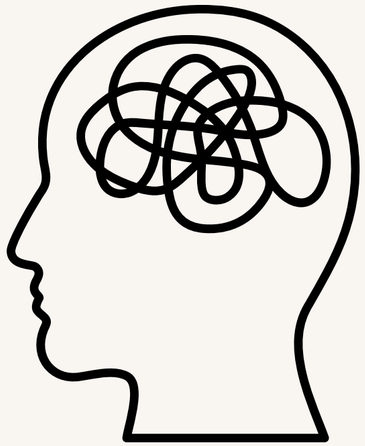
eating disorders -&- ATHLETES

By: Sarah C, MSc Global Health, MD Candidate c2027

DEFINITIONS



Identification

OF DE/ED IN SPORT

01 Body composition

02 “Athletic eating” vs. “Disordered Eating”

03 Exercise

PREVALENCE OF ED/DE IN SPORT

- **Higher Prevalence:**
  - Adolescent and adult athletes in comparison to non-athlete population
  - Females in comparison to males in both athlete and non-athlete populations
  - Male athletes than male non-athlete populations

Percentage of Collegiate Athletes with Clinical or Subclinical Symptoms of ED:

45%

Women

20%

Men

up to

84%

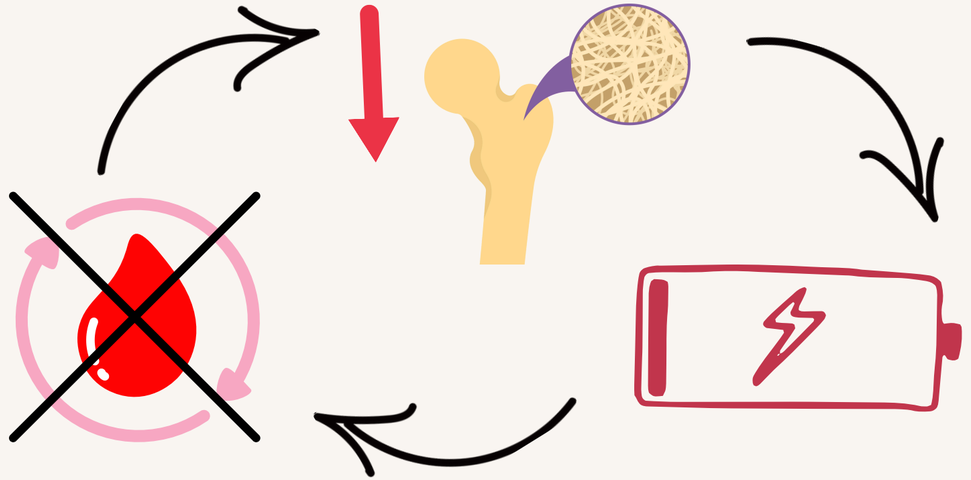
collegiate athletes reported DE behaviours

HEALTH

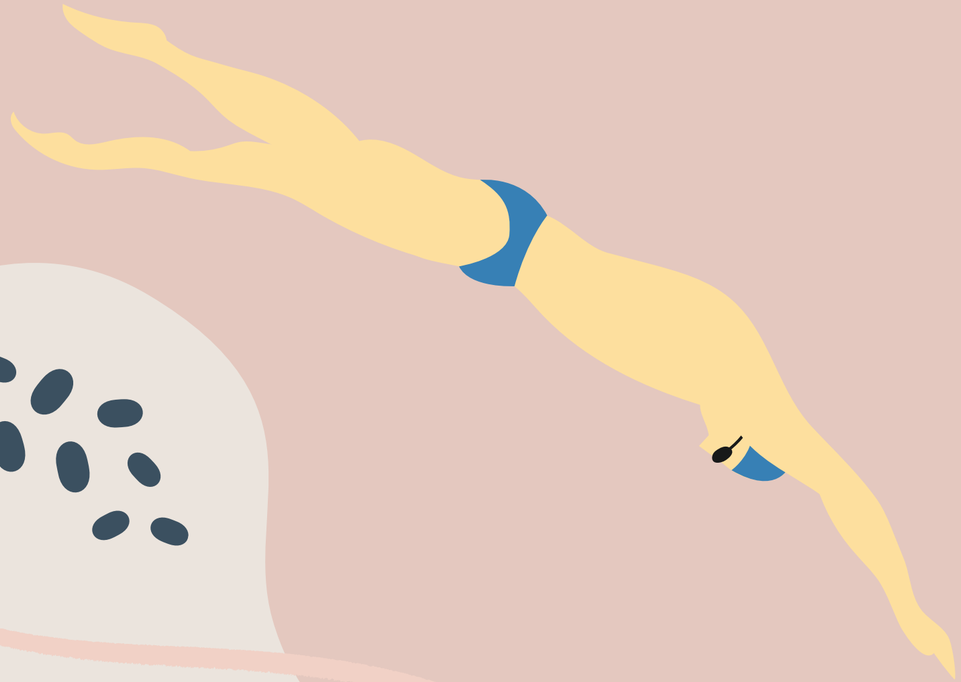
Outcomes

- Physical and psychological morbidity
- Impaired performance in sport
- Increased risk for injury

RELATIVE ENERGY DEFICIENCY IN SPORT (REDS)



