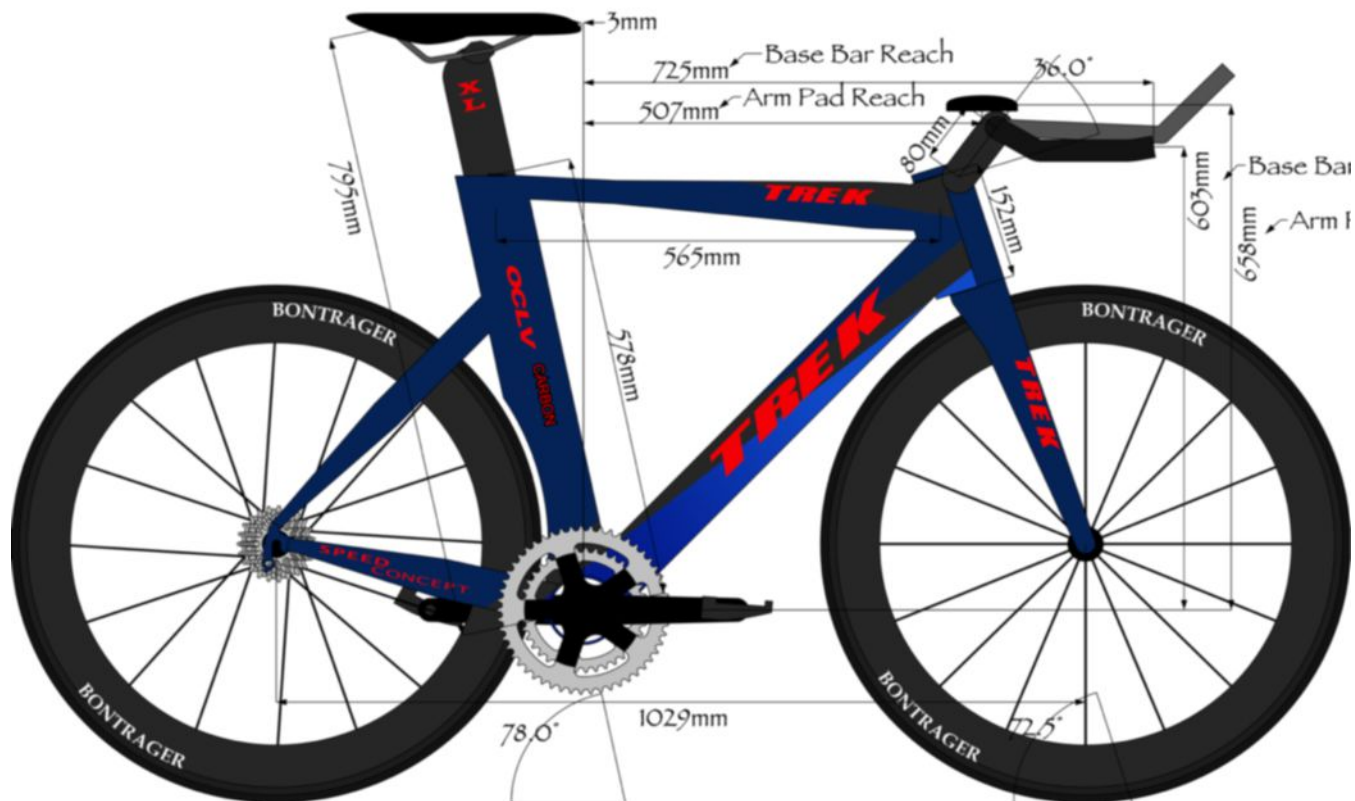


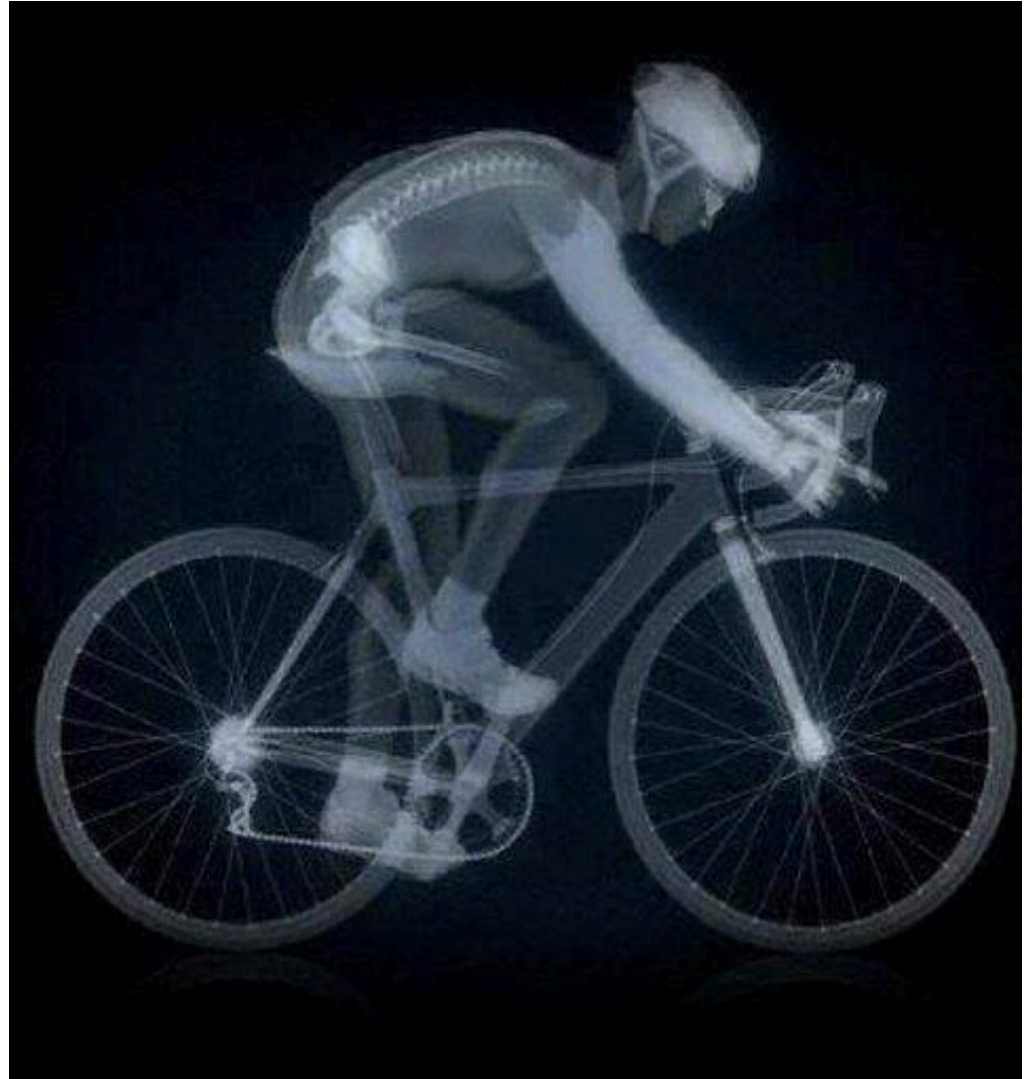
# Physiological Considerations of the Triathlon Bike Fit

