

Female Gymnasts: Older and Healthier



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Few who watched women's gymnastics during the 1996 Olympics will forget 18 year-old Kerri Strug's agonized face as she "stuck" the landing of her final vault. Her vault helped the United States win its first-ever gold medal in team competition, but also injured Strug's ankle, and renewed concerns about the effects of elite gymnastics on young women's bodies.

In a recent rule change, the International Gymnastics Federation, the group that governs international gymnastics competitions, responded to the persisting concerns in this area. As of January 1, 1997, FIG raised the age eligibility by one year, so that female gymnasts now must turn 16 the year they compete at the senior international level.

An Aging Debate

The age of female gymnasts has been an issue in the sport for 25 years. Jackie Fie, who helped found the American women's gymnastics program in the 1960s and is president of FIG's women's technical committee, recalls that the age threshold was 14 in the 1970s and changed to 15 in the 1980s. The present limit, she says, has been discussed since 1988 and was actually approved by FIG in 1994. Fie, who lives in Jefferson, Iowa, says the change was prompted by many concerns, including the musculoskeletal development of young competitors, lengthening gymnastics careers, preventing burnout, and in order to redirect the image of the sport positively for the public, spectators and media.

The health issues in women's gymnastics were noted in an article published in *The New England Journal of Medicine* on the eve of the 1996 Summer Olympic Games. It cited the female athlete triad as one problem, but also described "the accumulation of minor physical insults that can result in permanent injury or deformity. These injuries include stress fractures; growth-plate fractures; wrist and elbow injuries; spinal injuries such as scoliosis, spondylolysis, and spondylolistesis; and reflex sympathetic dystrophy."

Michel Leglise, a member of FIG's executive committee and chair of its medical commission in Paris, says that musculoskeletal problems were important considerations in the rule change. "The period when (gymnasts) are at the top (as competitors) is also the time when their growth is not finished, and the cartilage is not completely structured; it means a certain fragility for the articulations," he stated in a letter to *The Physician and Sportsmedicine*. "We know that one more year for the maturation of the skeleton is appreciable."

Aurelia Nattiv, MD, says the age change may have psychological benefits, especially regarding body image issues. Nattiv, a team physician for gymnasts and an assistant professor in the division of family medicine and orthopedic surgery at the University of California, Los Angeles, has been helping develop the Athlete Wellness Program for USA Gymnastics, the governing body of American gymnastics. She says, "For years the picture of the elite female gymnast was the pencil-thin, prepubertal, smaller ideal," which promoted

eating disorders among gymnasts. Increasing the age and expanding the wellness program, she hopes will help "foster healthier gymnasts by creating a more realistic body figure" as the ideal for girls at all levels of the sport.

Will the Change Help?

But Bert R. Mandelbaum, MD, thinks a 1-year change alone is not enough to make a significant difference in the health risks for gymnasts. "If you went to 17 or 18 years old, you might see a sizable difference," he says. Mandelbaum, physician for US Soccer and orthopedist with Santa Monica Orthopedic and Sports Medicine Group, says gymnastics injuries are often less a matter of age than of training hours. "About half or more of the injuries occur during practice, and we know that gymnasts who train more than 16 hours per week are at a higher risk of problems, including physical and psychological burnout."

Larry Nassar, DO, medical services coordinator for USA Gymnastics and fellow at the Michigan State University Sports Medicine Clinic, in East Lansing, Michigan, believes that FIG's age change will help reduce injuries because gymnasts will get more training before reaching the highest levels. "We won't be pushing so hard for our athletes to become elite level gymnasts at such as early age," he says. "It should increase their longevity." Nassar says that gymnasts can expect a long, healthy career if they master basic skills and train to prevent ankle, wrist, and back injuries through exercises like those used in the USA Gymnastics national training program.

The U.S. women's gymnastics program has taken considerable criticism regarding the sport's effects on competitors' health, Nassar says. After the 1992 Olympic Summer Games, he says, the media criticized the program for "pushing the girls beyond their maturity level to perform skills that may have been injurious to their bodies." Nassar believes such criticisms are unfair and cites research that supports the wellness and normal physical development of elite gymnasts. He also sees positive trends in recent years. "We've done a lot in the last 4 years to enhance the wellness of our athletes so that they're able to last as long as they have." As evidence, he notes that 5 of 7 U.S. women gymnasts in Atlanta were of high school age or older, and 3 were repeat Olympians.

Mandelbaum and Nattiv agree with Nassar's assessment. Mandelbaum sees "an increasing move afoot to make coaches, parents, and athletes aware of essential training and competitive factors." Nattiv notes that an advisory board under the aegis of the USA Gymnastics Athlete Wellness Program has been assigned to promote wellness education and develop a national referral network of specialists in "athletic training, nutrition, psychology, and medicine that will be available as resources for gymnastics clubs and coaches."

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