

# FEMALE HEALTH IN SPORT

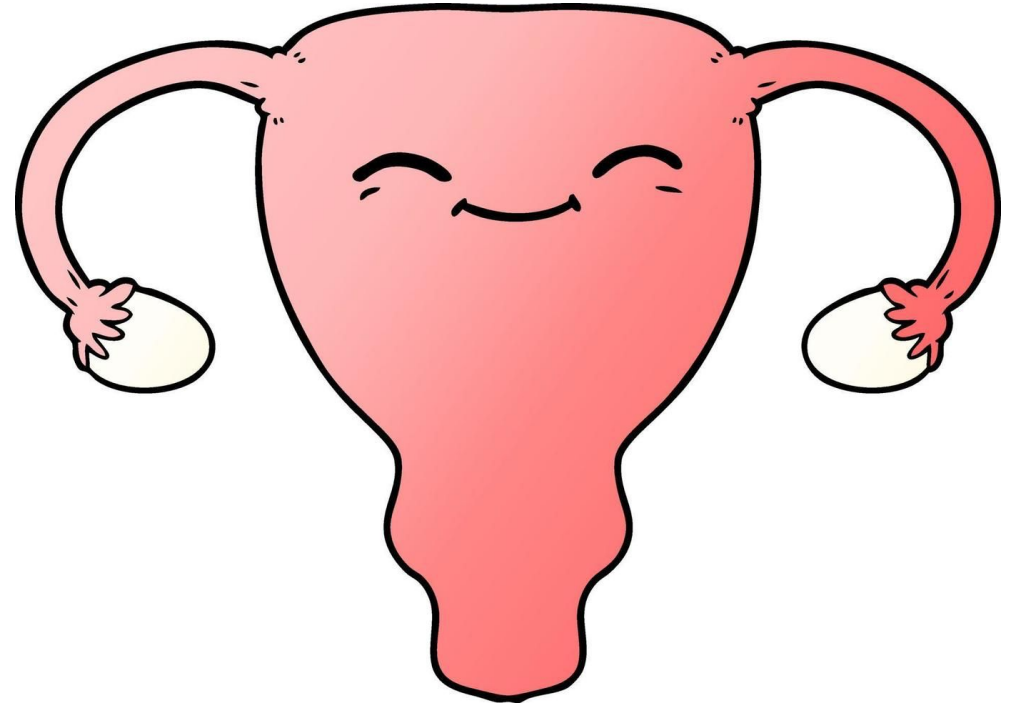
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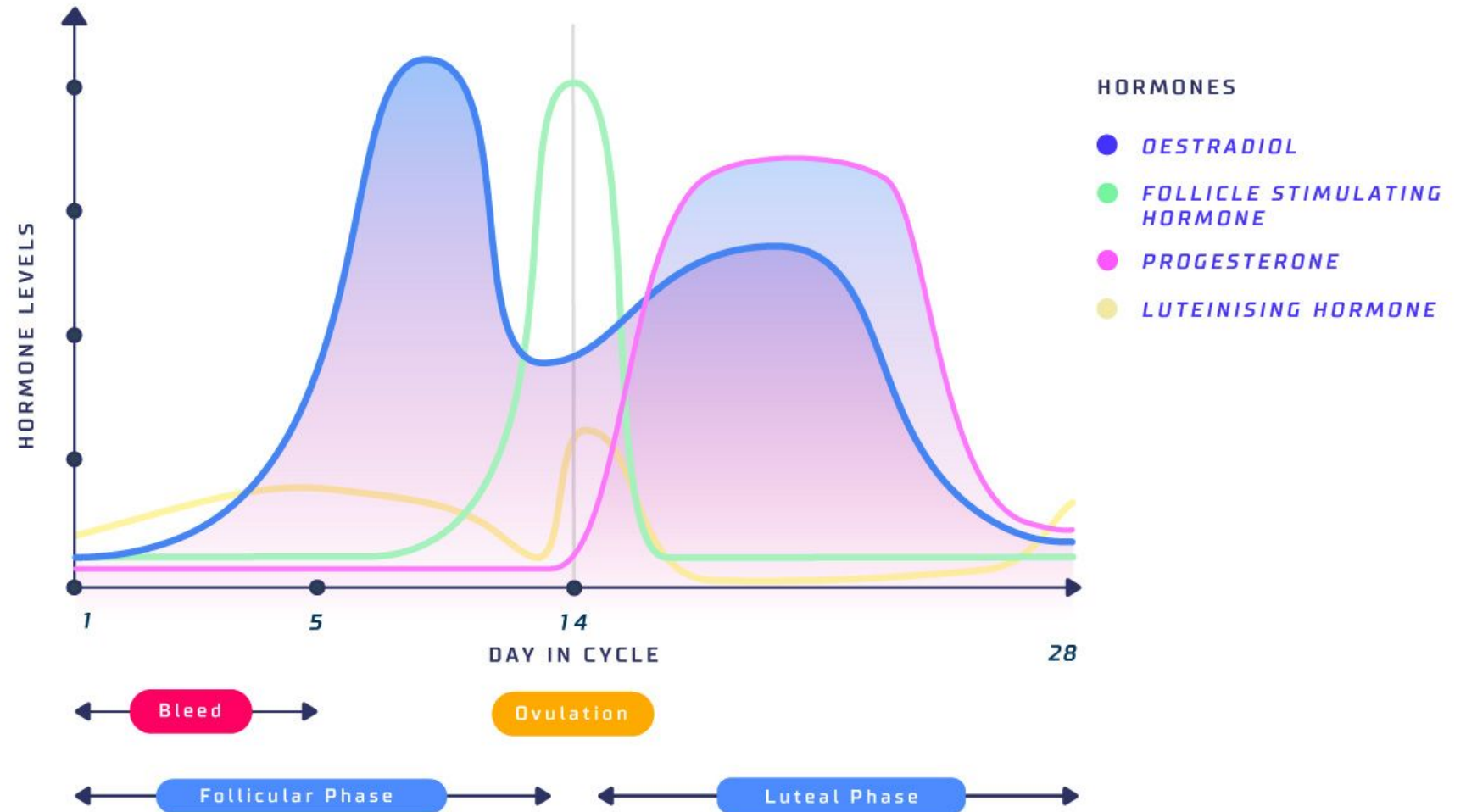


