Low energy AVAILABILITY

Information for coaches, team managers, support staff and welfare officers

This resource aims to provide coaches, team managers, support staff and welfare officers with guidance on how to identify low energy availability and where to signpost any athletes at risk.

There are high rates of low energy availability in aquatics but little awareness of the signs and symptoms.

It can be a worrying time if an athlete is showing signs of low energy availability. But knowing how to identify this early should help coaches, team managers and support staff be proactive in ensuring the athlete at risk gets the support they need.

How to use this document

Follow the flow diagram on page 6 to understand the process from when you first identify a suspected issue and see what path might be best to take. Early intervention is key, so having clear guidelines and awareness to get the appropriate support is crucial.

Identify

As coach, team manager or support staff you will not be expected to diagnose the cause of the low energy availability.

What you may be able to do is identify the signs and symptoms and signpost the athlete to appropriate help. This may be to a GP, clinical psychologist, psychiatrist and/or a clinical dietitian, a charity or a private organisation.

Identification of low energy availability

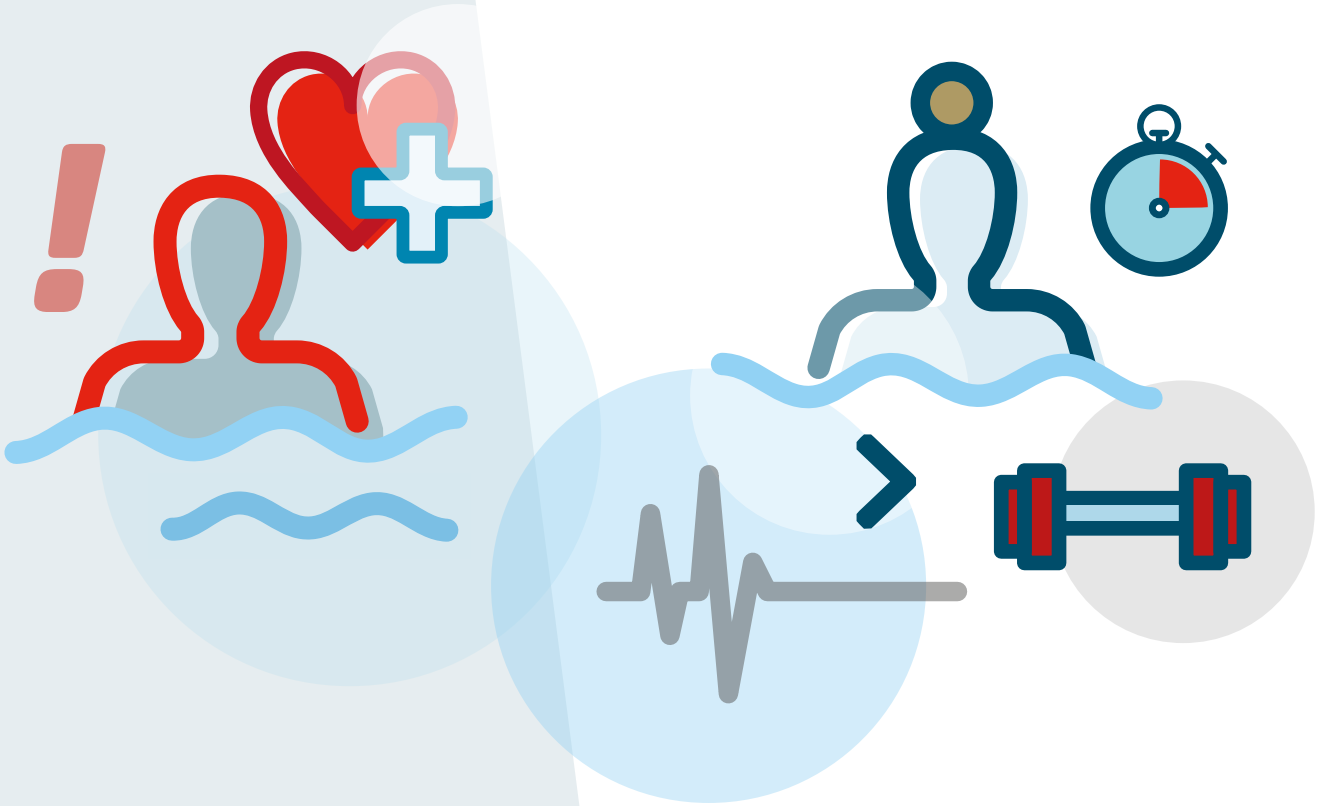
Low energy availability (LEA) happens when the body does not have enough energy to support all physiological functions needed to maintain optimal health, i.e. when there is a mismatch between energy in versus energy out. The body uses energy for exercise before using energy for crucial bodily functions, such as menstruation, bone development and growth.

