



PERFORMANCE



ENERGY AVAILABILITY

WHAT IS IT?

Energy availability (EA) is the amount of dietary energy remaining for essential functions (heart, brain, bone, etc.) after accounting for the energy expended during training.

$$EA^* = \frac{\text{Energy Intake} - \text{Exercise Energy Expenditure}}{\text{Fat Free Mass}}$$

**This is the formula as defined in the literature and not intended for athlete self-assessment.*

IMPACT ON PERFORMANCE?

When the amount of energy remaining is too low, your body is forced to compensate by slowing down or decreasing some functions such as hormone production and muscle repair in order to conserve energy. When this happens, adaptation to training may be impaired resulting in poorer performance and a higher risk of injury.

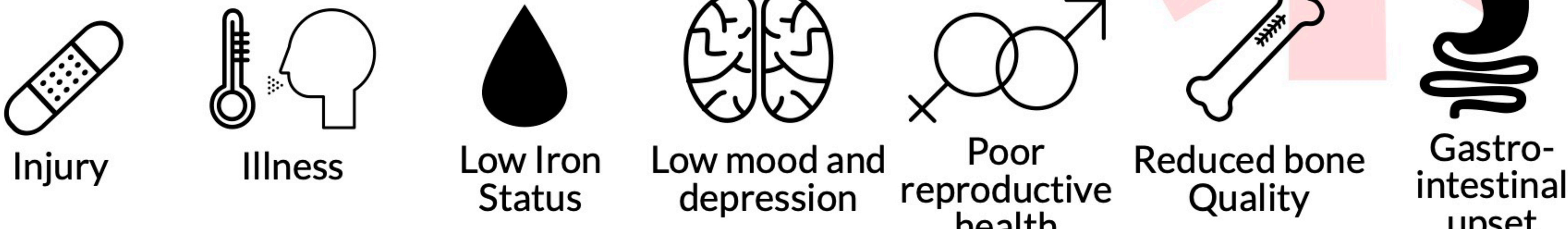
WHO IS AT RISK?

Athletes need to manage their energy requirements to support health and performance. This means all athletes are at risk for low EA. Being in low EA can be caused by both intentional or unintentional energy restriction, putting athletes who participate in aesthetic and weight sensitive sports, those with a history of disordered eating, and athletes in sports with very high training volumes at greater risk.

LOW ENERGY AVAILABILITY CAN CAUSE:

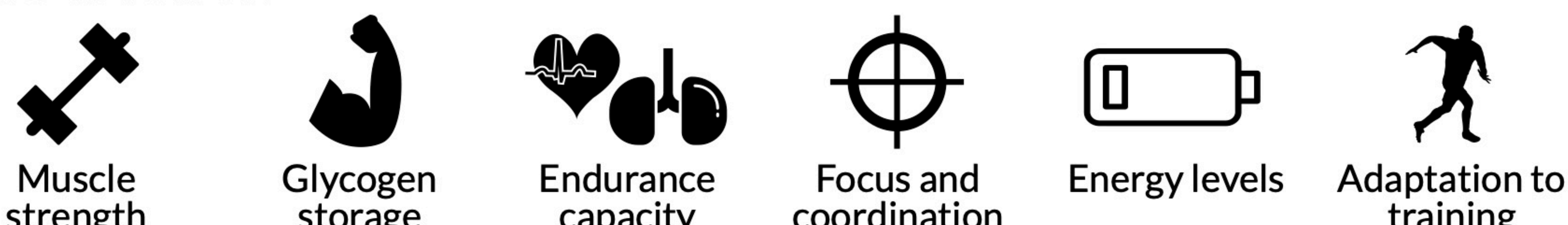
POOR HEALTH

due to a higher risk of:



POOR PERFORMANCE

due to lower:



If you think you or someone you know may have low EA, consult a sport dietitian or doctor. They can help manage energy availability to optimize performance and health.

SELF ASSESSMENT

Ask yourself the following questions to see if you may be in low energy availability:

- DO I FEEL TIRED ALL THE TIME EVEN WHEN GETTING ADEQUATE SLEEP?
- AM I EXCESSIVELY SORE AND FEELING LIKE I CAN'T QUITE RECOVER BETWEEN TRAINING SESSIONS?
- IS MY PERFORMANCE FAILING TO IMPROVE AT THE RATE MY COACHES ARE EXPECTING?
- IS MY MOOD LOW OR FLUCTUATING?
- HAVE I HAD REOCCURRING INJURIES IN THE LAST YEAR?
- HAVE I EVER HAD A STRESS FRACTURE?
- AM I FREQUENTLY ILL OR SICK?
- FEMALES: IS MY MENSTRUAL CYCLE IRREGULAR, LIGHTER THAN NORMAL, OR ABSENT?
- MALES: IS MY LIBIDO LOWER THAN NORMAL?

If you answered "yes" to any of the above questions, talk to a sport dietitian, doctor, or another trusted individual about low energy availability.

5 TIPS FOR MANAGING ENERGY AVAILABILITY

EAT EVERY 3-4 HOURS



Leaving too long between meals and snacks can cause low EA within a busy training day making it harder to meet your fueling needs.

EAT AROUND TRAINING



Focus on fueling up before training, topping up during training with carbohydrate during longer sessions, and eating a recovery meal or snack after training.

EAT TO MATCH YOUR TRAINING VOLUME



As your training volume increases, your energy intake should also increase to help your body get the most out of the intensified training.

PLAN AHEAD



Consider the logistics of your training day/week and where your food will come from. Pre-packed from home, the grocery store, a restaurant? Advance planning and preparation is key to prevent under-fueling.

WORK WITH A SPORT DIETITIAN



A sport dietitian can help you manage your energy and nutrient needs supporting your goals throughout the yearly training and competition plan.