

## Considerations and frequency of iron blood screening for athletes\*

### Variables to be considered

- Minimum: serum ferritin, haemoglobin concentration, transferrin saturation
- Desirable: serum soluble transferrin receptor, haemoglobin mass, C-reactive protein

### Standardisation of blood collection

- Time of day: preferably morning
- Hydration state: hydrated, preferably assessed by waking urinary specific gravity (<1.025)
- Low-to-moderate activity in the proceeding 24 hours
- No signs of sickness or infection

### Annually

- No history of iron deficiency
- No history of irregular/excessive menses or amenorrhea
- No reports of fatigue after extended rest
- Strength/power-based sports with minimal endurance component
- No iron-related dietary restrictions
- No evidence of low energy availability
- No intention to undertake hypoxic training in the next 12 months
- No underlying pathology (eg coeliac or Crohn's disease)

### Biannually

- Female
- Previous history ( $\geq 24$  months) of iron depletion (eg Stage 1<sup>†</sup>)
- Previous history ( $\geq 24$  months) of irregular/excessive menses
- Intention to undertake high training loads, especially in endurance and team-based sports
- Minimal (or zero) reports of prolonged fatigue after extended rest
- No iron-related dietary restrictions (eg non-vegetarian, non-vegan)
- No evidence of low energy availability
- Intention to undertake hypoxic training in the next 12 months

### Quarterly

- Any recent history (<24 months) of iron depletion/deficiency (Stage 1, 2 or 3<sup>†</sup>) irrespective of sex
- Any evidence of irregular/excessive menses or amenorrhea
- High training loads in team and endurance-based sports
- Reporting prolonged fatigue/lethargy even after extended rest
- Reduced work capacity during training
- Unexplained poor athletic performance
- Individuals restricting sources of dietary iron (eg vegetarian and vegan) or overall caloric intake
- Any evidence of low energy availability
- Intention to undertake hypoxic training in the next six months