Sport
TYPES



ATHLETIC BODY IDEALS

- Body standards governed by gender and sporting subculture
- Can contribute to the development of an eating disorder

“LEAN” SPORTS:

“sports that emphasize achieving and maintaining a lower body weight due to the belief that lower body weight improves performance”

- Increases the risk for disordered eating
- Harmful belief that “thin is going to win”

TYPES OF SPORTS

CATEGORIES “LEAN SPORTS”

01 ENDURANCE

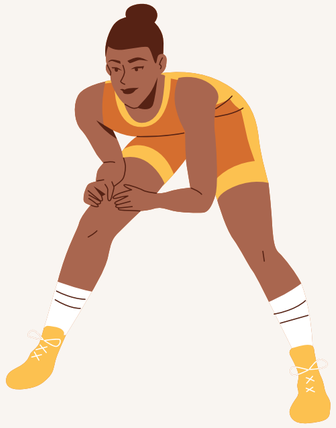
Examples:
Rowing, cycling, running, swimming, cross country skiing

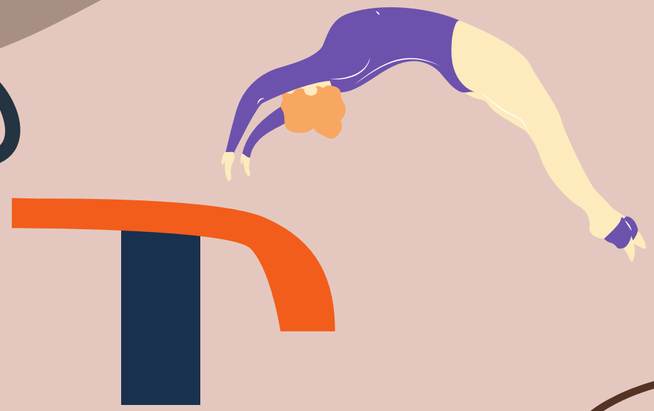
02 AESTHETIC

Examples:
Gymnastics, diving, figure skating, dancing, ballet

03 WEIGHT-DEPENDENT

Examples:
Wrestling, karate, judo





Risk FACTORS

Risk Factors

OVERVIEW

INTERNAL:

- Age, sex, personality, body image perception, stress

EXTERNAL:

- Type of exercise, level of competition, training intensity, social pressures and demands, influence of coach and significant individuals

MULTIFACTORIAL PERSPECTIVE:

01 PREDISPOSING FACTORS

02 TRIGGER FACTORS

03 PERPETUATING FACTORS

Risk Factors

DIETING PRESSURES:

- Stigma with having a larger body weight particularly in sports that emphasize leanness

STRESS:

- In sport environments, athletes experience high levels of stress with the demands and pressures from themselves and coaches

PERSONALITY:

- Some traits that are desired by coaches in athletes are also common among individuals with an ED
  - Excessive exercise
  - Perfectionism
  - Overcompliance
  - High achievement orientation

Risk Factors

EARLY SPORT-SPECIFIC TRAINING:

- Can be dangerous for athletes to be socialized to extreme weight-occupied sports at an early age

TRAUMATIC EVENTS:

- Could be a trigger factor for an ED or DE, particularly injuries among athletes

COACHING BEHAVIOURS:

- Performance-related and body weight preoccupied coaching style VS. Supportive and caring coaching style

Transition TO RETIREMENT

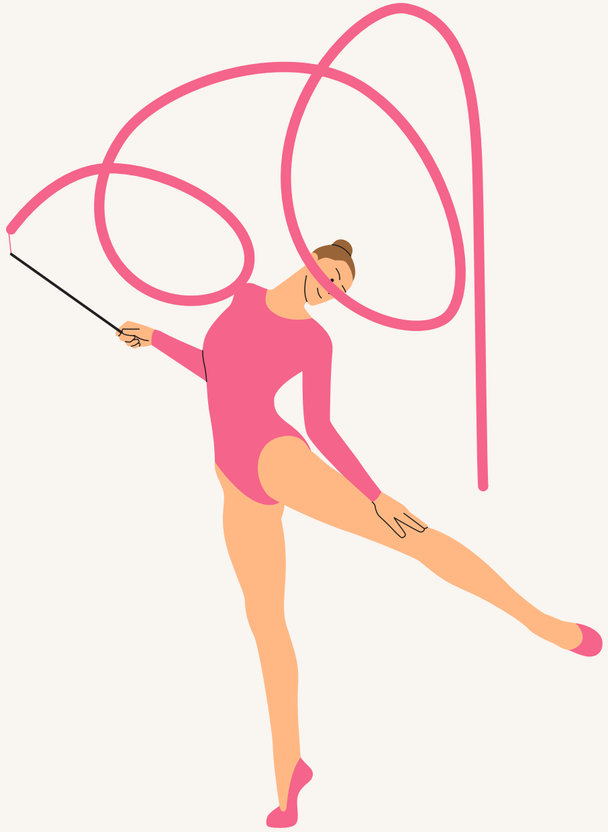
Longitudinal
STUDY

Thompson et al. (2021)

- **NCAA Division 1 female artistic gymnasts and swimmers** across different U.S. universities (N = 193)

