

BI 199 APWT Discussion 4

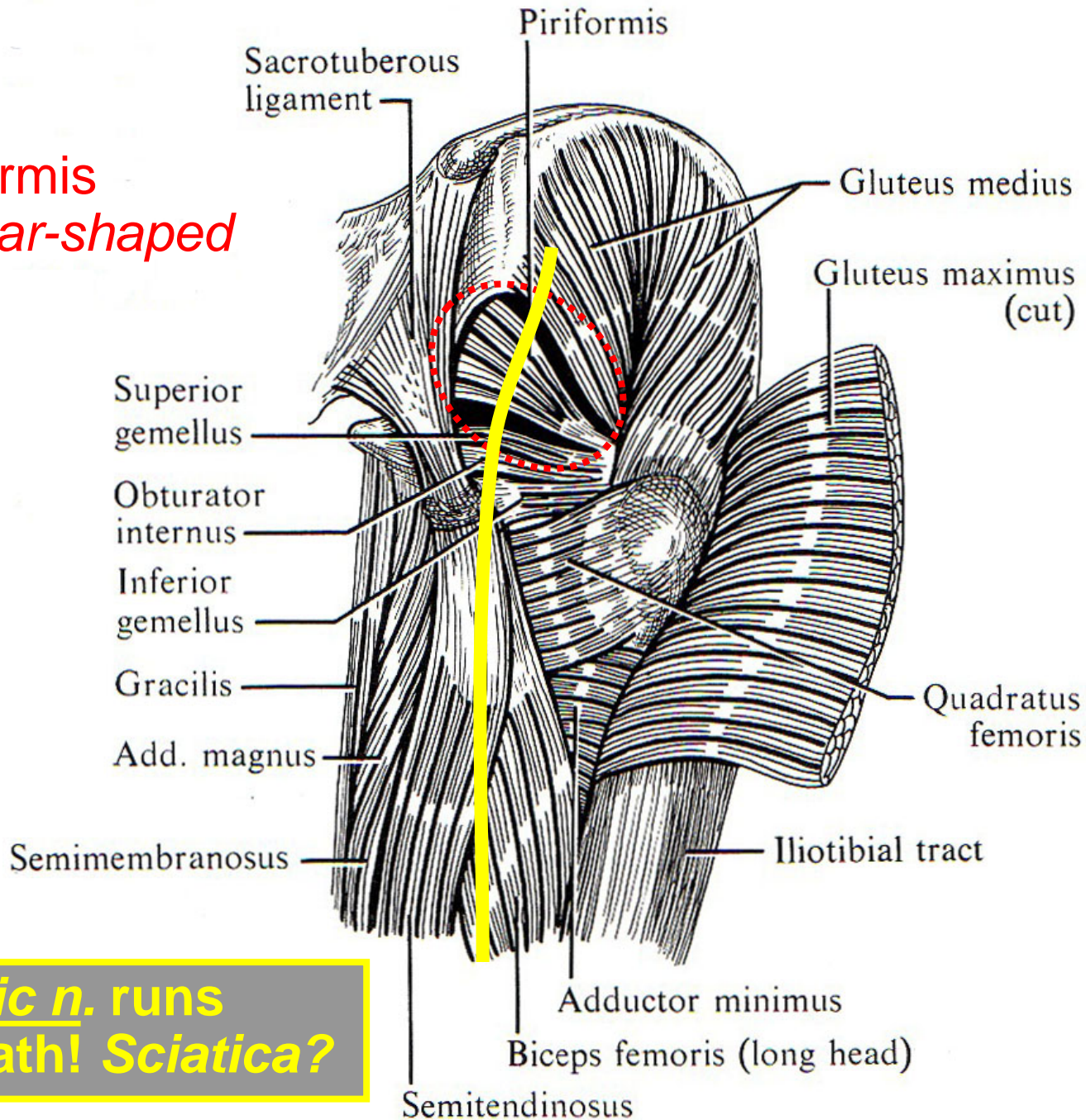
Heck Yeah! Fun again!



- I. Announcements *Sample thematic poster presentations. Q? Trip to Anatomy Lab next R! Meet in hall outside B63B Klamath. Guidelines.*
- II. Review Hip & Lower Ext Muscles & Exercises
 - A. Gluteal: #, shape? ID superficial to deep? What stance emphasizes in squat?
 - B. Hamstring: #, ID lateral→medial, exercise? Hip extension or flexion isolates more?
 - C. Quadriceps: #, ID lateral→medial, exercise? Which of quadriceps worked least by squat?
- III. Coaches' Corner: Exercise Technique
 - A. Lunge, leg extension, leg curl
 - B. Back extension, dead lift: barbell, dumbbells
 - C. Lat pull: narrow vs. wide grip? Row?
- IV. JMAK Joint-Muscle-Activity Kits!

