Ultramarathoning High Five

- Mental Resilience
  - Conscious
    - High level planning
    - Navigation
    - Pacing
    - Eating+Drinking
    - Safety management
    - Self talk
      - Positive
      - Negative
    - Human/Animal Interactions
  - Sub-conscious
    - Monitors body health
      - Homostasis
      - Temperatire
      - Blood sugar
      - Electrolytes
    - Control of motion
    - Central Governer
      - Concept
      - Body makes sub-conscious judgements
  - Endocrine system (hormones)
    - Fight-Flight Hormones
      - Adrenalin+Neradrenaline
        - Boosts oxygen and glucose to brain+muscles
        - increases HR and stroke volume
        - Increase skeletal muscle redness
        - Supresses non essesntial processes
          - Digestion
      - Cortisol
      - Noradrenaline
  - How to Train
    - Inernalise goals
    - Practice listening to the body
    - Lean how to fix problems as they arise
    - Flexibility greater than Strength
    - Practice excepting up and downs
    - Be mindful
      - Lean to be in the moment
      - Cast aside negative self talk
    - Learn mantra's/techniques that keep you focused
- Metablic Resilience
  - Fuel Burn
    - WHW Race Energy Req.
      - 13,000 to 16,000 Calories
      - 50% to 65+% Fat
    - Excerise Intensity
      - Higher intensity higher glycogen burn
      - Lower intensity more fat burn
      - Walking is more economical
      - Higher intensity greater heat generation
        - More sweating
        - Heat may be required to keep your warm!
    - Start race
      - 2000 calories of muscle+liver glycogen
      - Good running economy
    - During race
      - Glycogen honey-moon period
        - Glycogen stored with water
        - Once spent no more water to release
      - Progressive more fat burning
        - 13% more oxygen required
        - Requires water
    - End of race
      - Little glycogen
      - Mostly fat burning
        - You can only go as fast as your fat burning supports
        - Might require walking
      - Blood sugar maintains brain NOT muscles
      - Muscle damange/fatigue lower economy
  - Fuel Consumption
    - Food
      - Energy drinks
      - Energy bars
      - "Normal" food
      - Caffine+other stimulants
    - Drink
      - Drink to thrist
      - Electrolytes
    - Gastric stress - gut rot!
      - Adrenaline cuts blood flow to gut
      - Gut uses blood sugar for fuel
  - Cooling and Warming
    - Body must core temperatire stable
    - Intensity must be adjusted to maintain temperature
    - Body responds to heat
      - Blood diverated to skin
      - Fuel burn shifts towards glycogen
      - Body issues fatigue signals to slow you down
    - Clothing can help cool or keep you warm
  - How to Train
    - Eat what your burn
    - Practice running and eating
    - Practice heat exposure - hot taper
    - Familiar with bodies feedback
      - Hyrdration levels
      - Energy levels
      - Temperature
- Structural Resilience
  - Muscles
    - Neurological system
      - Cramp
    - Muscle Damage
  - Tensons, Ligaments and Fascia
  - Bones
  - How to Train
    - Training volume
    - Hills for resilience muscles
    - Really big descents for cast iron quads
- Race Craft
  - You and your crews skills at delivering on race day
  - Composed of:
    - Planning
    - Food & Drink
    - Navigation
    - Pacing
    - Responding to problems
    - How to deal with weather conditions
    - Night and day
    - Settings goals
      - Managing exectations
  - How to Train
    - Plan
    - Practice
      - Use Training Runs
        - Long runs on similiar terrain
        - Use the same kit
        - Food and Drink
        - Pacing
          - Use similar terrain
          - Recovery runs are similiar pace
          - HR monitors
          - Breathing
          - Hone running economy @ race pace
          - Getting comfortable/relaxed @ race pace
        - Getting comfortable efficient + race pace
      - Use Races
        - Recreate the nerves
        - Practice pacing
        - Practice use of Kit
        - Practice eating and drinking a race pace
    - Execute
      - Make sure you know your goals
- Aerobic Base Fitness
  - Cardio vascular system
  - Musculskeletal system
  - Your aerobic speed
    - 10k ~ 90% Aerobic
    - Marathon 98-99% Aerobic
  - Training for 5k to Marathon similiar
  - How to train
    - 80-95% mileage below LT
      - Easy runs
      - Long Runs
      - Recovery runs
    - 5-20% mileage around LT or faster
      - Tempo runs
      - Intervals
        - 800s @ 5k pace
        - Sprints
        - Hills
        - Fatlek