*Physiology: “Scientific Study of the Normal Function in Living Systems”*



# Cycling is NOT Normal!

- Fixed/Symmetrical
- Quadruped Position
- Pelvic Foundation



# Physiological Concerns

## Triathlon Bike Fitting

Cycling constitutes only one “leg” of a Triathlon



\*Recover from Swimming

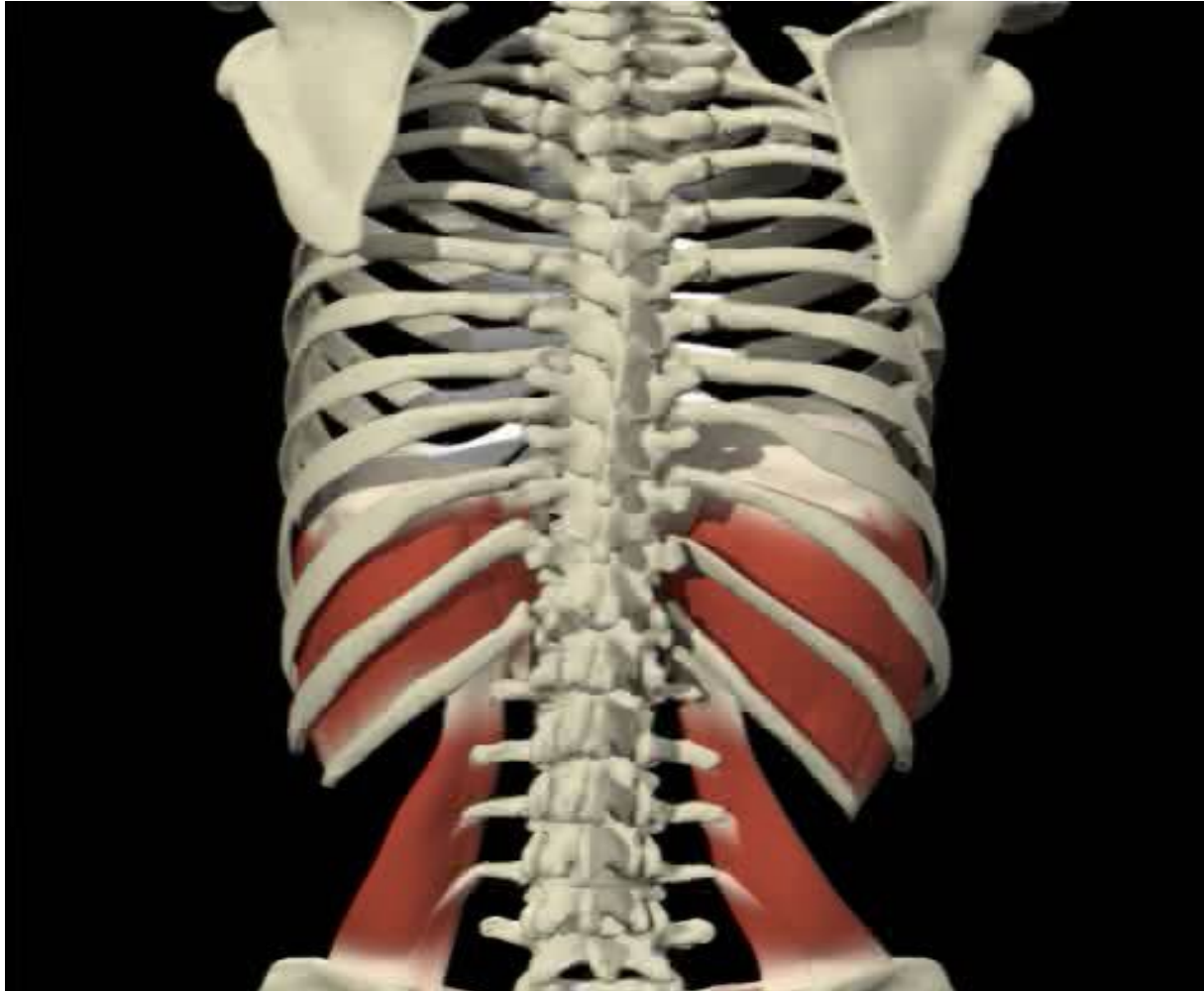
\*Prepare to Run

# Tidal Volume

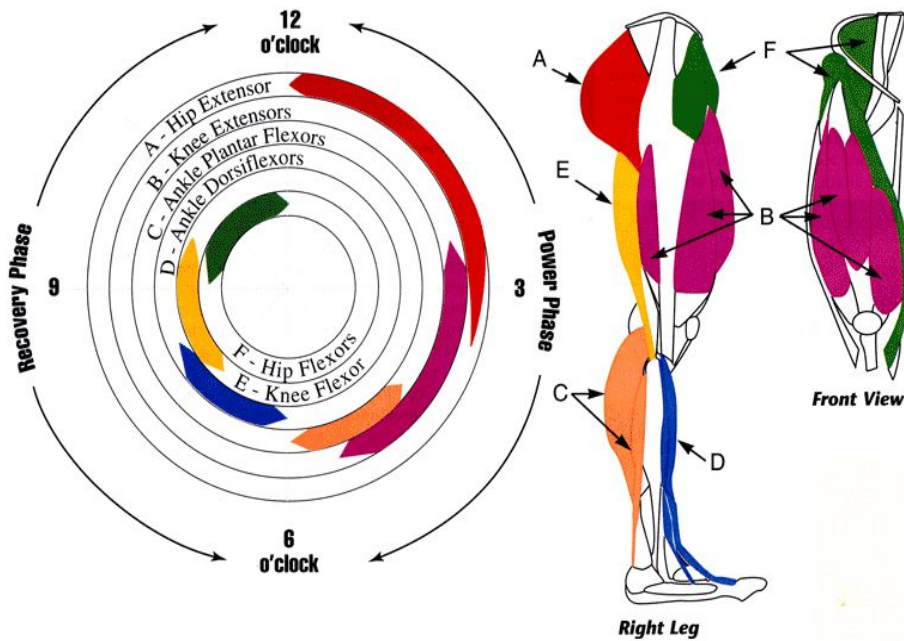