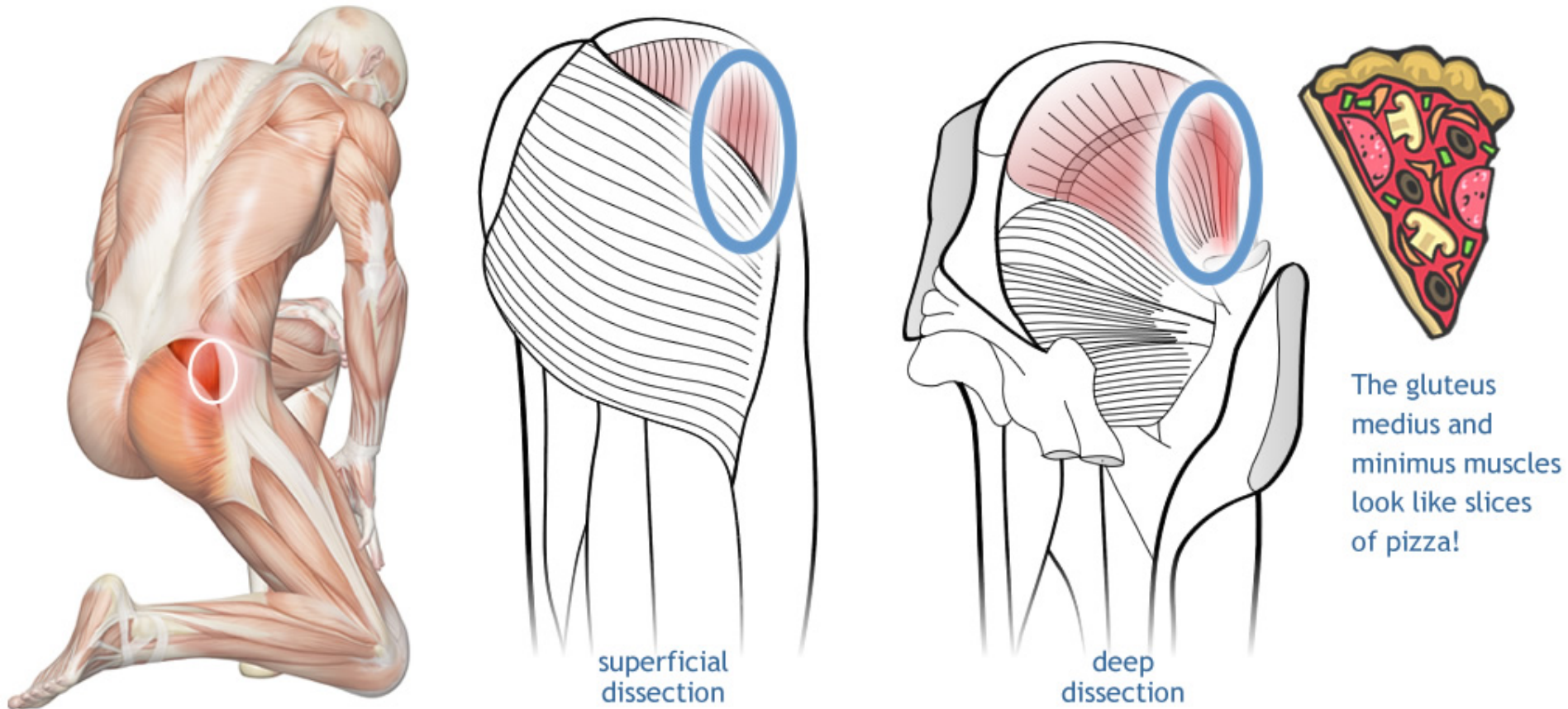
R hip
Posterior

Piriformis
L. pear-shaped



Sciatic n. runs beneath! Sciatica?

Deeper Gluteal Muscles Look Like Pizza Slices!! Superficial to Deep: *Maximus, Medius, Minimus*!



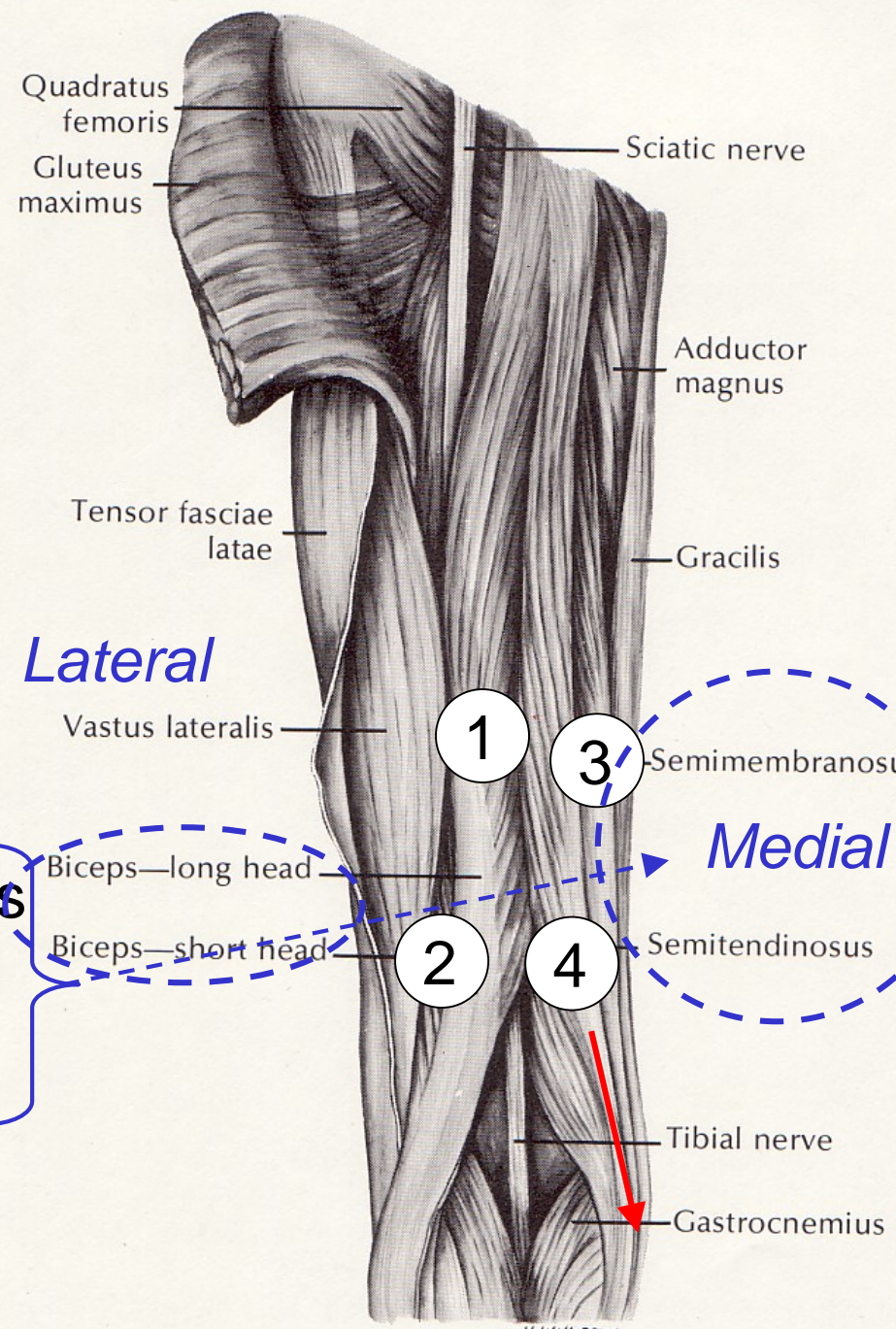
http://www.anatomyexpert.com/structure_detail/5715/

Image Source: <http://saveyourself.ca/articles/spot-06-gluteus-medius.php>

L thigh
posterior

Hamstring Group

- ① Biceps femoris (long)
- ② Biceps femoris (short)
- ③ Semimembranosus
- ④ Semitendinosus