LEA can be happening due to relative energy deficiency in sport (RED-S), overtraining syndrome (OTS), disordered eating or an eating disorder.

Below are brief definitions of what these are:

RED-S	Impaired physiological factors causing impairments of metabolic rate, menstrual function, bone health, immunity, protein synthesis and cardiovascular health.
Over training syndrome	Performance decrement lasting over two months, maladapted physiology (psychological, neurological, endocrinological, immunological systems), and an additional stressor not explained by other disease.
Disordered eating	Food related behaviours that falls below the threshold for recognised eating disorders (EDs) but may still negatively affect someone's physical, mental, or emotional health.
Eating disorder	An eating disorder is a mental health condition where you use the control of food to cope with feelings and other situations. A doctor, clinical psychologist, psychiatrist and/or a clinical dietitian who works with other disciplines in a team approach should be accessed to ensure the best outcomes for those with a eating disorder.

- Athletes can be aware or unaware that they are under consuming calories.
- Some simply do not realise how much they need to eat to match the energy they are using through exercise.
- For others, they are aware they are under fuelling and are doing this intentionally. Any individual doing this should not be judged negatively or blamed for this behaviour. Our role as support staff is to notice and refer on to the appropriate support.
- Signs and symptoms between these conditions may be similar.



Health consequences you may notice

- Cardiovascular
  Faster heart rate at lower intensity
- Gastrointestinal
  Bloating and constipation
- Decreased immune function
  More coughs and colds
- Menstrual function
  Stop having periods
- Bone health
  More stress fractures
- Endocrine
  Feeling stressed
- Reduced metabolism
  This could affect your energy levels
- Low red blood cell count
  Fatigue quicker
- Slower growth/development
  Take longer to progress
- Psychological
  Low mood and anxiety

Performance consequences you may notice

- Less muscle strength
  Weaker
- Worse endurance performance
  Swimming slower than usual
- Increased injury risk
  Less time training
- Poor training response
  Less reward for more work
- Impaired judgement
  Not listening to your body
- Less coordination
  Unable to execute skills
- Reduced concentration
  Making mistakes
- Irritable
  Falling out with teammates
- Depressed
  Low mood
- Lower carb stores
  Less energy for training

Spectrum of eating behaviour

Optimised nutrition

Safe, supported, purposeful and individualised nutrition practices that best balance health and performance

Disordered eating

Problematic eating behaviour that fails to meet the clinical diagnosis for a eating disorder

Eating disorder

Behaviour that meets DSM-5 diagnostic criteria for a feeding and eating disorder

RED-S

An important task is to identify those who have RED-S as a consequence of disordered eating and eating disorders (both together not separate things) and at the same time prevent those with simple LEA/REDS progressing to something more serious such as disordered eating and eating disorders (linear progression not separate categories).

Know the first signs of an eating disorder

The charity Beat have created resources to help spot the first signs of eating disorders. Download this **here**.

Ask and listen

How adults should talk to athletes about potential eating disorders

1. After you have noticed signs of low energy availability, such as physical, psychological or behavioural symptoms or if you have seen changes in recovery and performance, then speaking to the athlete may help you to understand more about the issue.
2. Before speaking to the athlete, think about what you want to say and what you would like the outcome to be.
3. Speak to the athlete somewhere quiet, away from other people (if under 18, ensure parent is present).
4. Make appropriate time and when you feel they may be open to a conversation.
5. Start by asking open ended questions then empathise, validate and summarise what they say.

Open ended questions:

- How can I help you?
- How are you?
- Are you okay as I have noticed...

Empathise:

- It must be really difficult...
- I can see that you're struggling...

