

# Eat up! Girls require steady fuel to thrive

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By Marc Bloom / ESPN.com



*John Dye/ESPNHS* For girls to run healthy and strong, a smart diet that doesn't short-change calories is essential.

Girls are strong. Girls are fast. Girls are motivated. Girls are tough, maybe even tougher than boys.

Girls are also fragile.

Female distance runners are fragile not because of gender weakness or athletic deficiency. We've all stood at the finish chute of a cross-country race marveling at the awesome power of girls coming across the line—and not just the top-notch kids, but those well down in the pack as well.

Girls are fragile because during the teen years they grow in rather complex ways (comparatively, boys' growth is a piece of cake), and that growth must be allowed to occur in a natural, healthy manner. You can't fool with Mother Nature, or with prospective mothers. Mistakes can be costly.

Therefore, a girl's natural growth must be protected.

To insure proper growth and development, and successful running through the high school years, girls must maintain a healthy weight. To achieve a healthy weight, girls must eat nutritious foods and consume enough calories (that is, "fuel") to support their running. Energy input (food) should equal energy output (activity). Otherwise, there will be an energy deficit that can lead to health problems, injury and impaired performance.

How can girls and their families determine a healthy weight?

### **Girls Need Substantial Caloric Intake**

To start to address that question, it should be emphasized that teenage girls need to take in at least 2,000 calories per day for normal living and growth, plus an additional 70 or so calories per mile run, roughly 2,500 calories per day, according to Dr. Angela Smith, an orthopedic surgeon at the renowned Children's Hospital of Philadelphia. That's a good amount of food—less than many female runners take in, to be sure.

In addition, the food should consist of nutritious calories containing “all six core elements that the body needs to repair, rebuild and recover daily,” said Kim Cover, a dietitian, sports nutrition specialist and colleague of Dr. Smith's at CHOP's Center for Sports Medicine and Performance.

Let's repeat that: Repair, Re-build and Recover.

Cover said that to enable the Three Rs to take place, each meal should consist of all six nutritional essentials: (1) fruit, (2) vegetable, (3) complex carbohydrate, (4) calcium, (5) protein, and (6) fat.

Is that possible, to have all six nutritional essentials in every meal? Cover said that a lunch as simple and tasty as a peanut butter (crunchy preferred) and jelly sandwich on whole wheat bread, chocolate milk, apple and carrot sticks contains all six essentials and would serve a runner just fine for after-school practice.

In addition to number of calories consumed, and the nutrient quality of those calories, a third key factor in good health and running is when you eat—how those calories are distributed throughout the day. First on Cover's wish list for female runners is to eat a full breakfast before school. Too often, she says, girls rush off to school after eating little or nothing, and that may be after not getting enough sleep as well.

Typically, in the hustle-and-bustle world of a teenage girl running cross-country or track, her school day starts off with (1) lack of sleep and (2) lack of fuel. That is a potentially toxic combination, especially for someone who will have a rigorous practice session later in the day.

### **Girls Need to Eat All Day Long**

Either because of poor time management, and/or the wrong-headed idea that food intake should be kept low to meet female perceptions of thinness, girls oftentimes fall victim to a distorted eat-and-run schedule in which they are famished after practice and gobble up most of their calories late in the day. By afternoon practice, you should have at least 1,000 calories (and, again, good calories) in your system.

With weight, body fat, self-image and running performance all wrapped up in a mosaic of complex challenges for girls, I sought to illuminate some of the issues by speaking with Dr. Smith, whom I've interviewed many times before, and Cover, whom Dr. Smith recommended to me. Both are leaders in the field of adolescent health and athletic performance. Both are former

athletes themselves, Dr. Smith in figure skating, Cover in gymnastics.

Both Dr. Smith and Cover (who is board certified in nutrition, fitness and mental health) tend to injured female runners on a regular basis. Smith's patients come to her with stress fractures of the tibia (shin) or metatarsal bones in the foot, for example. She said that most recurrent injuries are caused by improper diet or insufficient physical therapy following a layoff from a previous injury. Many of Cover's clients (which include youngsters with eating disorders) are not eating enough, but think they are because of the mistaken belief that healthy eating for running means taking in as little fat as possible, as well as being as thin as possible.