- At the time of retirement, **69.9%** of athletes were classified as **healthy**, **26.9%** had a **subclinical ED**, and **3.1%** had a **clinical ED**

- Many athletes continue or develop subclinical or clinical ED symptoms even after leaving their sport



increase in % from

18.7%

to

26.9%

for subclinical ED at time of retirement

Themes Found ACROSS LITERATURE

01 BODY DISSATISFACTION AND GRIEF

02 DE AND COMPENSATION

03 LONG-TERM INFLUENCE OF SPORTING CULTURE

Athletic Body

TRANSITION

athletic body ideal

societal body ideal

"how a lack of body acceptance may lead to maladaptive behaviours related to food, exercise, and body arising in the transitory period to retirement"

ATHLETIC RETIREMENT

BODY COMPOSITION CHANGES

CONTINUED ATHLETIC IDENTITY

BODY CHANGES AWAY FROM SOCIETAL IDEAL

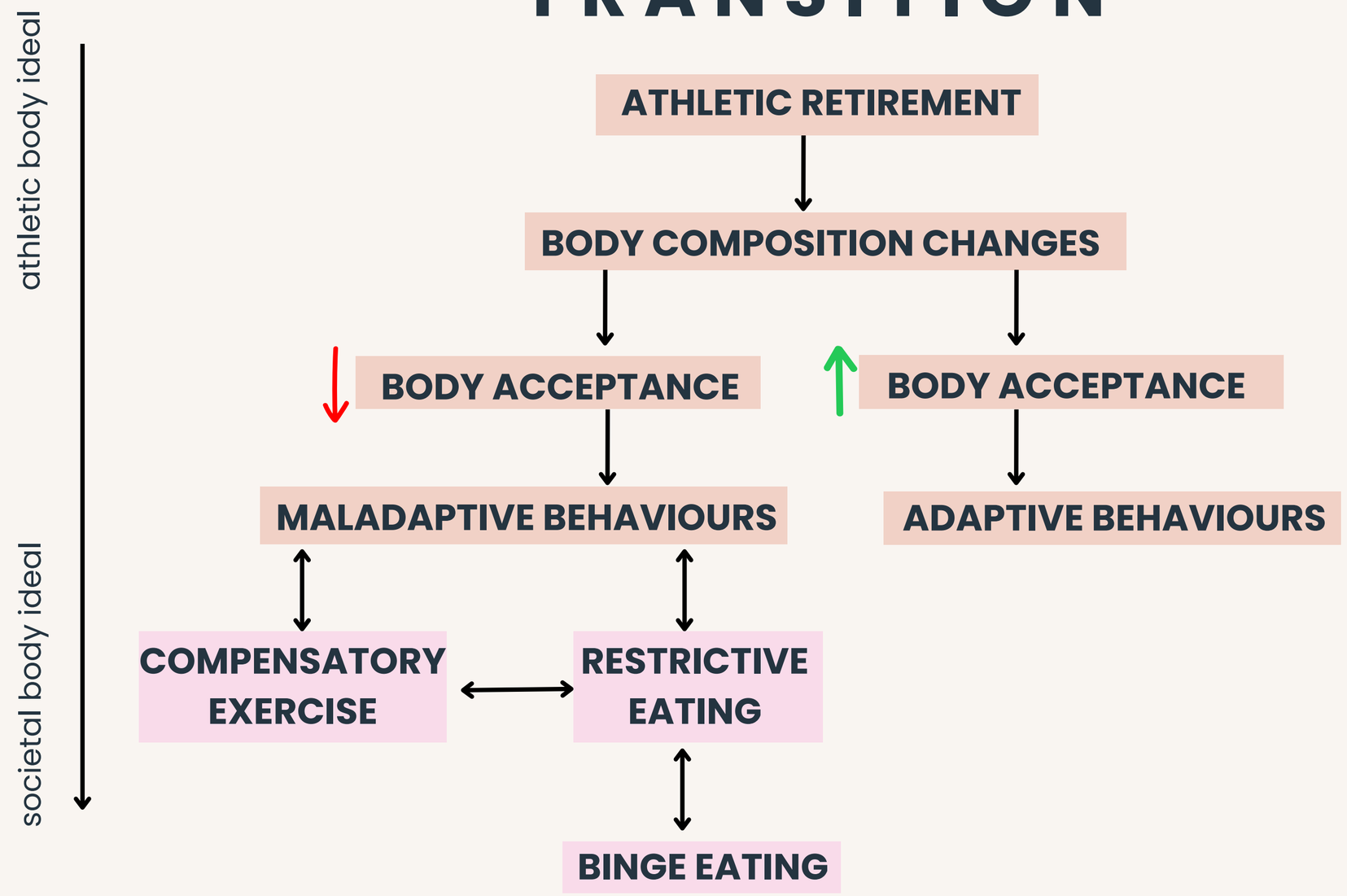
BODY CHANGES TOWARD SOCIETAL IDEAL

BODY ACCEPTANCE

BODY ACCEPTANCE

Athletic Body

TRANSITION



Recovery

01 MEDICAL STABILITY

02 NUTRITIONAL STABILITY

03 LACK OF DE BEHAVIOURS

04 CONSIDER PSYCHOLOGICAL STRESSORS

R&Ds

RELATIVE ENERGY DEFICIENCY IN SPORT

By: Stephanie Ryall, MD

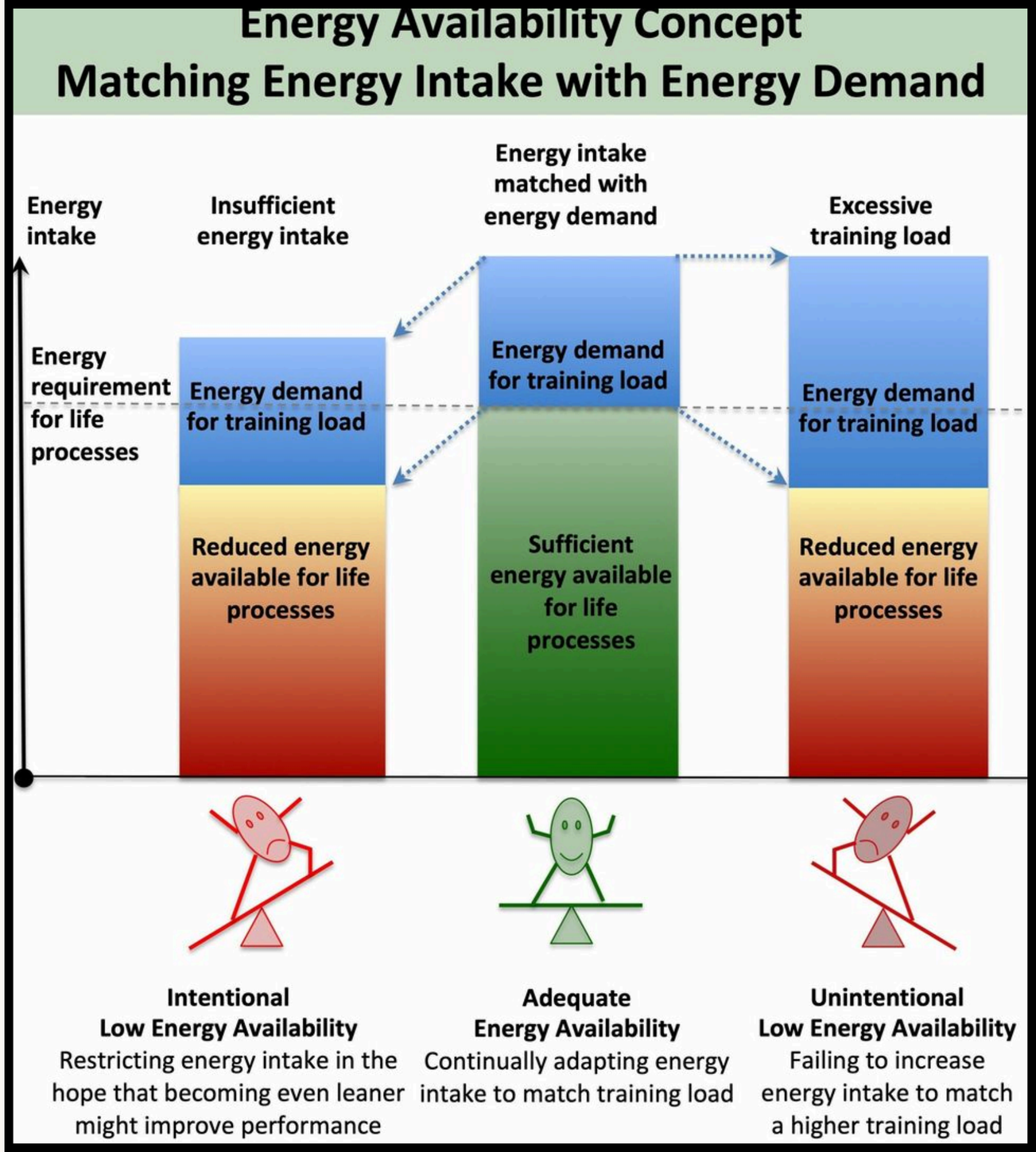
ENERGY AVAILABILITY

Energy Availability:

