

The Female Athlete Triad

Paige Anderson, Emilee Autry, Emma Vaughn
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Significance Statement

Are female athletes who have developed the female athlete triad, compared to those without the female athlete triad, at more of a risk for developing injuries throughout their career?

P: Female athletes

I: Female athlete triad

C: Without female athlete triad

O: Injuries

Key Methodology

- A controlled cohort study that evaluated the relationship between the triad risk assessment score and the sports injury rate by collecting data from questionnaires, surveys, and the Female Athlete Triad Cumulative Risk Assessment.¹
- A controlled cohort study to examine whether the Triad increased the risk of stress fractures for athletes in the teenage group versus those in their twenties.²
- A descriptive epidemiology study to evaluate the prevalence of the female athlete triad and iron supplementation and to trial a Triad risk factor screening tool.³
- A cohort study to classify athletes into low-, moderate-, and high-risk categories using the Female Athlete Triad Cumulative Risk Assessment score and to review if that can predict bone stress injuries.⁴

Key Findings

- There is a greater prevalence of the Triad risk factors in female athletes now than there has been in the past.³
- Athletes in their twenties are at a lower risk of developing the Female Athlete Triad than teenage athletes.²
- Evidence supports that the risk for stress fractures due to the Triad may be higher in teenage athletes than in athletes in their twenties.²
- Bone stress fracture and bursitis were significantly higher in the moderate and high-risk category than in the low-risk category.¹
- The moderate and high-risk categories had significantly more athletes in the injury group than in the non-injury group.¹
- Moderate-risk athletes were twice as likely as low-risk athletes to sustain a bone stress injury.⁴
- High-risk athletes were nearly four times as likely as low-risk athletes to sustain a bone stress injury.⁴
- Athletes in lean sports report more menstrual dysfunction, which is the most prevalent risk factor for bone stress injury.⁴

Recommended Key Practices

- Ensure that the Female Athlete Triad Cumulative Risk Assessment is integrated into pre-participation physical examinations.⁴
- Encourage athletes to contact sports medicine providers to better their nutrition and manage their health to avoid the Female Athlete Triad.⁴
- Educate healthcare professionals and coaching staff on the development of the Female Athlete Triad and the adverse effects associated with it.²
- Follow up with athletes who have developed the Female Athlete Triad to develop a plan of care.⁴
- Examine body fat percentage of female athletes to analyze its risk in obtaining components of the Female Athlete Triad.³
- Advocate for better screening and prevention in athletic programs and educate on the benefit of these risk assessment tools.¹

References

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Figure List

Figure 1. Female Athlete Triad [Online Image]. (n.d). Retrieved November 11, 2021 from <https://childrenswi.org/medical-care/sports-medicine/programs-and-services/female-athlete-clinic>. Copyright 2021 by Children's Wisconsin. Reprinted with permission as per <https://childrenswi.org/about/terms-of-use>



Figure 1.