L thigh posterior

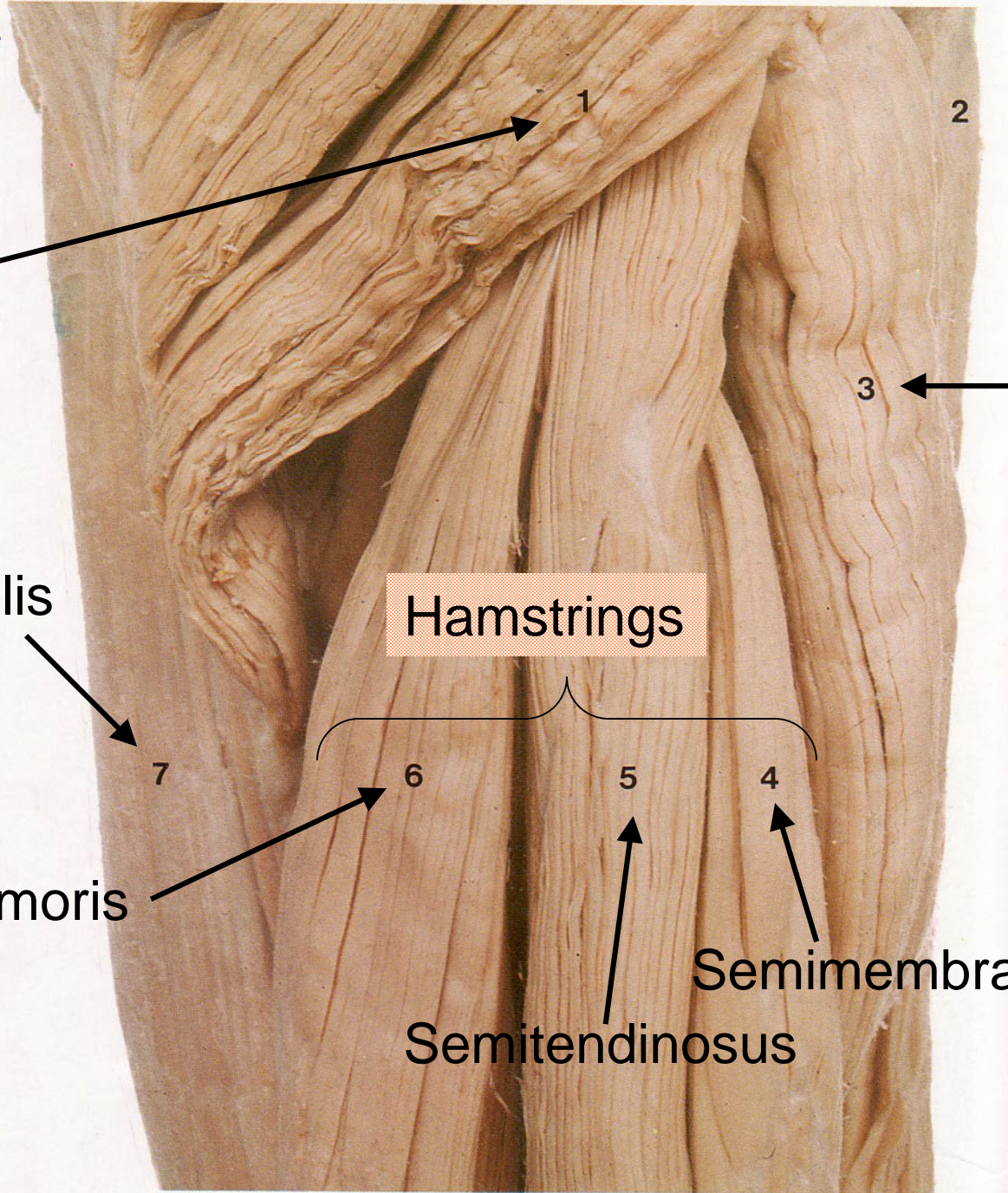
Gluteus maximus

Vastus lateralis

Biceps femoris

Hamstrings

Adductor magnus



7

6

5

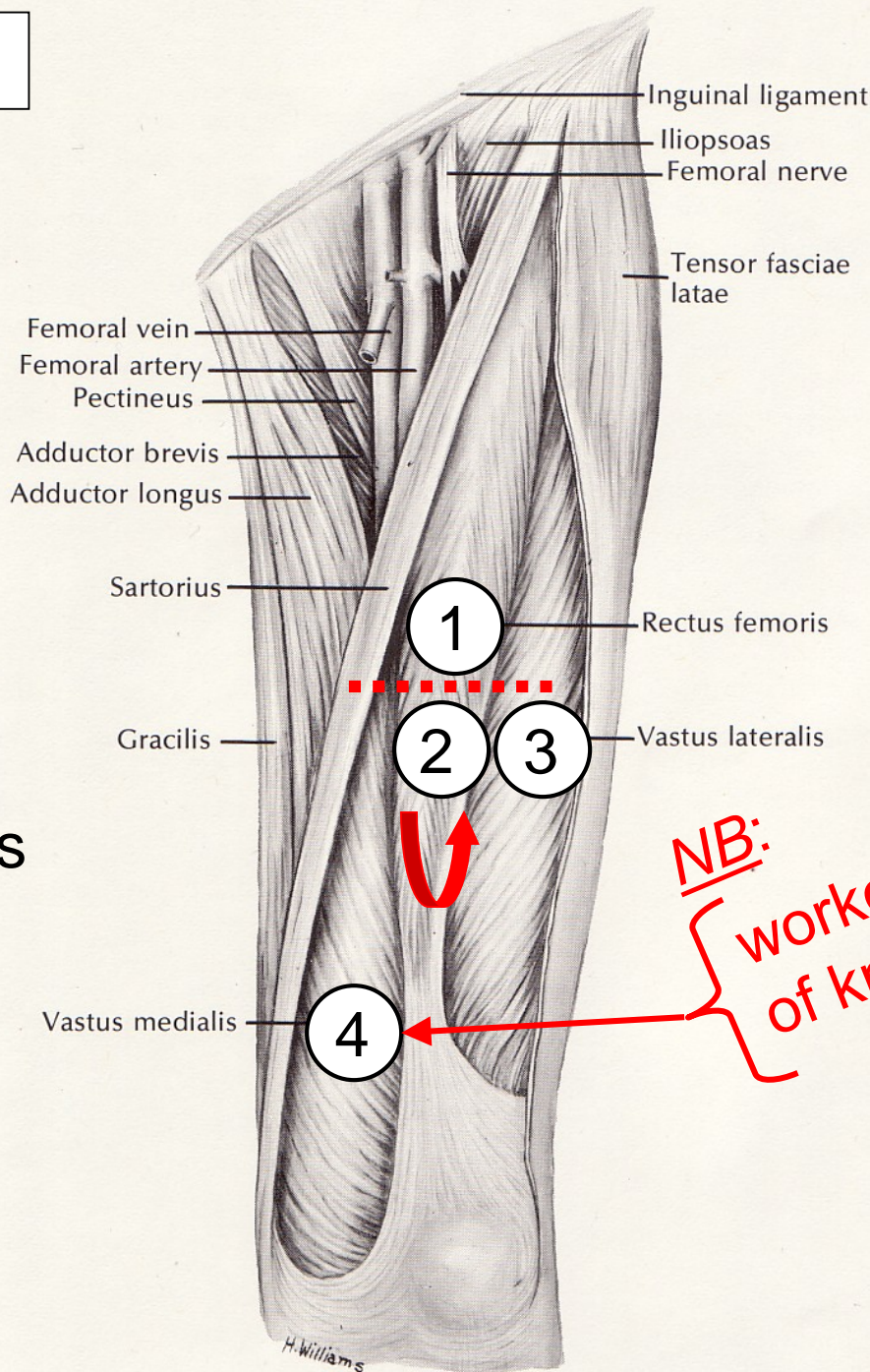
4

1

2

3

L thigh anterior



Quadriceps

- ① Rectus femoris
- ② Vastus intermedius