# What are we going to talk about?

- 1) The Menstrual Cycle- what is normal, and why is this important
- 2) RED-S: Relative Energy Deficiency in Sport
- 3) Iron deficiency
- 4) Nutritional considerations (a brief overview)



# PHYSIOLOGY OF THE MENSTRUAL CYCLE

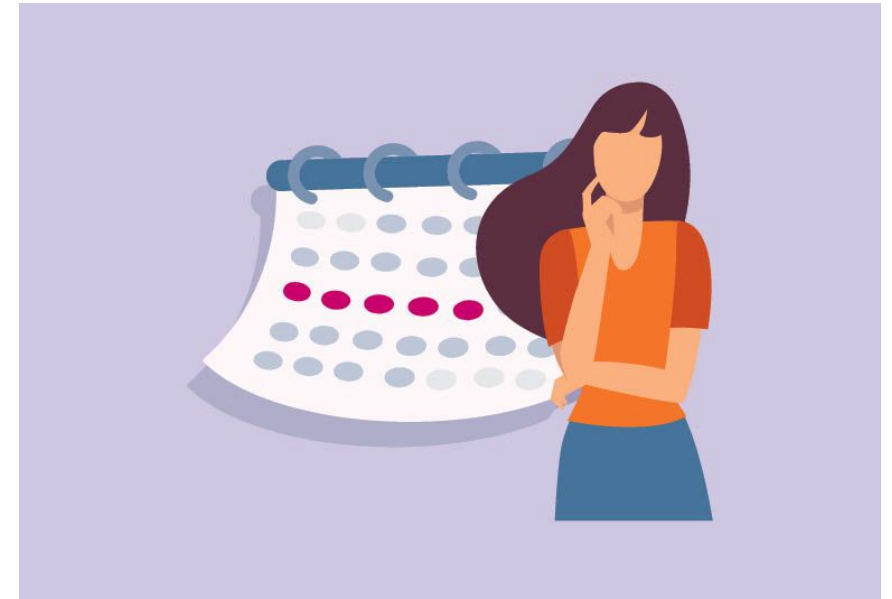


# MENSTRUAL CYCLE PHYSIOLOGY KEY POINTS

- Most women get their first period between age 11-14
- Most women get a period every 21-35 days
- Bleeding on average for 4-7 days
- Periods are often irregular for the first few years - this is normal!