### **Girls Need to Have Normal Menstrual Function**

Additional points from Dr. Smith:

\*Injury Pattern: While having an injury once every two or three years is expected, having a recurrent injury to the same area more often can be a sign of improper nutrition. She defines injury as pain that requires a doctor's visit.

\*Body Type: Girls have body types based on genetics. If a girl's parents have broad shoulders and big hips, then it would follow that she too -- even as a runner -- would have a comparable body type. If, however, the girl from the broadly-built family is "scrawny at 16," said Dr. Smith, that non-familial lean-ness could be a nutritional red flag.

\*Training Tolerance: Unusual or overwhelming fatigue from standard workouts previously handled well is a sign of nutritional deficiency. Fatigue is not unusual during a period of rapid growth spurt; however, fatigue with older girls whose growth has slowed or halted is something to look into.

\*Menstrual Irregularity: If girl has started having her period and after, say, three periods in a row, stops menstruating, "I'm going to start asking questions," said Dr. Smith. "Or," she added, "if a girl has reached the same age as her mother was when she began menstruating, and the girl has not..." The age of onset of menstruation for a girl's mother (and older sister) is the biggest predictor of when the younger girl herself should begin menstruation.

\*Muscle vs. Fat: Girls who run distance tend not to have a lot of muscle (unlike their testosterone-filled male counterparts). Therefore, you can't tell just by looking at a very thin girl if she's thin because she has no muscle, or she's thin because she has no fat (in which case she could need medical intervention).

By the same token, a girl may have a sufficient body fat level, say 13 or 14 percent, and appear healthy, but still be imperiled by not meeting her caloric-energy needs. This happens when a girl doesn't eat enough all day, putting her body into "starvation" mode; then, her body responds by pumping what energy she does have into fat for long-term storage. Thus, she has fat but not fuel.

\*Energy Balance: Girls who do not take in enough calories and have an energy imbalance tend to lack sufficient body fat for the onset of menstruation. Without menstruation, girls will not produce estrogen, an essential hormone for bone-building. (Brittle bones and ambitious running

results in stress fractures.) Recent studies, however, emphasize the importance of one factor above all others: caloric intake; that is, energy taken into the body. The research shows that even girls with low body fat will continue to have periods as long as they eat enough.

### **Girls Need to Prize Robust Bodies**

Additional Points from Cover:

\*Safety Zone: Cover has created a “safety zone” concept to help girls achieve a healthy weight so the body is not burdened by undue stress and can “care for itself.” It’s like a shield. The safety zone requires eating enough so the body has sufficient energy for training and can perform normal processes like menstruation.

\*Runners’ Needs: Many girls and their parents do realize that when a girl starts a running program she must change her diet to consume a lot more food. Running -- and especially cross-country in which training goes from early summer well into November -- presents a dramatic life-style change and must be met with an abundant, enriched meal plan.

\*Marine Mentality: Cover said that female cross-country runners had a “unique way of looking at nutrition” that she likened to a military mentality of sticking together as a team, in this case reinforcing negative ideas like avoiding dietary fat at all costs. “It’s hard to bust through that mentality,” she said.

\*Body Image: There is no basis for the widely-held belief that a certain body fat percentage will make you a better runner. “It’s a misconception,” said Cover, “that the leaner you are the better. Accept the body that you were born to own.”

On this last point, to effectively counsel female runners, Cover obtains “growth curves” from a girl’s medical exams over the years in order to plot normal growth as a teen. She said that parents should have this information, just as they have inoculation records.

### **Girls Need Guidance on “Fuel” and “Fitness”**

Most coaches never see growth curve information and, in any case, should steer clear of any discussion with a female runner about her weight per se. “Girls are prone to have just one comment throw them ‘off a cliff,’” said Cover. In fact, in some states, coaches are prohibited from even mentioning the “w” word by law.

Both Dr. Smith and Cover advise coaches to address weight by discussing “fitness” and “fueling the body.” Talk about proper nutrition, eating breakfast, making wise food choices for school lunch and so forth. Talk about having fruit with meals, calcium-rich goods, whole grains. Talk about girls getting strong, not getting thin.

Coaches, parents and health professionals need to make sure they get the message across that grandma was right when she served a family meal and said...

"Eat!"