- ③ Vastus lateralis
- ④ Vastus medialis

L thigh anterior
& medial

NB: Torqued laterally

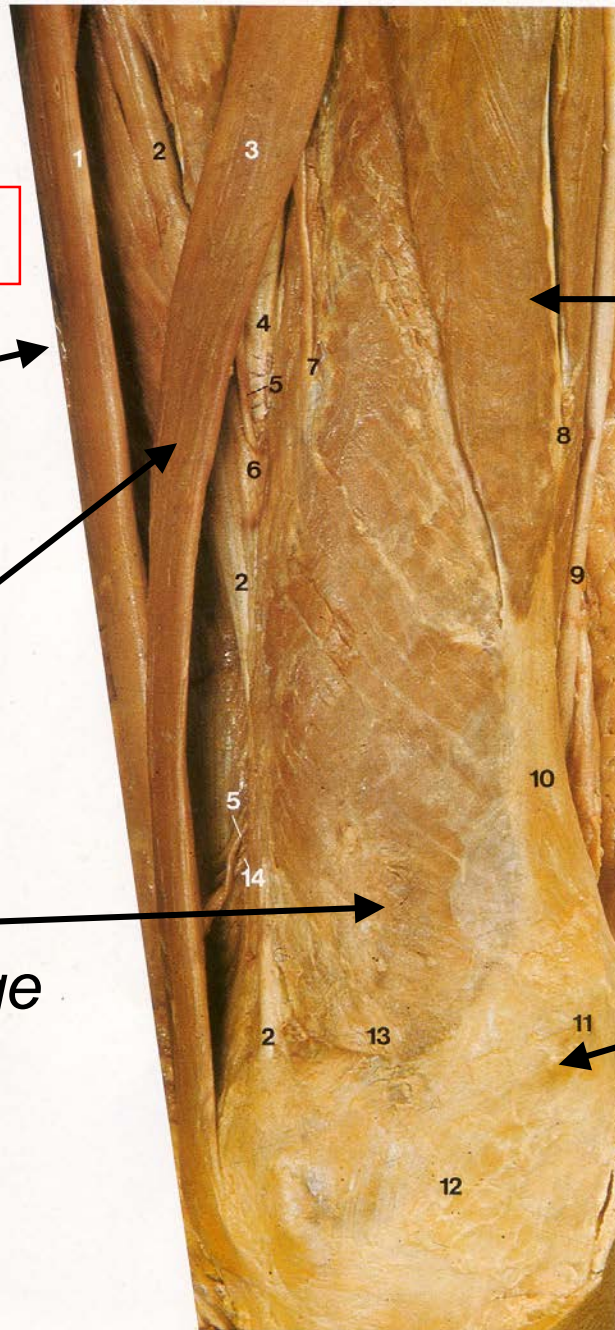
Gracilis
L. slender adductor

Sartorius
L. tailor

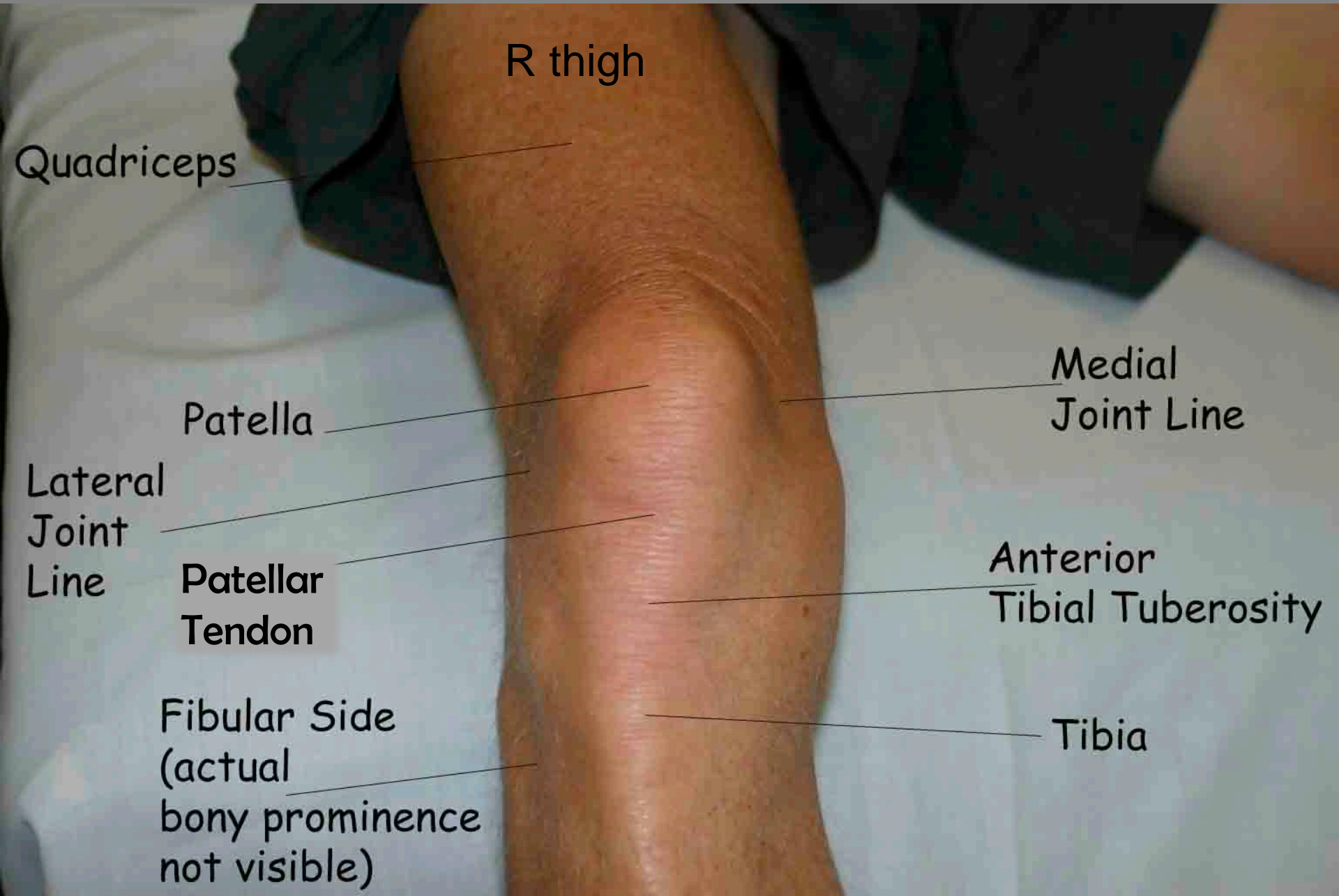
Vastus medialis
L. great, vast, huge medial extensor!