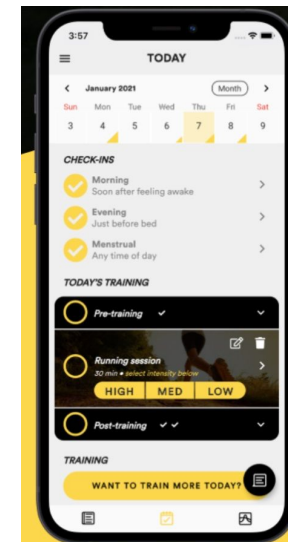
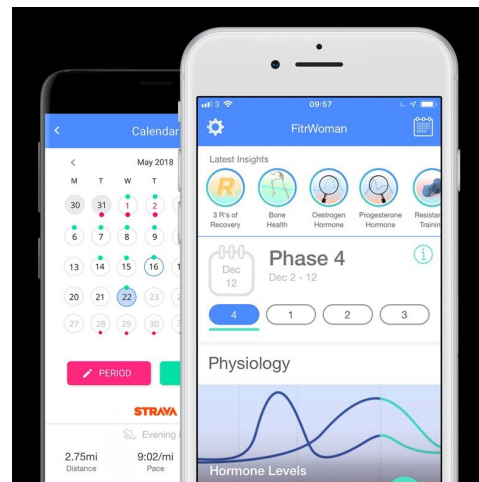
# WHEN SHOULD I TALK TO MY DOCTOR?

- You get a period more frequently than every 21 days.
- The time between periods is longer than 35 days.
- Your periods last longer than 7 days.
- Your periods were regular and now are irregular.
- **You haven't had a period in 3 months.**
- **No period by age 15**
- Cramping/heavy bleeding that interferes with your everyday life



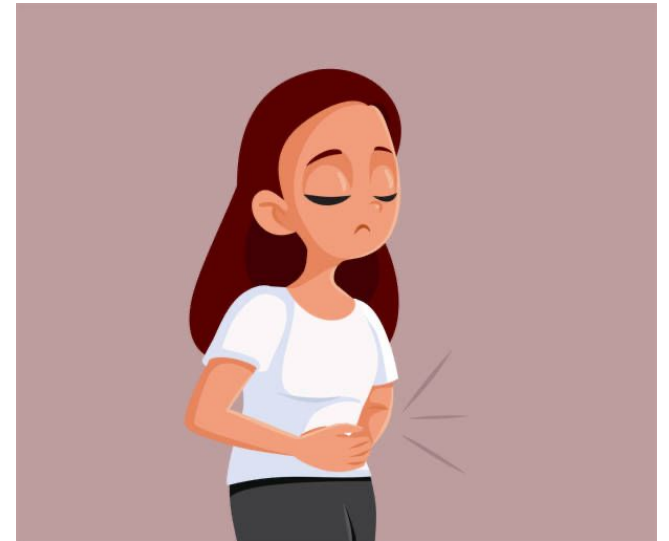
# Tracking your cycle

- There are many apps out there for this purpose - I suggest keeping track!
- You can monitor both your cycle timing as well as symptoms
- Clue, FitrWoman, Wild.AI, Garmin
- You can also build this into your training log
- If you take a birth control pill or have a hormonal IUD, you may not get a “normal” period



# A bit on painful/heavy periods

- If your period significantly interferes with your ability to train/compete due to pain or heavy bleeding, you should talk to your physician
- There are treatments available!
  - The mainstay is treatment with a hormonal form of contraception
  - But there are other options as well
  - This should be an individualized discussion with your physician

