

Nutrition for Adolescent Female Athletes

Special considerations for teenage female runners during growth and development.

ACCESS
Free resource

AUDIENCE
athlete / coach / parent

READ TIME
7 min

AUDIENCE
Athlete + Coach + Parent

WHY THIS MATTERS

Special considerations for teenage female runners during growth and development.



Nutrition for Adolescent Female Athletes

QUICK START

Start here

Special considerations for teenage female runners during growth and development.

GROWTH PLUS SPORT

Teen athletes need enough food for training and for normal development

- Puberty, menstrual development, bone growth, and school-day demands all add to the total load.
- Underfueling during adolescence can change the entire health trajectory, not just the next race.

SCHOOL-DAY PROBLEM

The biggest misses usually happen between first period and practice

- Skipped breakfast, weak lunches, and no afternoon snack leave the athlete trying to train on fumes.
- School and commuting schedules make portable fuel non-negotiable.

PRIORITY NUTRIENTS

Calcium, vitamin D, iron, protein, and enough total energy deserve consistent attention

- These nutrients interact with growth, bone health, blood health, and recovery.
- Teen girls who train hard often need more deliberate planning than adults around them realize.

Warning signs worth watching for

One rough week is not a diagnosis.

Missed or irregular periods after previously regular cycles

Performance sliding without a clear training explanation

Repeated stress reactions, stress fractures, or nagging shin pain

Fatigue that does not match the training plan and does not improve with rest

Growing food fear, skipped meals, or rigid rules around eating

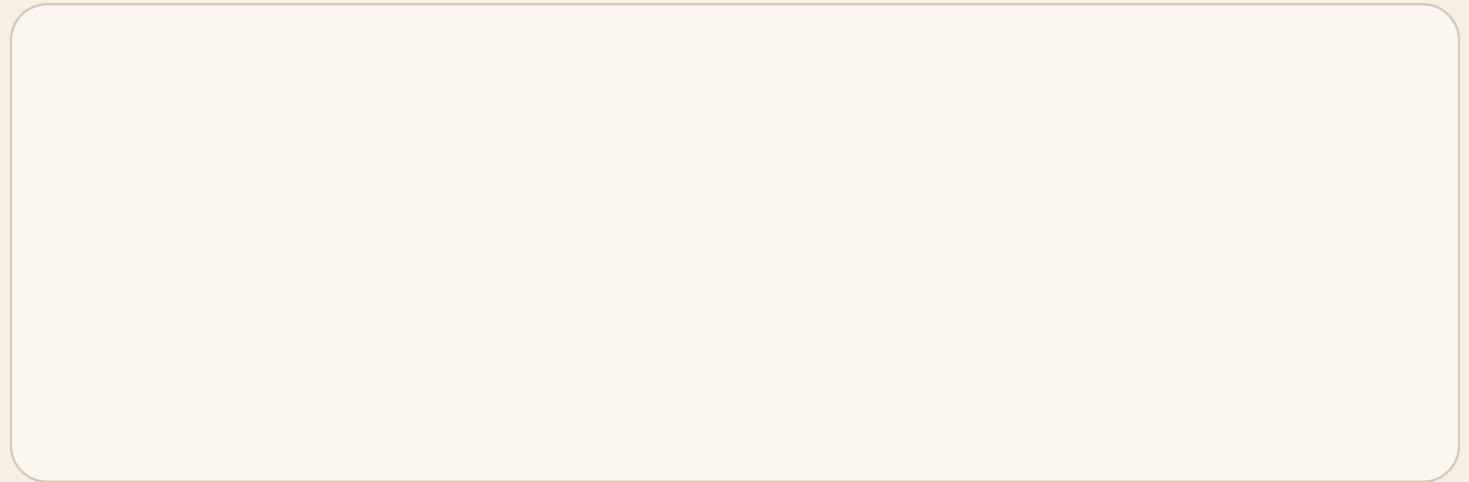
Start with the real problem: not enough fuel, not too much

The most common nutrition issue in teenage female runners is not overeating or "bad" food choices.

The most common nutrition issue in teenage female runners is not overeating or "bad" food choices. It is under-fueling, which sports medicine calls low energy availability: not enough energy left over for normal body function after training is paid for.

When intake does not keep up with training plus growth, the body starts conserving. Reproductive hormones drop, bone building slows, recovery drags, and eventually performance stalls. This is the core of what the IOC now calls Relative Energy Deficiency in Sport, and it affects health and performance across every...

So the first coaching question is almost never "is she eating too much?" It is "is she eating enough, often enough, to cover school, training, and growth?"

