture, then a bone mineral density test should be performed to rule out osteoporosis and vitamin-D deficiency must be corrected if found (vitamin-D is a hormone, not a vitamin).

Unlike their male counterparts, girls and young women suffer more from eating disorders such as anorexia, bulimia and binge dieting, and they struggle more with body image perception often fueled by media hype or expectations of leanness relative to their sport, e.g., gymnastics as opposed to Olympic lifting. When psychosocial signs are present, mental health counselors should be utilized to help, since it needs to be understood whether the Triad is solely a nutrition imbalance issue or a mental health issue. While goals to restore regular menstrual cycles and bone strength are important, tending to the mental health of the athlete is the key to preventing the Triad. One must find and work with a skilled mental health professional.

Since those athletes at greatest risk often exercise for prolonged periods, restrict their food intake, are vegetarians, and typically narrow the diversity of foods they eat, a nutritionist should also be considered as part of the health care team. Coaches, family members and even close friends can offer help and support in keeping the athlete on the right path to recovery so they can stay in their sport. Sports chiropractors can address pain or injuries and help the athlete feel better.

We want our female athletes to experience the joy of their sport. There is no substitute for a thorough history and physical examination by a doctor who understands their unique needs, who can screen and help prevent the Female Athlete Triad syndrome. This will enable them to stay fit and vital well into their later years.

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