## Inspiratory Muscle Fatigue



# Tidal Volume & IMF



# Activity Specific Muscle Recruitment



360 degrees 0 degrees

Stephen Thordarson Coaching Services

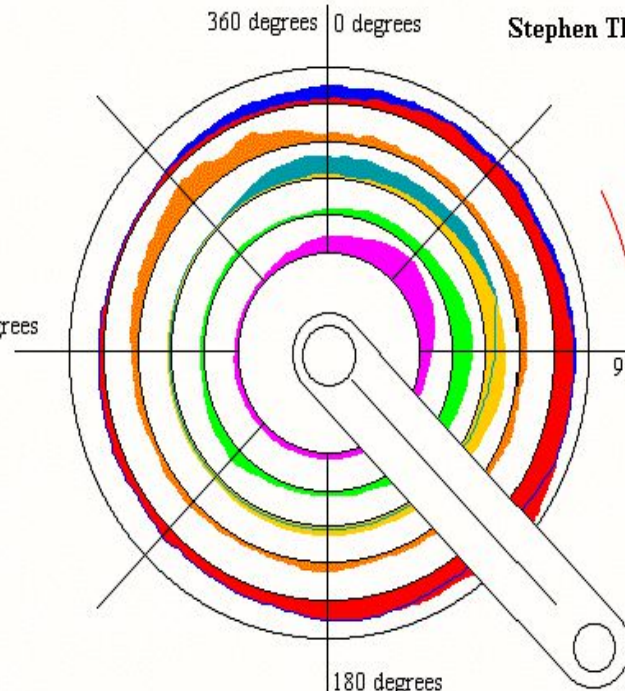
What muscles are you using to pedal?

- semitendinosus
- biceps femoris
- gluteus maximus
- vastus lateralis
- soleus
- tibialis anterior
- gastrocnemius
- rectus femoris