Rectus femoris
L. straight thigh muscle, also extensor

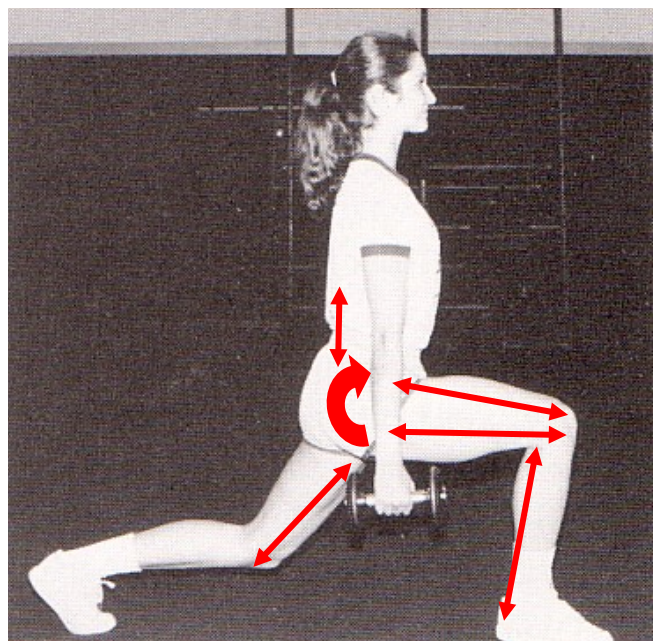
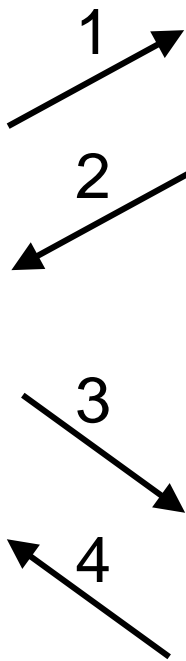
Patella ≡ kneecap
L. shallow dish/pan, sesamoid or island bone



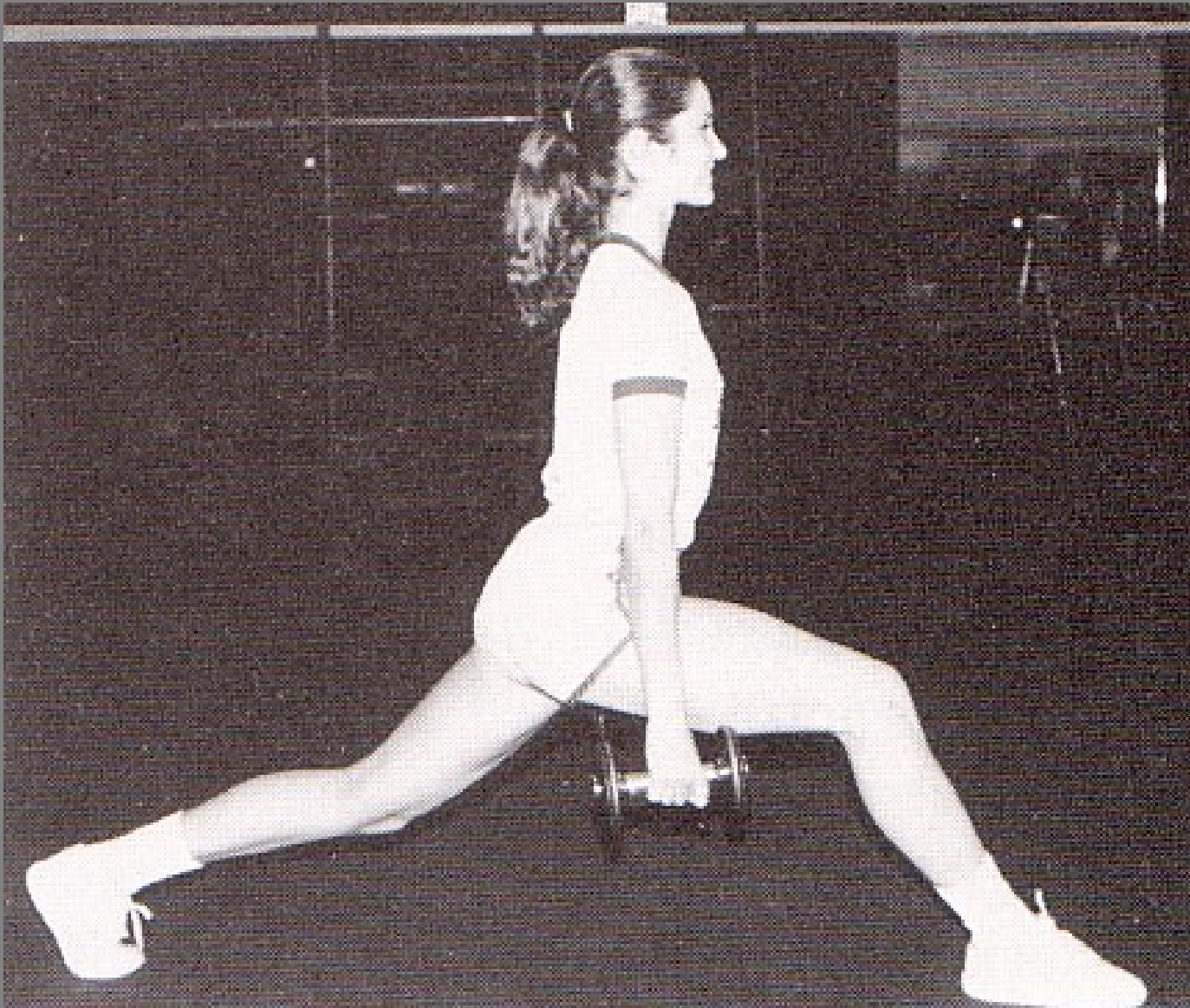
Knee Surface Anatomy – UC San Diego Clinical Medicine



