

BIKING TO HEALTH

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WHAT IS NEEDED TO RIDE?

- Three B's
 - Bike
 - Balance (unless you have a trike)
 - Brawn

BRAWN-THE MOTOR

- Three F's
 - Fire
 - Fuel
 - Fluid

BRAWN-THE MOTOR

- Three F's

- Fire – nerves working in unison with the muscles to excite contraction providing “perfect circles” or the eternal spin

BRAWN-THE MOTOR

- Three F's

- Fuel – carbohydrate, fat, protein

- GLUCOSE – the sugar of champions

- Glycogen – stored in liver and muscle

BRAWN-THE MOTOR

- Three F's

- Fluid – water acts as coolant, lubricant, and antipollutant

BRAWN-THE MOTOR

- **To Make Power Consistently:**
 - Appropriate Nutrition
 - Appropriate Hydration

BRAWN-THE MOTOR

- **Appropriate Nutrition**
 - Glycogen-enough stored in muscle and liver for 60-90 minutes of riding
 - Longer rides have to replace
 - High intensity burns carbs

6 STEPS TO REFUELING

- Step 1: determine your desired speed
- Step 2: Multiply speed coefficient by total body weight
- Step 3: Multiply step 2 by 60 minutes to determine hourly calorie expenditure
- Step 4: Add 22 calories to step 3 for every 100 feet of climb
- Step 5: Multiply step 4 by 0.3 to determine minimum hourly calorie replacement
- Step 6: Multiply step 4 by 0.5 to determine maximum hourly calorie replacement

CYCLING SPEED COEFFICIENT

• Average Speed (mph)	• Coefficient (calorie/lb/minute)
• 15	• 0.0561
• 16	• 0.0615
• 17	• 0.0675
• 18	• 0.0740
• 19	• 0.0811
• 20	• 0.0891
• 21	• 0.0975
• 23	• 0.1173
• 25	• 0.1411

EXAMPLE: 165 LB RIDING A CENTURY RIDE WITH 1000 FT OF ELEVATION. DESIRED SPEED 20 MPH, COEFFICIENT IS 0.0891

- Step 1: hourly cycling expenditure
 - $0.0891 \times 165 \text{ lb} \times 60 \text{ min} = 882 \text{ calories}$
- Step 2: total cycling expenditure
 - $882 \text{ calories} \times 5 \text{ hours} = 4410 \text{ calories}$
- Step 3: add appropriate calorie expenditure based on course profile
 - $(1000 \text{ ft gained} / 100 \text{ ft}) \times 22 = 220 \text{ calories}$
 - $220 \text{ calories} + 4410 \text{ calories} = 4630 \text{ calories}$
- Step 4: total calorie replacement goal for century
 - Minimum: $0.3 \times 4630 \text{ calories} = 1389 \text{ calories}$
 - Maximum: $0.5 \times 4630 \text{ calories} = 2315 \text{ calories}$
- Step 5: hourly calorie replacement goal for century
 - Minimum: $1389 \text{ calories} / 5 \text{ hours} = 278 \text{ calories}$
 - Maximum: $2315 \text{ calories} / 5 \text{ hours} = 463 \text{ calories}$

REPLACEMENT

- First hour have enough stored
- 1850 calories over 4 hours – $\text{max} + \text{min} / 2$
- 370 calories per hour – $\text{max} + \text{min} / 2$

BASIC REFUELING GUIDELINES

- **Rides less than one hour** – carb based meal a couple of hours prior to ride, you will not need to eat during the ride
- **Rides of 1-2 hours** – same pre-ride meal but plan to eat something during ride - energy bar, gel pack or my favorite, fig newton
- **Rides over 3 hours** – solid meal a couple of hours prior to ride, oatmeal, yogurt, fruit, bagels,
 - mineral replacement of sodium, potassium, magnesium – supplements, pickle juice, mustard
 - Calorie replacement with energy bar, fruit, gels
- **Recovery** – eat within 20-40 min after ride - carb and protein (lean meat, whole grains, nuts or vegetables) I like chocolate milk

BRAWN-THE MOTOR

- **Appropriate Hydration - water**
- Full hydration prior to ride
- Loss of 1% will affect performance
- **Recommendation**: Replace 0.18 to 0.22 ounces of fluid per pound of body weight/hour – 30 oz for 150 lb rider

BRAWN-THE MOTOR

- Appropriate Drug – caffeine – turbo boost
- Endurance performance booster
 - Increases power output, time to exhaustion, lowers perceived exertion
 - Pedal longer, more power and feel less tired!

BRAWN-THE MOTOR

- Appropriate Drug – caffeine
- 15% increase in resting metabolism if taken one hour prior to ride
 - Helps burn fat – saves your carbs
 - Increases muscle calcium which improves contraction
 - Improves reasoning and memory
 - Continues calorie burn after ride

BRAWN-THE MOTOR

- Appropriate Drug – caffeine
- Know your dose
 - 1.36-2.72 mg/pound
 - Take half before and the rest during ride
 - 16 oz Starbucks – 330 mg
 - Double Espresso -150 mg
 - Red Bull 8oz – 80 mg



SUMMARY

- Experiment prior to planned event
- Know your body – If it works, don't change
- Determine your nutrition and hydration needs using guidelines discussed

THANKS

EAT, DRINK AND LET THE GOOD TIMES ROLL

Recumbent Rally and Convention

5/1/2015 FLOWOOD, MS