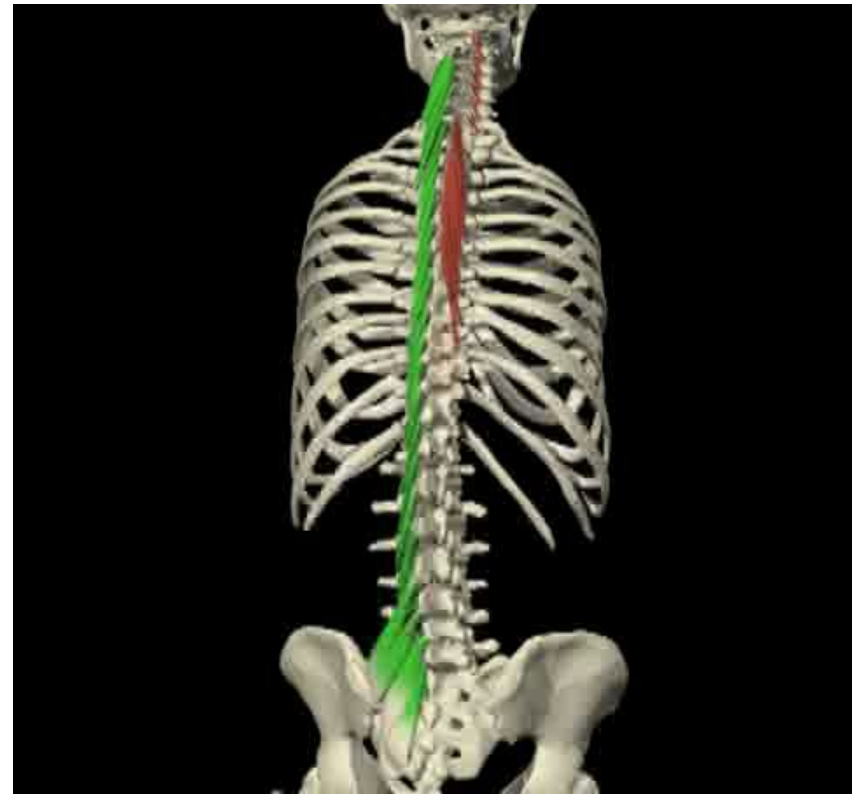
270 degrees

90 degrees

180 degrees



# Postural Muscle Recruitment



# Tri Positioning





# Effective Hip Angle



# Center of Gravity (COG)



# Cockpit Reach



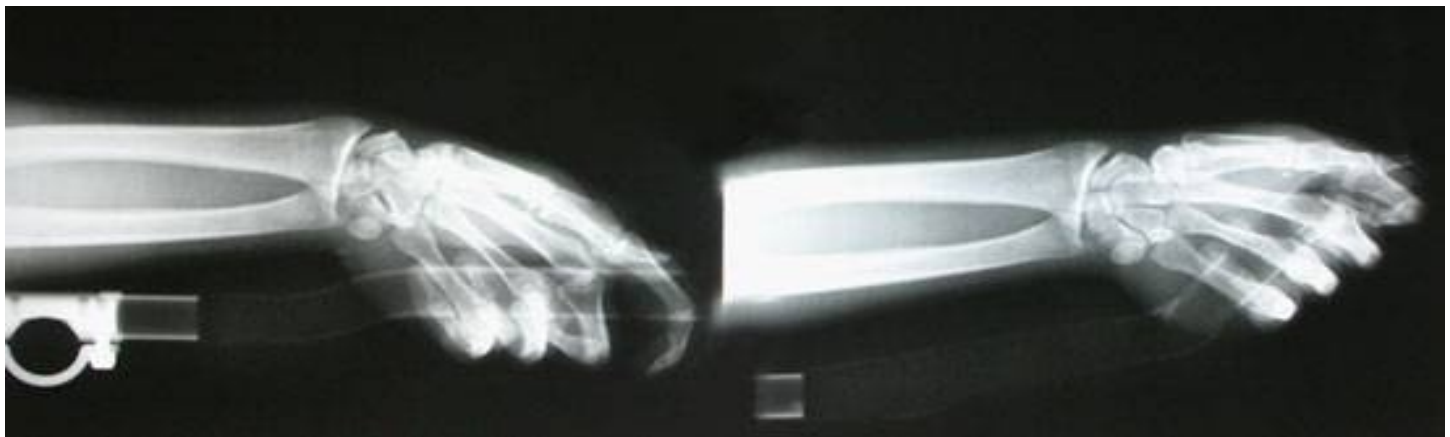
# Cockpit Differential



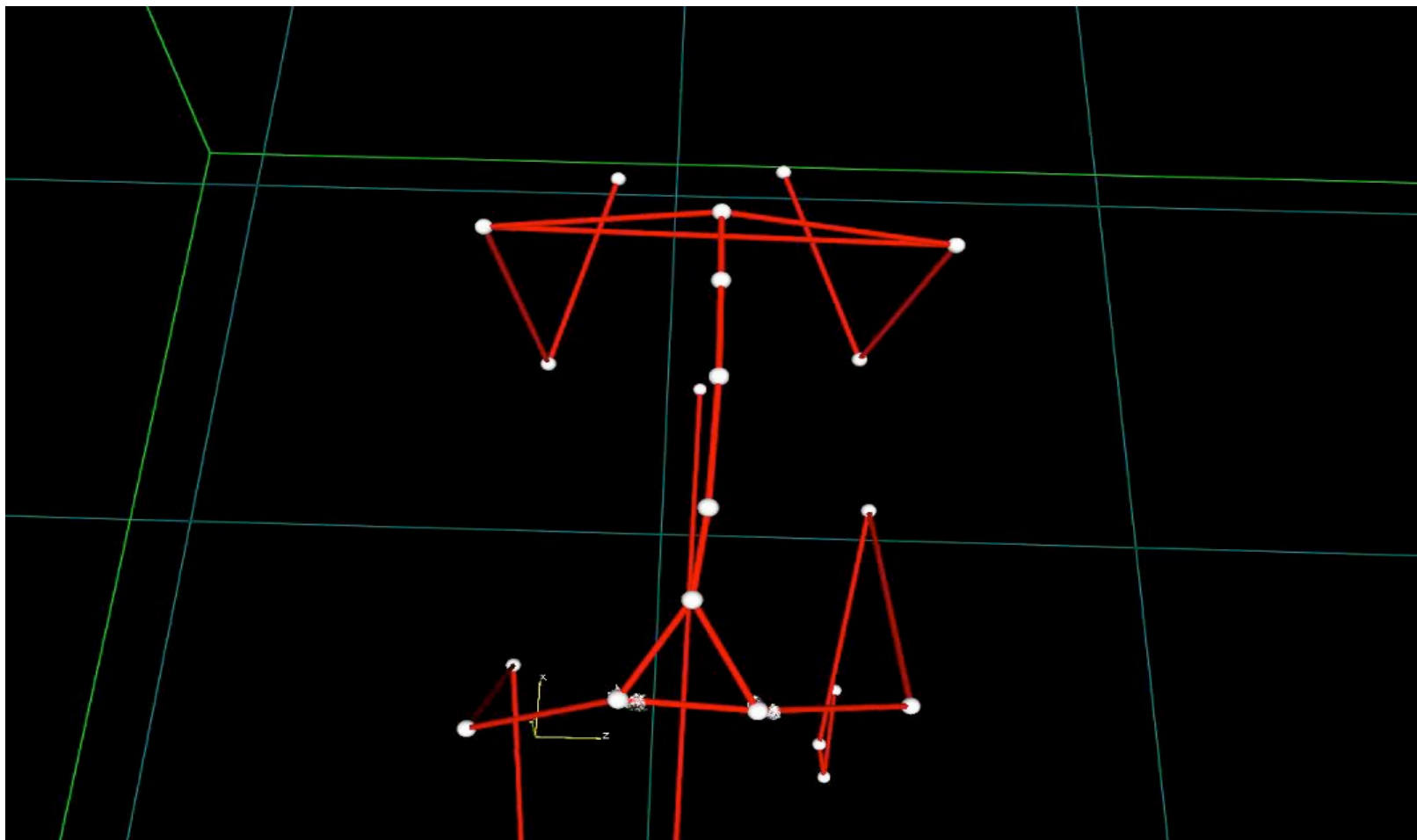
# Leg Extension



# Cockpit



# Symmetry



# Tri-Pedaling Dynamics





# Moxy Research & Bike Fitting

## 1. Tidal Volume:

- Control Cadence and Ergo
- Modify E-STA, HA, COG & Cockpit
- Monitor SmO<sub>2</sub> and tHb at QL & Vasti

## 2. Symmetry:

- Control Cadence and Ergo
- Modify Foot, Shoe, Pedal Interface
- Monitor SmO<sub>2</sub> and tHb at Deltoids, QL and/or Med-Lat Quads

## 3. Crank Length

- Control Cadence and Ergo
- Modify Crank Length
- Monitor SmO<sub>2</sub> and tHb at QL & Vasti

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