Lunge



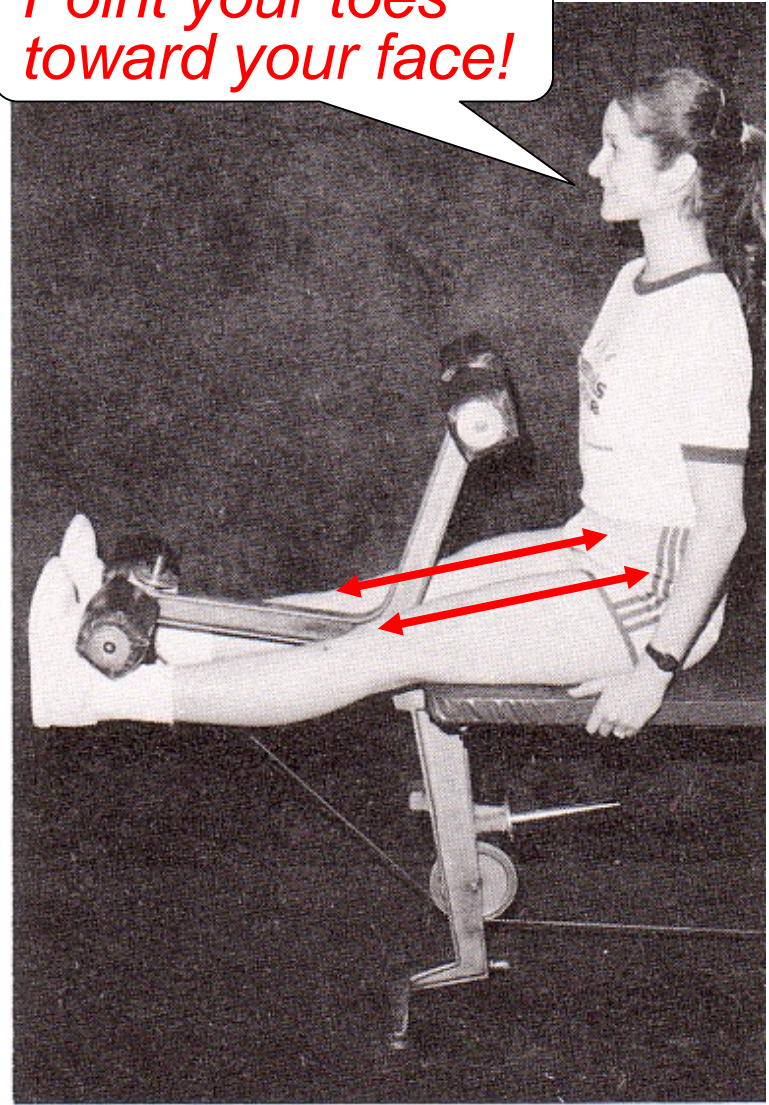
Avoid Overstriding!



Leg Extension

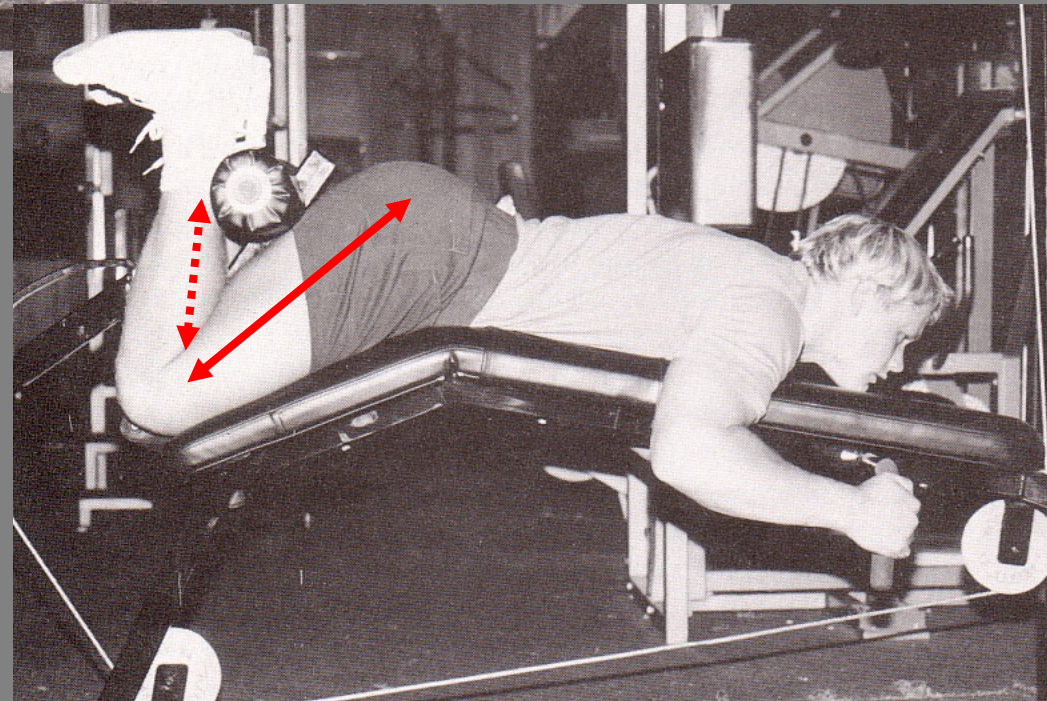
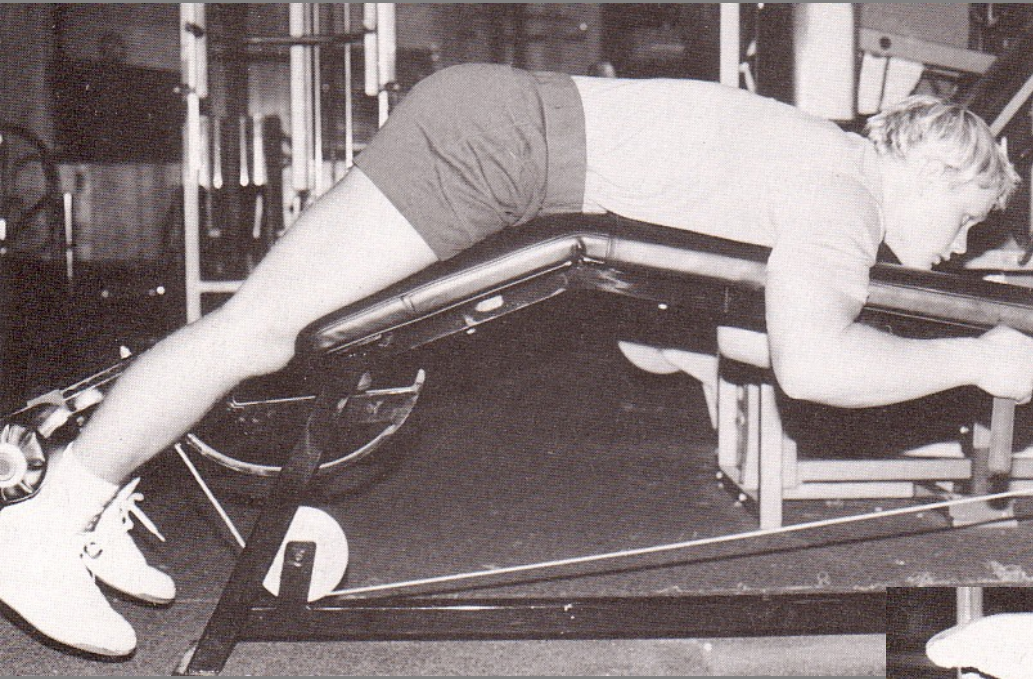


