

# Let's Talk About It

Sex differences extend far beyond ponytails and sports bras

## Hormones

- Women have 2 hormone phases each month: high and low
- Low: physiologically similar to men
- High: high estrogen makes us spare glycogen & ↑ fat we use for fuel
- High progesterone delays sweat response, ↑ core temperature, ↑ sodium loss, ↑ muscle breakdown
- High estrogen & progesterone after ovulation as your hormones ramp up leading to your period causes fluids to shift into the cells (bloat), blood plasma volume, making you more predisposed to central nervous fatigue (makes exercise feel harder than usual)

## Menstrual Cycle

- Ave. menstrual cycle is 28 days (two 14-day phases & begins day of your period)
- Day 1-14: Follicular phase (most like male physiology)
- Day 14: Ovulation
- Day 15-28 Luteal phase. Hormones kick into high gear. Estrogen & progesterone reach peak levels ~5 days before menstruation (feels hotter, cramping, mood swings, efforts feel harder, GI distress)
- If fertilized egg isn't implanted, progesterone levels fall & you shed lining and are back to day 1
- Stop worrying about having your period on race day - best day to have it!

## Missed Periods

- Inadequate nutrition is usually the cause
- When women drop too low in carbohydrate, we become more masculinized in our reproductive status and conserve fat.
- From a survival standpoint, your body is thinking of famine, and in a widespread famine, the last thing that is needed is new babies.
- IF YOU STOP GETTING YOUR PERIOD DURING TRAINING IT NEEDS TO BE ADDRESSED

## How to work with your physiology

- Peak performance during PMS
  - 250mg magnesium
  - 45mg zinc
  - 80mg aspirin (baby aspirin)
  - 1g of omega-3 fatty acids
  - Every night for 7 days before period
- Pretraining
  - 5-7g of branched chain amino acid supplement (BCAAs)
- In training
  - Consume a few more carbs per hour
  - High hormone phase aim for 0.45g carb/lb of BW/hr
  - Low hormone phase aim for 0.35g of carb/lb of BW/hr
- Post training
  - Recovery is critical!
  - 20-25g of protein within 30 min
  - 0.9-1g of protein/lb of BW/ day