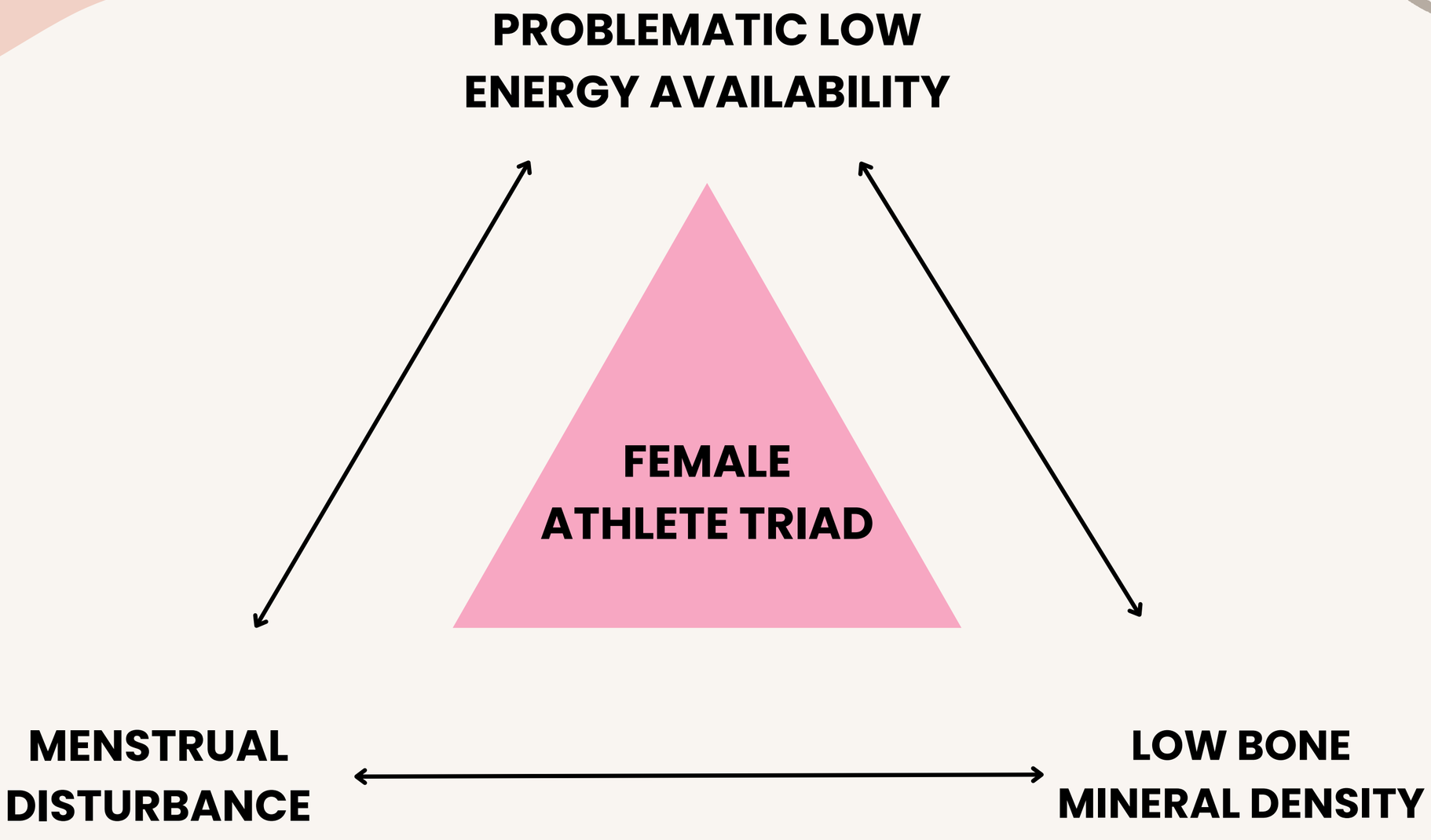
- Dietary energy left over and available for optimum function of body systems after accounting for exercise.

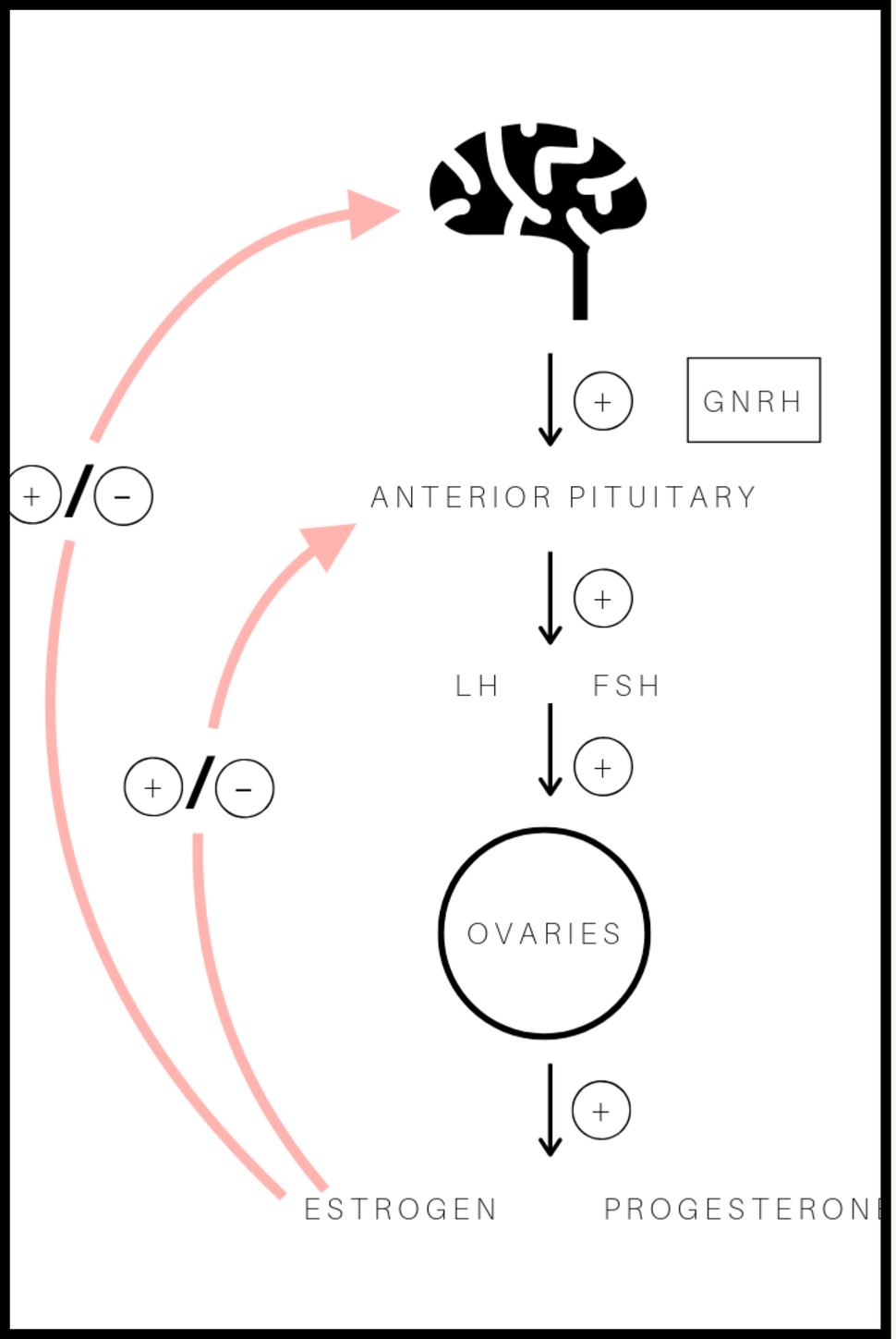
Low Energy Availability:

- Due to low energy intake, excessive energy expenditure where intentional or unintentional
- Problematic LEA -> REDs



Back in 1992...


PROBLEMATIC LOW
ENERGY AVAILABILITY
FEMALE
ATHLETE TRIAD
MENSTRUAL
DISTURBANCE
LOW BONE
MINERAL DENSITY



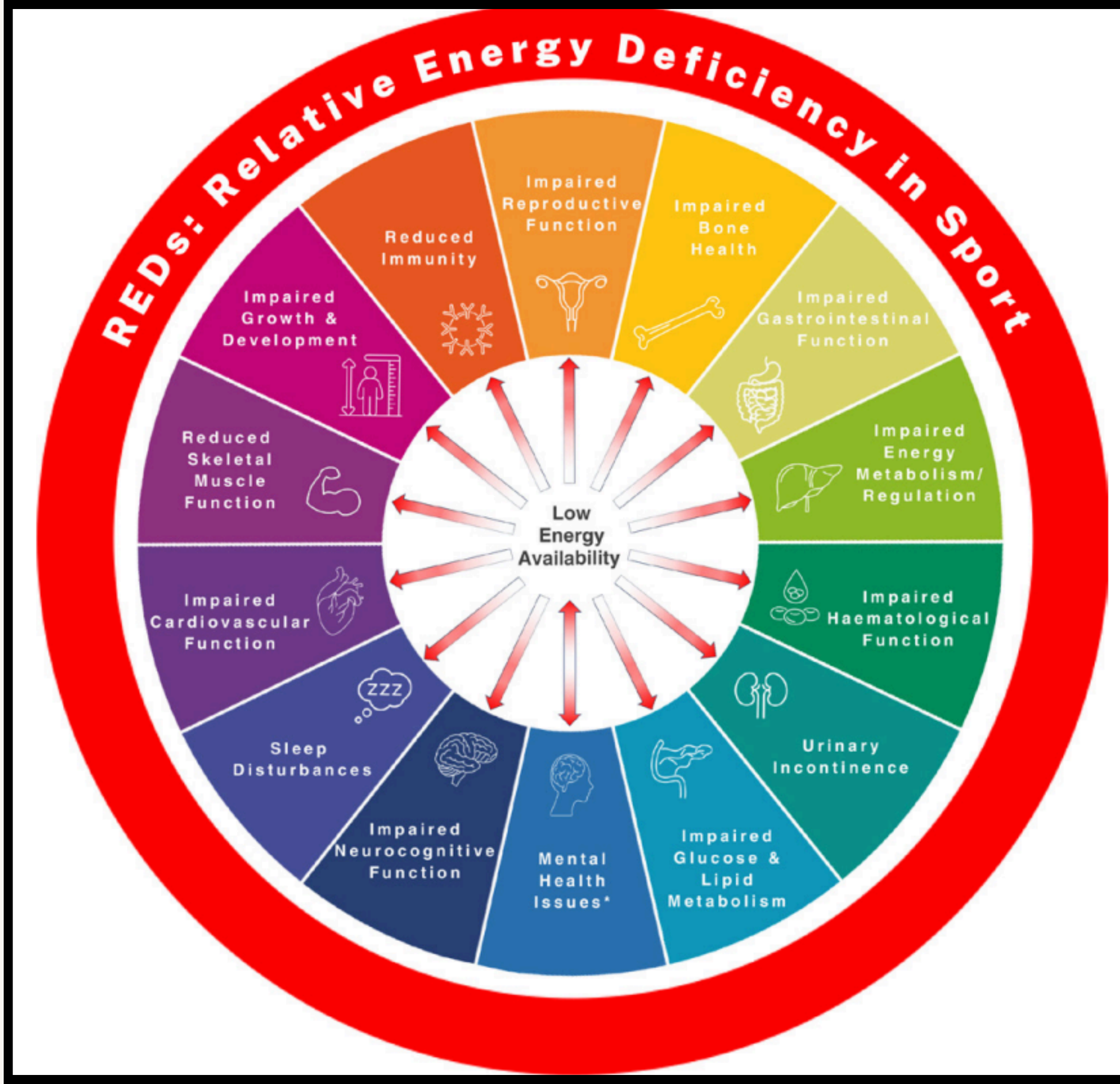
WHAT'S GOING ON IN THE FEMALE ATHLETE TRIAD?