Point your toes toward your face!



Front of thigh = quadriceps

Leg Curl

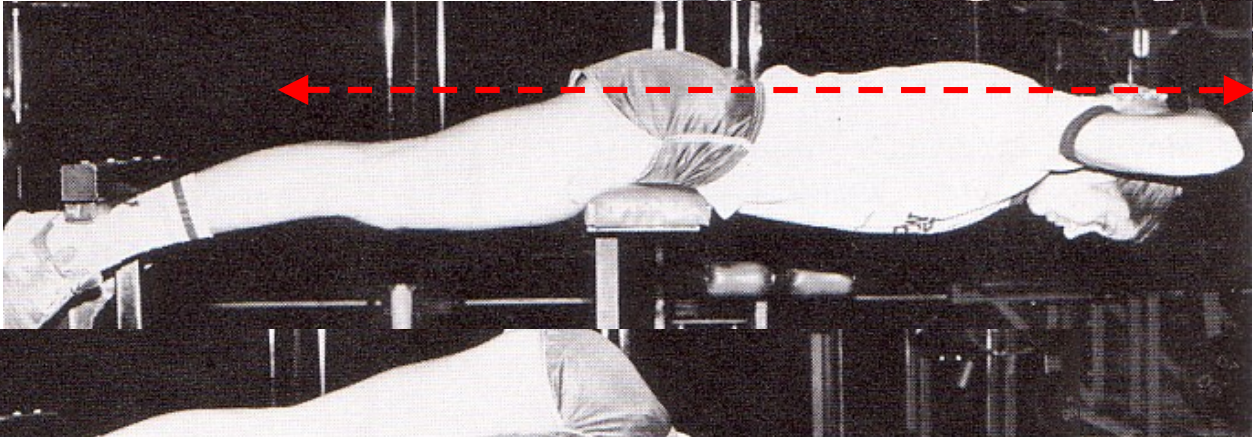
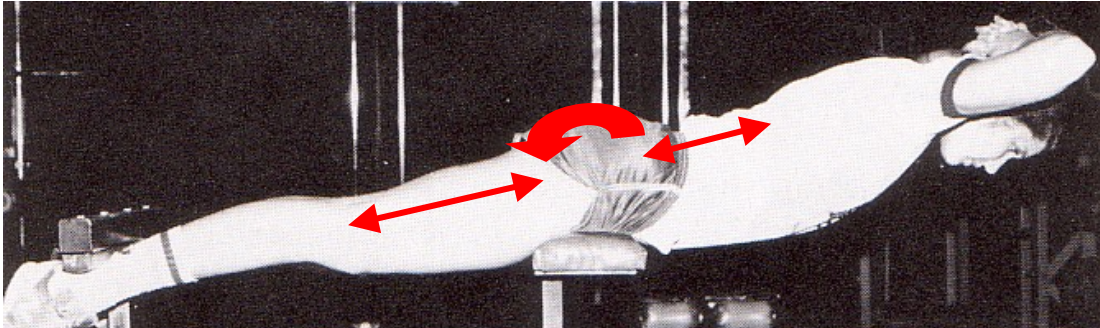


Posterior thigh = hamstring group

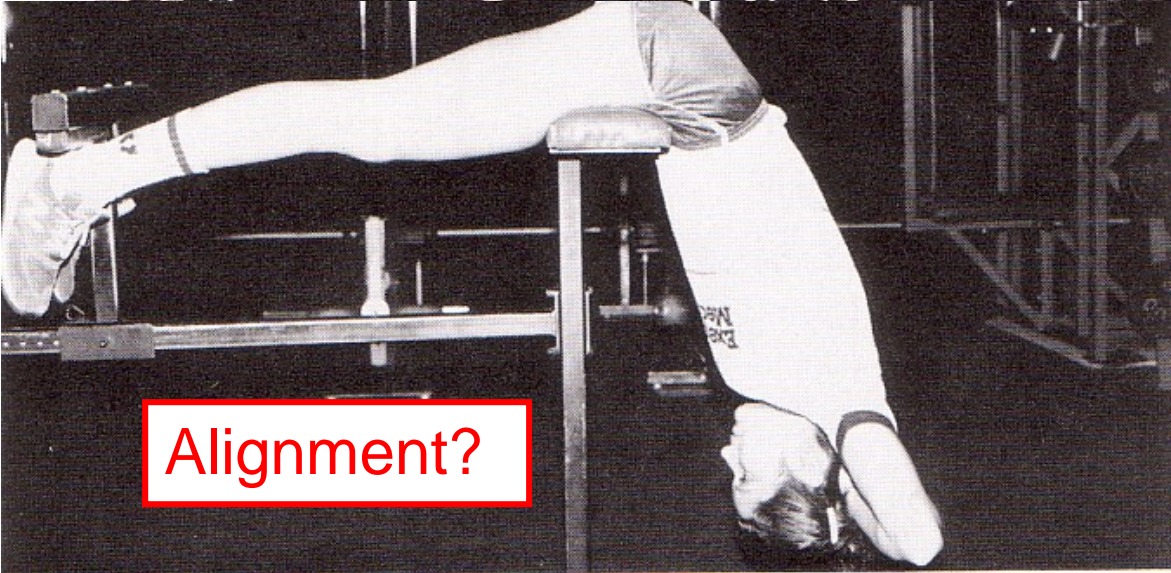
*Calf = gastrocnemius
(minor involvement)*

Back Extension

Lower back
Hip
Back of thigh



Beginners
beyond here?