Validate:

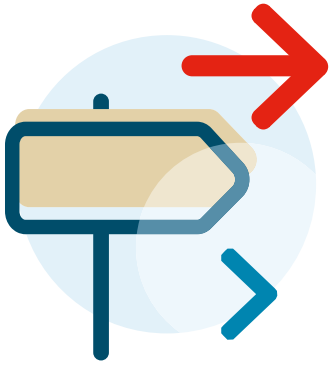
- It's okay to have a day off, your body needs to recover.
- Be kind to yourself and your body.
- So you have been struggling with eating and your thoughts about having to exercise to burn more calories or "earn" food have become overwhelming.

Reflect and summarise

- So you have told me that you have a problem. I now need to talk to your parents/carers and our club welfare officer to get the best advice on how you can get help.

Signpost

LEA, OT, RED-S, disordered eating and eating disorders



Identify

Underconsuming calories

- Suspected overtraining
- Suspected Relative Energy Deficiency in Sport (RED-S)
- Suspected disordered eating or eating disorder i.e. anorexia

Page 2-4 for more information to increase awareness and help to identify signs

Discuss and listen

- If under 18, alert parents
- Ask
- Actively listen
- Refer on

Page 5 for information on active listening guidance

Discuss and listen

- Self-help information, whilst waiting to find appropriate support
- Find out what support is available in your area

GP	Charity	Private
NHS Treatment	Self referral	Self referral

Page 7-8 self-help information, finding appropriate support in the local area, guidance for what to say to the GP

Self-help

Self-help information

- See references and further reading on page 9 for more information about low energy availability.
- Beat is the national charity for eating disorders and has an informative website with practical resources and a helpline.
- Whilst waiting for formal support and potentially a diagnosis for an eating disorder, emotional support is available from different organisations, which can be found on the **Beat website**.
- The **Centre for Clinical Interventions (CCI)** has produced resources to assist in providing interventions for mental health problems such as depression, bipolar, social anxiety, panic, self-esteem, procrastination, perfectionism, and eating disorders. The resources provided on this website aim to provide general information about various mental health problems, as well as techniques that focus on a cognitive behavioural approach to managing difficulties.

Find support

- Support services for disordered eating and eating disorders that are available in your local area, click **here**.
- You can also use the **Beat Helpfinder**.

Supporting athletes when seeking support from GP

Click **here** to access support from Beat on this.

This document created by Beat was not specifically created for athletes, so some extra things to consider:

- When the swimmer is writing down all the details of their symptoms, also adding information about their training programme (e.g. hours per week, distance covered, pool and land work), to show the high amount of energy that may be expended is important. It may look like the athlete is eating enough but if training demands are high, this may not be the case.

On page 4 of the Beat document, misunderstandings you might come across are stated. Some sports specific misunderstandings with solutions also include:

Misunderstandings you might come across	How to respond
Not having a period is normal, it's just exercise, don't worry	Periods should be regular, even when training a lot. If periods are not regular then medical investigations may help to understand why this is the case.
You are eating enough	For a person not exercising much, the food eaten may appear adequate, but with high training volumes, the energy consumed may not be enough for athletes.
It is normal in elite sport for athletes to have eating disorders	This is not the case, although being in elite sport can increase the risk of disordered eating and eating disorders, the athlete still needs support to return to a healthy approach to feeding or eating.

References and further reading

BEAT Website – National Eating Disorder Charity.
beateatingdisorders.org.uk/

Centre for Clinical Interventions – Practical worksheets for mental health issues.
cci.health.wa.gov.au/Resources/Overview

Charlton, B. T., Forsyth, S., & Clarke, D. C. (2022). **Low Energy Availability and Relative Energy Deficiency in Sport: What Coaches Should Know.** International Journal of Sports Science and Coaching, 17(2), 445–460. **https://journals.sagepub.com/doi/10.1177/17479541211054458**

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Wells, K. R., Jeacocke, N. A., Appaneal, R., Smith, H. D., Vlahovich, N., Burke, L. M., & Hughes, D. (2020). **The Australian Institute of Sport (AIS) and National Eating Disorders Collaboration (NEDC) position statement on disordered eating in high performance sport**. British Journal of Sports Medicine, 54(21), 1247–1258.