PARENTS AND COACHES BEWARE: ARE YOUR GIRLS COMING UP SHORT?

Prevent Athletic Energy Deficit syndrome in young female athletes.
You’ve set the stage: intense training and performance goals.

A young female athlete starts to push herself harder than usual, placing incredible stress on her body. She trains intensely, trying to gain a competitive edge.

As she pursues excellence, you reward her for her discipline and focus. Sometimes—at a cost. When your athlete is under-fueled for her activity level, she can come up short on bone development and athletic performance.

Gaining peak performance by sacrificing nutrition, especially during puberty, may lead to Athletic Energy Deficit (AED) and a decrease in bone formation and increase in bone fractures, AED may even put your athlete at risk for early osteoporosis.

THE LONG-TERM CONSEQUENCES OF AED, ATHLETIC ENERGY DEFICIT, CAN BE BOTH SEVERE AND PERMANENT. IGNORING AED ISN’T WORTH CAREER ENDING INJURIES.
“REPEATEDLY, MY MOTHER, MY DOCTORS AND MY NUTRITIONISTS TOLD ME HOW SERIOUS MY AMENORRHEA AND LOW BONE DENSITY WAS, BUT I CHOSE NOT TO HEAR IT. RUNNING FAST AND STAYING SKINNY WERE TOO IMPORTANT TO ME…”

Clara Horowitz, Runner
NCAA 5-time All-American National Cross-country Medalist, Spokesperson for American Bone Health.

1. What is Athletic Energy Deficit (AED)?
AED is a gap in energy. AED results when sustained activity (energy output) is not balanced with a proportional increase in nutrition (energy input). AED often develops when there is pressure to change eating habits, particularly in some sports where a low body weight is encouraged.

2. Why young female athletes?
The years around puberty are a time of rapid bone formation. Girls build 60% to 80% of their bone mass by age 18. Whenever pre-teen and teenage girls do not eat enough to meet their energy needs they face “energy deficit”. If nutrition is insufficient, the body may try to conserve energy by shutting down systems that are important to bone growth and reproductive development.

3. What is the link between AED and menstrual cycles?
With insufficient energy, estrogen levels may be too low to produce a normal menstrual cycle. Delayed menstruation, irregular cycles or missing cycles are signs that there is a hormone imbalance associated with slower bone formation.

4. What is the link between AED and bone health?
If AED is severe, low estrogen levels also block functions necessary for proper bone growth. In addition, a diet without adequate calcium and vitamin D contributes to poor bone formation. Should the AED continue unchecked, poor bone growth may result in stress fractures and early osteoporosis, a disease where bones become fragile and are more likely to break.
"You don’t have to sacrifice bone and reproductive health to be a star athlete" says Kathleen Cody, Executive Director of American Bone Health. “All young female athletes must be educated about the risks of AED and their individual calorie and nutrition needs.”

A GIRL CAN COMPETE AND EVEN EXCEL IN SPORTS WITH AED, BUT HER BODY MAY PAY A HIDDEN AND SERIOUS PRICE IN THE FUTURE.

MAINTAINING BONE STRENGTH IS IMPORTANT IN THE TRANSITION TO COLLEGIATE OR ELITE ATHLETE TRAINING THAT ADDS HIGHER INTENSITY STRESS ON THE BONES.
Parents should contact their family doctor immediately. The doctor may refer them to a nutritionist or other specialist in behavioral therapy. In some cases, successful treatment may only require a relatively modest reduction in exercise, improved nutrition and a small increase in body weight.

Coaches who are aware of possible AED symptoms—insufficient caloric intake, low weight, menstrual irregularity, stress fractures—should not hesitate to contact their athlete’s parents and tell them about AED and its health risks.

**WHAT CAN A PARENT OR COACH DO IF THEY SUSPECT ATHLETIC DEFICIT ORDER?**

“MANY TIMES IN HIGH SCHOOL AND COLLEGE I SAW COACHES IGNORE DANGEROUSLY LOW BODY WEIGHTS IN SOME OF THEIR SUCCESSFUL ATHLETES. IT WAS ALWAYS WITHIN WEEKS I WOULD HEAR ABOUT THESE ATHLETES GETTING SO BADLY HURT THAT THEY NEVER MADE A COMEBACK TO RUNNING AGAIN.”

Clara Horowitz
There are many health benefits associated with regular exercise or athletic competition. Avoid AED with these steps:

**Step 1: Know the danger**
Athletic Energy Deficit (AED) can hurt the long term competitive performance of your female athletes, posing a danger to both reproductive health and bone development.

**Step 2: Educate young female athletes**
Early, frequent and open talks about the relationship between healthy eating and exercise can help prevent AED. Work with sports dietitians, team doctors or volunteer medical professionals to discuss the topic with your team. Parents - talk to your daughters about the intensity of their training, proper nutrition and the relationship to strong bone development.

**Step 3: Watch for signs of a problem**
Early recognition is important. Extreme weight loss and delayed, lost or irregular menstrual cycles are symptoms of a serious problem.

**Step 4: Prevention**
Consume enough food to make up for the energy lost during physical activity. Eating adequate carbohydrates and proteins within 20-30 minutes of strenuous athletic activity will help replenish the body and prevent the development of Athletic Energy Deficit.
“AS I FIXED THE ENERGY DEFICIT BY EATING EXTRA CALORIES THROUGHOUT THE DAY, MY RUNNING IMPROVED DRAMATICALLY. I WAS NAMED DUKE ATHLETE OF THE YEAR MY SENIOR YEAR IN COLLEGE.”

“MY COACH TOLD ME THE MOST IMPORTANT TIME WAS TO EAT RIGHT AFTER A WORKOUT. SO HE MADE US PACK SOME SORT OF SNACK IN OUR WORKOUT BAG. I ALWAYS HAD AN ENERGY BAR AND SPORTS DRINK. A LOT OF MY TEAMMATES HAD PEANUT BUTTER AND JELLY SANDWICHES.”

Clara Horowitz, Runner, NCAA 5-time All-American National Cross-country Medalist, Spokesperson for American Bone Health
EATING ADEQUATE CARBOHYDRATES AND PROTEINS THROUGHOUT TRAINING REPLENISHES THE BODY AND PREVENTS THE DEVELOPMENT OF ATHLETIC ENERGY DEFICIT.

LEARN MORE AT WWW.AMERICANBONEHEALTH.ORG