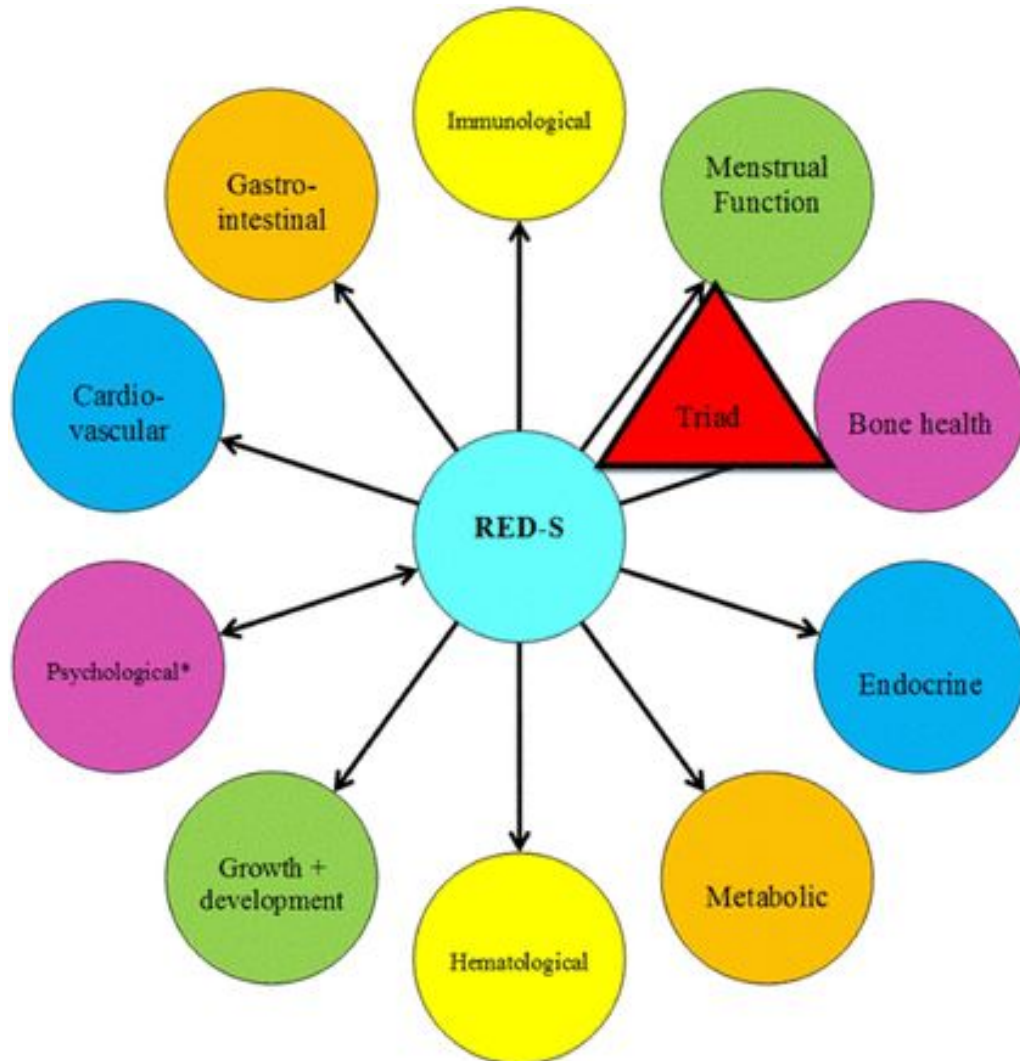


**Why is having a  
regular menstrual  
period important?**

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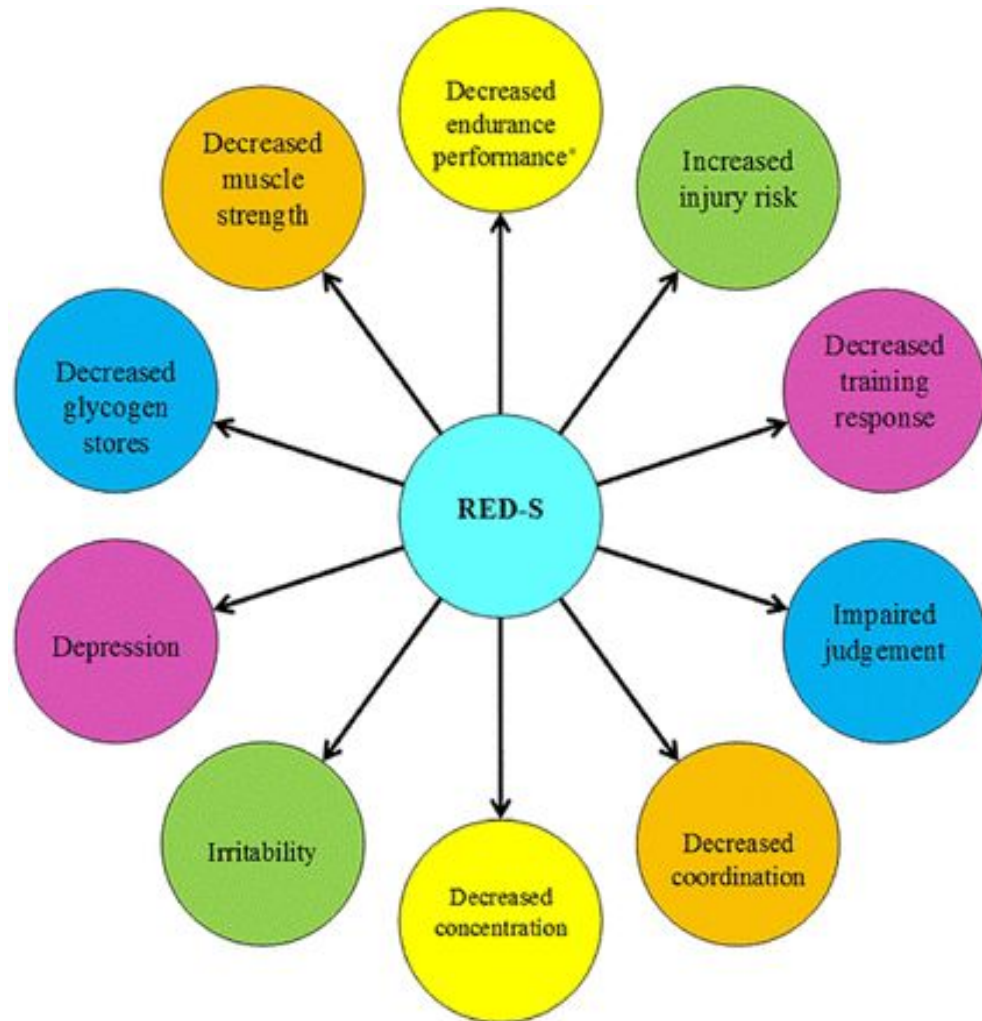


# RED-S: RELATIVE ENERGY DEFICIENCY IN SPORT



- Previously known as the Female Athlete Triad
- When energy availability does not meet energy expenditure (not enough caloric intake)
- As athletes, we need enough calories to meet our regular physiological needs in addition to the demands of training and competition
- Can lead to many issues including menstrual dysfunction and poor bone health

# Why is this important to me as an athlete?



- Nutrient deficiency
  - Iron deficiency anemia
- Chronic fatigue
- Increased risk of infections and illness
- Reduced muscle protein synthesis (poor recovery)
- Slowing of metabolic rate, decreased production of growth hormone
- Decreased bone density
  - Increased risk of stress fractures
  - Long-term consequences of osteoporosis
- Loss of menstrual cycle

# What to do if you suspect RED-S?

- Get in touch with your coach, physician, other allied health professionals – come up with a plan!
- The main principle of treatment will include increasing your energy intake and reducing your training load
- Starting a birth control pill to “regulate” your cycles is often suggested by physicians - this does not address the underlying energy availability issue

# Prevention of RED-S

- Be aware of the risk!
  - Coaches and parents - watch for signs in your athletes in both female and male athletes
- Recognize that pressures to maintain a certain body weight/shape can occur in our sport, and have someone you trust that you can reach out to if you notice this within your training environment, or if you notice these pressures affecting yourself
- Speak to your doctor

# IRON DEFICIENCY: WHY ARE FEMALE ATHLETES OFTEN IRON DEFICIENT?

- Females: blood loss through menstrual cycles
- Breakdown of red blood cells through muscle contraction, ?footstrike hemolysis
- Losses through sweating, GI tract, urine
- Inflammatory hormones: hepcidin



