

# Female Athlete Series

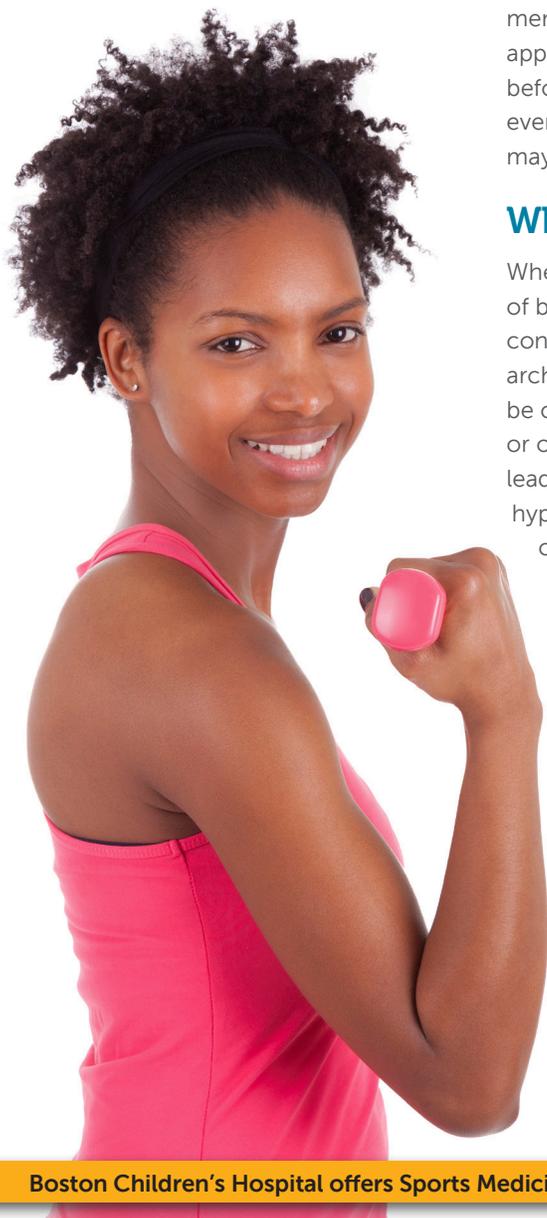
## Menstrual Cycle



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Menstrual cycles can tell us a lot of important information about our overall health, including whether we're getting the proper nutrition, if we're training too hard and whether our bones are getting what they need to be as strong as possible.



### Can female athletes still compete well during their periods?

Though menstrual cycles may sometimes feel like a hindrance for female athletes, most normal, healthy cycles shouldn't get in the way of competing; and research shows that performance stays about the same throughout the menstrual cycle, including during menstruation. Though some small studies suggest that female athletes land jumps slightly differently during certain phases of the menstrual cycle, good form and strength training can prevent problems from occurring. Some evidence even suggests that exercising during menses can soothe cramps and PMS symptoms.

### What is a healthy, normal menstrual cycle?

For most girls, the onset of their periods (called menarche) occurs between the ages of 11 and 13, and approximately 98 percent of girls have their first period before they are 15 years old. Cycles usually occur every 28 ( $\pm 7$ ) days, and some cramping and bloating may occur.



### What isn't normal, and when should you see a doctor?

When a female has not gotten her period by the age of 15, or within five years of breast development (called primary amenorrhea), it could be cause for concern. In addition, absence of three or more consecutive cycles after menarche (called secondary amenorrhea) isn't a normal part of training, and may be caused by stress, under-nutrition or over-exercise—all of which can lead to something called functional hypothalamic amenorrhea. Other causes of secondary amenorrhea include polycystic ovarian syndrome, pituitary abnormalities and thyroid dysfunction, among others. Thus, delayed menarche and secondary amenorrhea should always be evaluated by a physician.

*For more information about how the menstrual cycle relates to nutrition and bone health, see our guide on [The Female Athlete Triad: Staying on Track at \[bostonchildrens.org/femaleathlete\]\(http://bostonchildrens.org/femaleathlete\)](#)*

### What to watch out for...

Athletes, especially those in sports that emphasize leanness, may assume that getting their bodies to a state that eliminates menses is a positive way to go from normalcy to excellence, but in fact, they are hurting their bodies, increasing their risk of injury, negatively affecting their performance and jeopardizing their chances at future competition.

## How are bone health and menstrual cycles related?

When girls don't have enough energy left for their body's normal functions (as a result of over-training or lack of proper nutrition), it disrupts their hormones, which ultimately can impact their bone and reproductive health. Without the proper energy balance, girls can experience menstrual irregularities, and have an increased risk of stress fractures.

Healthy estrogen and other hormone levels help build bones and keep them from breaking down, so menstrual cycles and bone mineral density are closely tied. Despite regularly performing weight-bearing exercises, an amenorrheic athlete is two to four times more at risk for a stress fracture than an athlete who gets regular periods.

*For more information about how female athletes can build stronger bones, see our Female Athlete Series Guide to Bone Health at [bostonchildrens.org/femaleathlete](http://bostonchildrens.org/femaleathlete)*



## How does energy availability impact bone health?

Quite simply, energy availability is what's left of your dietary energy after exercise. Athletes should eat enough nutritious calories to give them energy for exercise, growth and development, and for normal physiological functions, including a normal menstrual cycle.

*For more information about how female athletes can obtain optimal nutrition, see our Female Athlete Series Guide to Nutrition at [bostonchildrens.org/femaleathlete](http://bostonchildrens.org/femaleathlete)*



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This sheet is part of the Female Athlete Series, which is a suite of educational materials to help female athletes live the healthiest lives possible while competing. For more materials on enhancing athletic performance, call 617-355-3501 or visit [bostonchildrens.org/sportsmed](http://bostonchildrens.org/sportsmed)

