ANATOMY OF THE SKI RACER

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Why Study Anatomy?
What we will look at:

- Skeletal Anatomy
- Muscles
- Neuroanatomy
Skeletal Anatomy
Shoulder Girdle
Latissimus Dorsi
Knee
Hip/Knee relationship

Edge angle
CoM inclination angle
Hip angulation angle
Knee angulation angle
What small movements?

It's the small movements that make a difference.
Ankle
Subtalar Rotation
Pronation =
ankle dorsiflexion +
subtalar eversion +
forefoot abduction

Supination =
ankle plantarflexion +
subtalar inversion +
forefoot adduction
Bone Stacking
Muscle
Muscle Anatomy

- Tendons
- Muscle
- Bundle of muscle fibers
- Connective tissue
- Sarcolemma (plasma membrane)
- Transverse tubule
- Muscle fiber
- Nucleus
- Sarcoplasmic reticulum
- Mitochondria
- Z line
- I band
- M band
Structure of a Skeletal Muscle

- Bone
- Tendon
- Epimysium
- Perimysium
- Endomysium
- Muscle fiber
- Fascicle
- Blood vessel
Tension
contraction
Tension

Tension types:
- concentric
- isometric
- eccentric
Neuroanatomy
Uh-oh!

A message is sent...
The message moves along a pathway
Important Points:

- Hip flexion is desirable over spinal flexion.
- Pelvis and spine are essentially “one unit”.
- The hip flexes most in the sagittal plane.
- The upper arm is connected to the hip.
- Ankle motion for balance.
- Muscles are innervated with motor neurons.
Rt Gluteus Medius Run 1