- **Reproductive Function**
  - LEA -> Hypothalamic shut down
  - Low estrogen, progesterone, testosterone
  - Loss of period, Erectile dysfunction, Low Libido

- **Bone Health**
  - Estrogen, Progesterone and Testosterone are neccesary for Bone Health
  - Peak bone mass occurs at 19 years in women and 20.5 years in men.
  - Loss of BMD -> Stress Fractures, Osteoporosis

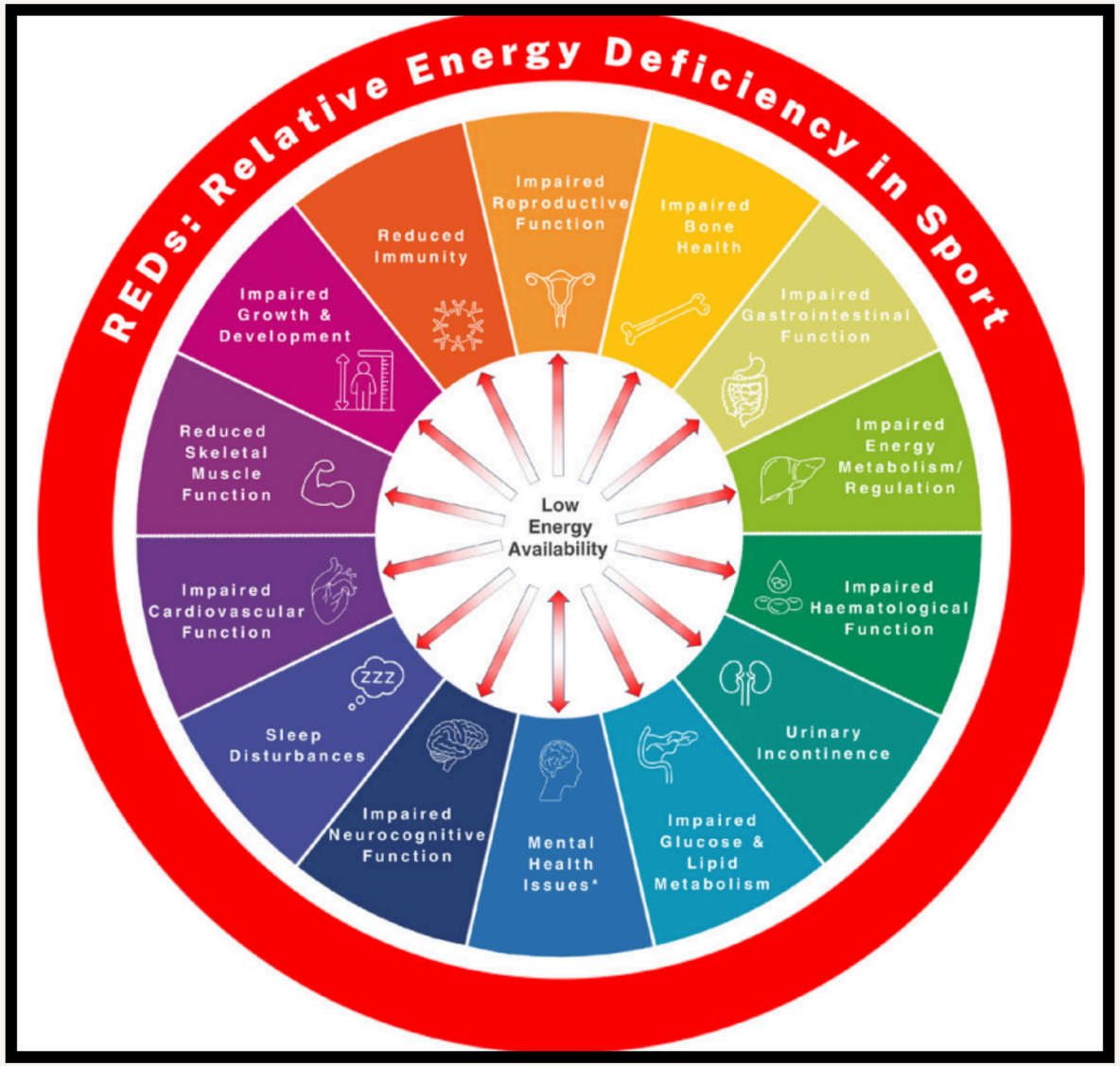
AS OF 2014... RELATIVE ENERGY DEFICIENY IN SPORT

- A syndrome of impaired physiological and/or psychological functioning experienced by athletes
- From exposure to problematic LEA.
- Male and Female Athletes!