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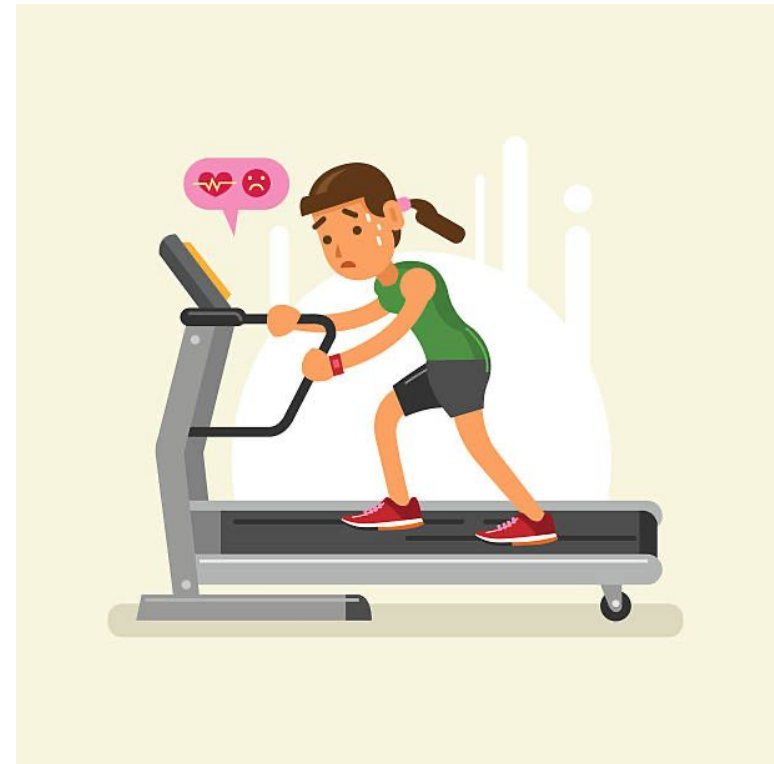
Iron considerations for the athlete:  
<https://link.springer.com/article/10.1007%2Fs00421-019-04157-y>

# WHAT DOES THIS MEAN FOR US AS FEMALE ATHLETES?

- You should have your iron checked before starting supplements
- Ask your doctor for your results (or sign up for myhealth!) – don't settle for “your results are normal”
  - Research indicates that even values within the “normal range” can be low enough to affect performance in female athletes
- In general, most female athletes will probably benefit from iron supplements, or at least a multivitamin with iron (pre-natal supplement)
- Ask your coach, doctor, pharmacist, or myself if you have questions or concerns
- Again, find what works for you!