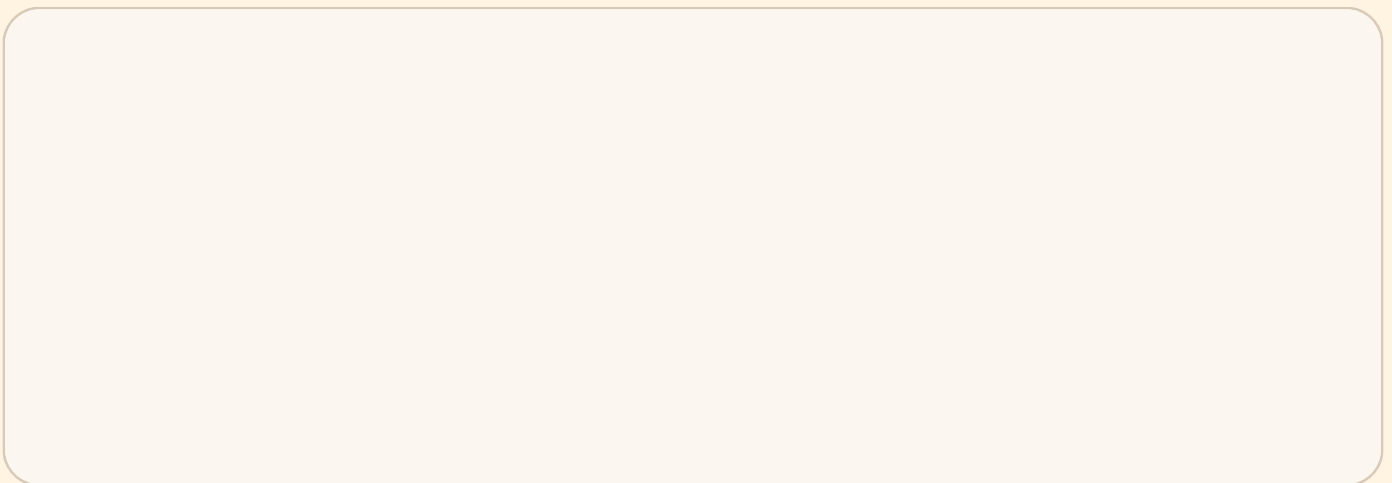


WATCH FOR

What to watch before it becomes a crisis

Performance drop-offs, stress injuries, menstrual disruption, and persistent fatigue rarely show up as isolated issues.

- Under-fueling is often quieter than coaches expect.
- The best first move is usually a food-plus-screening conversation, not a supplement guess.
- Parents and coaches should hear the same short message.



Go deeper next

For a personalized teen-athlete fueling plan, book a consultation at aspireperformanced.com.

BUILD THE FULL FOOD-FIRST BASE

Adolescent Runner Nutrition

SCREEN THE LARGER UNDER-FUELING RISK

RED-S Warning Signs and Prevention

If fatigue and heavy legs keep showing up, screen iron early: Iron Deficiency in Female Runners

The nutrients that deserve extra attention

For general training fuel, carbohydrate does the heavy lifting and protein spread across the day supports recovery and growth (Thomas 2016).

For general training fuel, carbohydrate does the heavy lifting and protein spread across the day supports recovery and growth (Thomas 2016). A few nutrients matter more for this specific group.

Iron. Female runners lose iron through menstruation, and endurance training adds more demand. Low iron is a common, treatable cause of unexplained fatigue and declining workouts. If a runner is dragging, testing iron status is more useful than guessing. Do not start iron supplements on your own, because too much iron...

Calcium and vitamin D. Adolescence is the window when most lifetime bone is built, so it is the worst time to be short on the raw materials. Food-first is the goal, with calcium in the range of roughly 1,300 mg per day for teens spread across meals. Vitamin D is harder to get from food and is worth a clinician's...

Altitude raises the stakes

For teams training around 6,000 to 7,000 feet in Colorado, the margin for under-fueling gets thinner.

For teams training around 6,000 to 7,000 feet in Colorado, the margin for under-fueling gets thinner. Fluid needs run higher, training stress is higher so carbohydrate needs feel higher, and iron status deserves more respect, especially in female runners with any fatigue history. A fueling pattern that would merely...

QUICK REFERENCE

Key targets to keep in view

Use these as planning anchors when you turn the manual into weekly actions.

MAIN REALITY

Growth costs energy too

Treat this as a decision anchor, not a trivia stat.

BIG RISK

Missing meals during school and puberty

Treat this as a decision anchor, not a trivia stat.

COACH LENS

Regular fuel protects development

Treat this as a decision anchor, not a trivia stat.

COACH TAKEAWAYS

Use this with athletes

These are the cues worth repeating before the week gets busy.

- ☐ Feed growth: Teen athletes are paying both a training bill and a development bill.
- ☐ Protect school hours: Portable breakfasts, lunches, and snacks matter more than motivation speeches.
- ☐ Coach language: Normalize eating enough as part of being serious about sport.

WHAT TO DO NEXT

Use it this week

Ask where the athlete's breakfast, lunch, and pre-practice snack are happening on a school day.

BOTTOM LINE

Teen female athletes need fuel for growth and sport at once.

RELATED TOOL

Iron protocol

Turn warning signs into action.

Source topics: Desbrow B. Youth Athlete Development and Nutrition. Sports Med. 2021;51(Suppl 1):3-12. PMID: 34515968. DOI • Mountjoy M, Ackerman KE, Bailey DM, et al. 2023 International Olympic Committee's (IOC) consensus statement on Relative Energy Deficiency in Sport (REDs). Br J Sports Med. 2023;57(17):1073-1097. PMID: 37752011. DOI • Williams NI, De Souza MJ, Misra M, et al. 2025 Update to the Female Athlete Triad Coalition Consensus Statement Part 2: Clinical Guidelines for Screening, Diagnosis, Treatment, and Return to Play for Adolescents and Adults. Sports Med. 2026;56(2):375-427. PMID: 41474492. DOI • Thomas DT, Erdman KA, Burke LM. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. J Acad Nutr Diet. 2016;116(3):501-528. PMID: 26920240. DOI