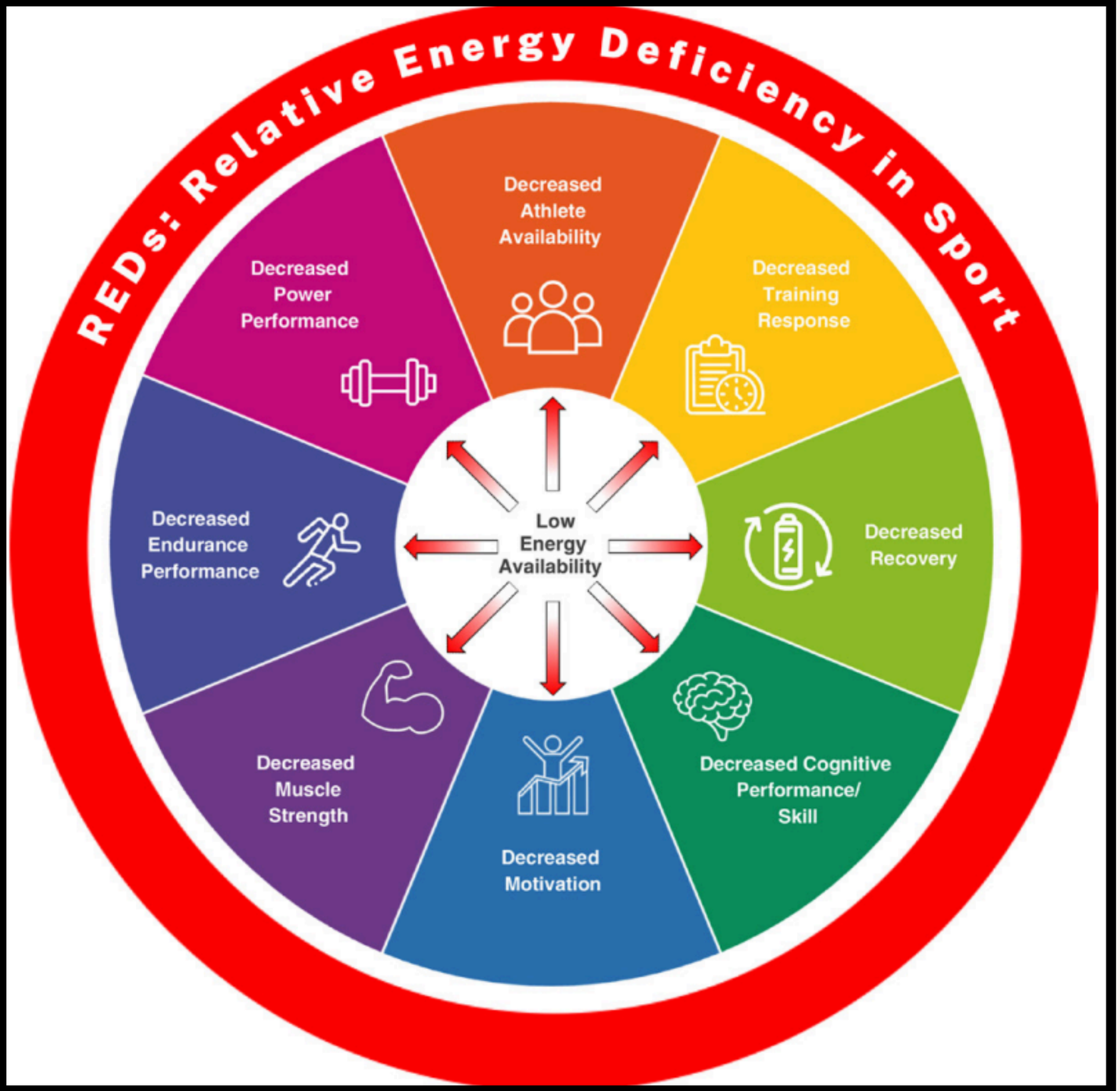


REDS: MANY PHYSIOLOGIC CONSEQUENCES!

- Cardiovascular Function
- Sleep Disturbance
- Neurocognitive Function
- Reduced Skeletal Muscle function
- Impaired growth and development
- Reduced Immunity



- Gastrointestinal Function
- Energy/Metabolism Systems
- Impaired Hematologic Function
- Urinary Incontinence
- Impaired Glucose and Lipid Metabolism
- Mental Health



ATHLETIC PERFORMANCE IMPACTS

- **Study on Junior Elite Swimmers:**
  - Comparison of OVS athletes to CYC athletes across 12 week season:
  - 400-m swim performance showed a 9.8% decline in OVS athletes compared with an 8.2% improvement in CYC

- **Study on National level Rowers:**
  - 4 week intensified training period with unchanged energy intake
  - Significant decrease in body mass
  - On-water 5 km rowing performance worsened

PROJECT RED—S

CLINICAL APPROACH TO REDS

Prevention: Education for athletes, coaches, physicians!

Monitoring:

- For athletes: Look for REDs signs, reach out for help!
- For Healthcare Providers: IOC's REDs CAT2 Tool
- **If using hormonal contraceptives, you cannot use menstrual cycle as a marker of REDs!**

Treatment:

- Multidisciplinary approach is key
- Reversal of Problematic LEA
- Adjuvant treatment of body system dysfunction

Thank you

FOR LISTENING!

ANY QUESTIONS?

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