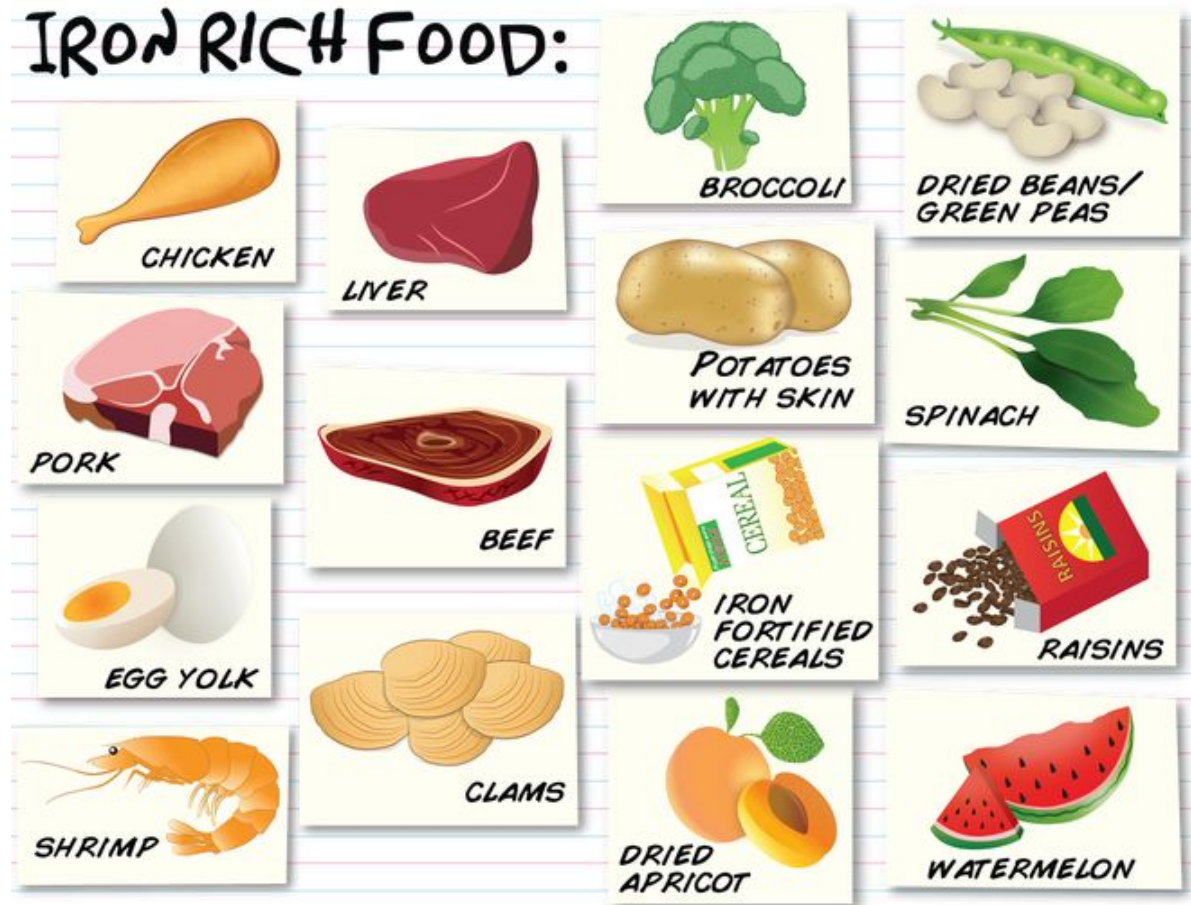
# IRON DEFICIENCY: SYMPTOMS

- Iron is necessary for oxygen transport & energy metabolism – when it is low, we often see a decline in exercise capacity & VO2 max
- Weakness, general fatigue
- Decreased performance
- Increased heart rate/shortness of breath
- Headaches
- Cravings for ice



# IRON DEFICIENCY: TREATMENT

- Dietary sources: meat (especially red meat), fish, beans, chicken, spinach, lentils
  - Vitamin C will enhance dietary iron absorption
  - Calcium (dairy products), tea, coffee can decrease iron absorption
- Iron supplements: available over the counter from the pharmacy. First, talk to your doctor!





# Nutrition Strategies

- This will look different for us depending on many factors
- Take accountability for this as a high performance athlete - it is a major piece of the puzzle!
- Take an appropriate snack to practice to consume afterwards, as well as any necessary hydration needs
- Prepare yourself for success by fuelling appropriately BEFORE training sessions too
- Find what works for you in terms of fuelling before competitions
- Focus on energy rich foods - and look for an appropriate balance of carbohydrates, proteins and fats
- Bone health: focus on good dietary intake of calcium, and vitamin D supplementation

# Resources

Australia Institute of Sport Female Athlete Resources <https://www.ais.gov.au/fphi/female-athlete-resource>

Boston Children's Hospital Female Athlete Program

<https://www.childrenshospital.org/programs/female-athlete-program>

IOC consensus statement on RED-S: <https://bjsm.bmj.com/content/52/11/687>

Iron considerations for the athlete: <https://link.springer.com/article/10.1007%2Fs00421-019-04157-y>

# QUESTIONS?

Email: [dthiel@ualberta.ca](mailto:dthiel@ualberta.ca)

# Topics to consider for doctors appointments

- ❑ Irregular menstrual cycles:
  - ❑ You get a period more frequently than every 21 days.
  - ❑ The time between periods is longer than 35 days.
  - ❑ Your periods last longer than 7 days.
  - ❑ Your periods were regular and now are irregular.
  - ❑ **You haven't had a period in 3 months.**
  - ❑ **No period by age 15**
  - ❑ **\*\* starting birth control to “regulate your periods” is not recommended if you have not addressed the underlying cause of why your period is not regular \*\***
- ❑ Menstrual symptoms that interfere with your everyday life
  - ❑ Cramping, heavy bleeding - what are your options?
- ❑ Iron testing - hemoglobin, ferritin
  - ❑ Aim for ferritin >50 in athletes - do you require treatment?