Erector spinae
Gluteal group
Hamstring group

Russian/Straight Leg (Knee) Dead Lift (RDL)

NB: Best bent or soft knee!



SOURCE: www.fitworkz.com

Use Dumbbells to:

1. Start w/↓ weight
2. ↑ control, *cf.* COG
3. ↑ balance
4. ↑ small incremental resistance

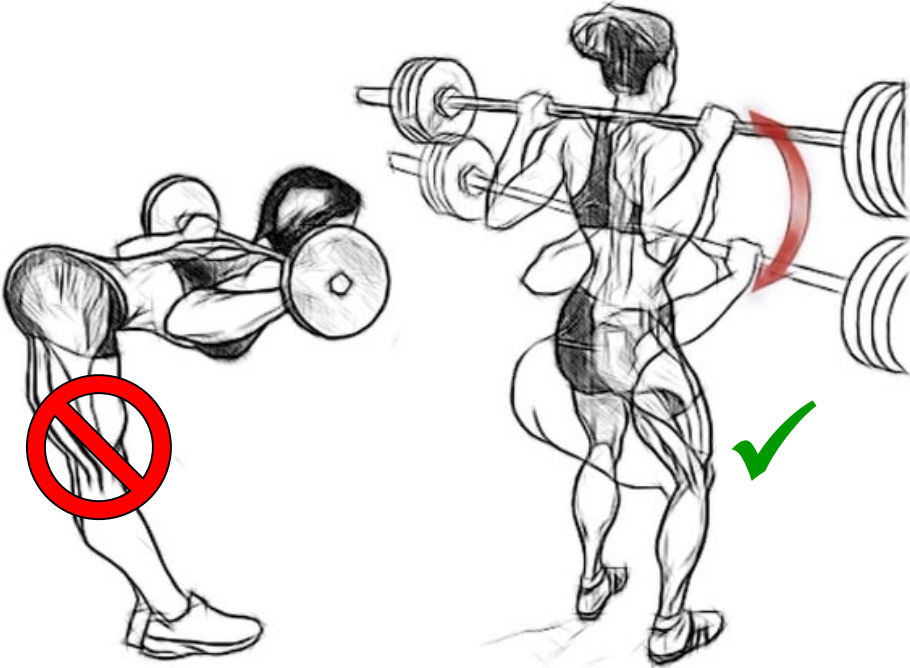


NB: Want curved
or tip up!

Dumbbells enable independent, unilateral, multi-planar, resistance exercise, more akin to daily life movements!

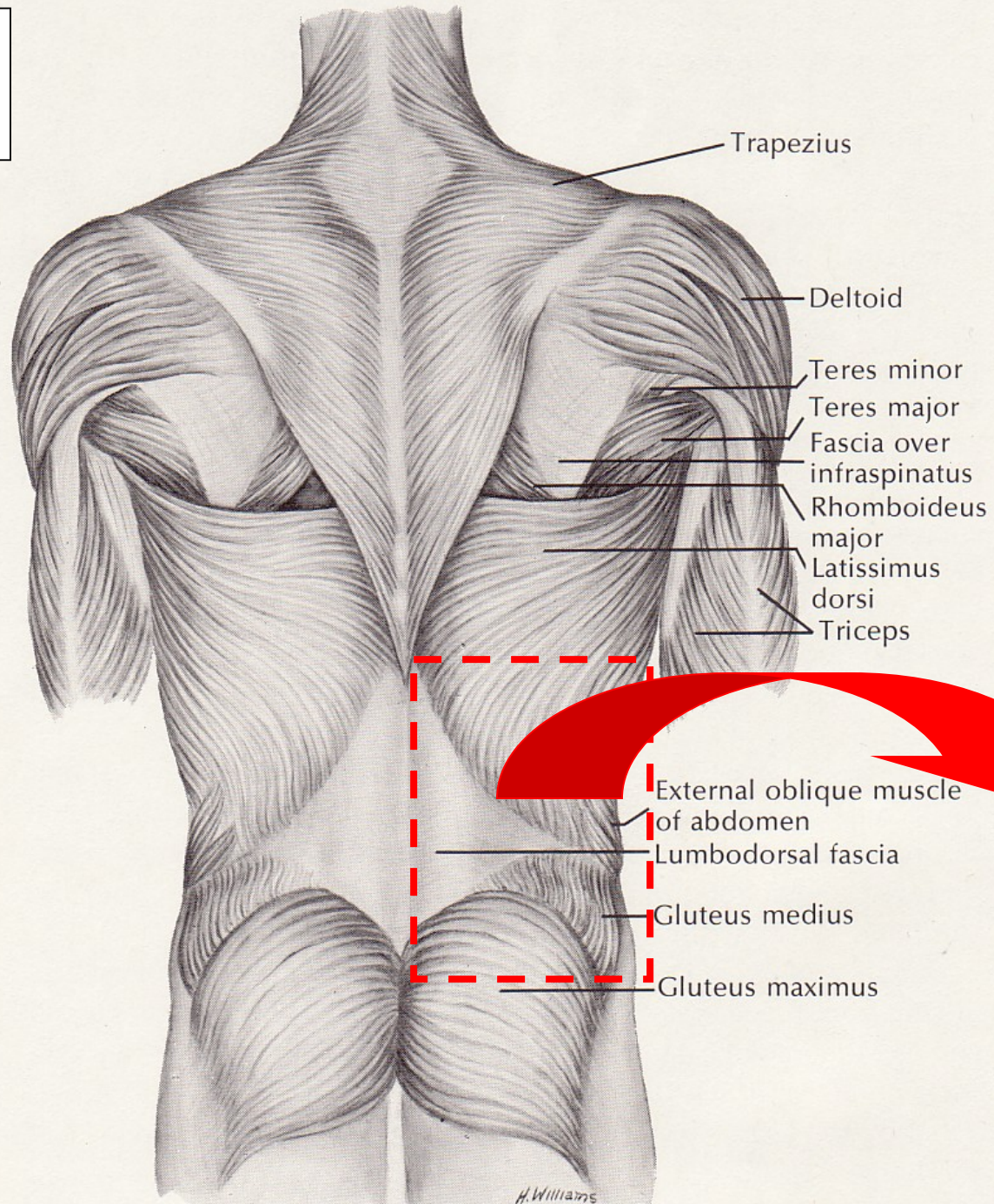


Good morning?



Always soft knees!

R lower back
& hip quadrant



R lower back
& hip quadrant



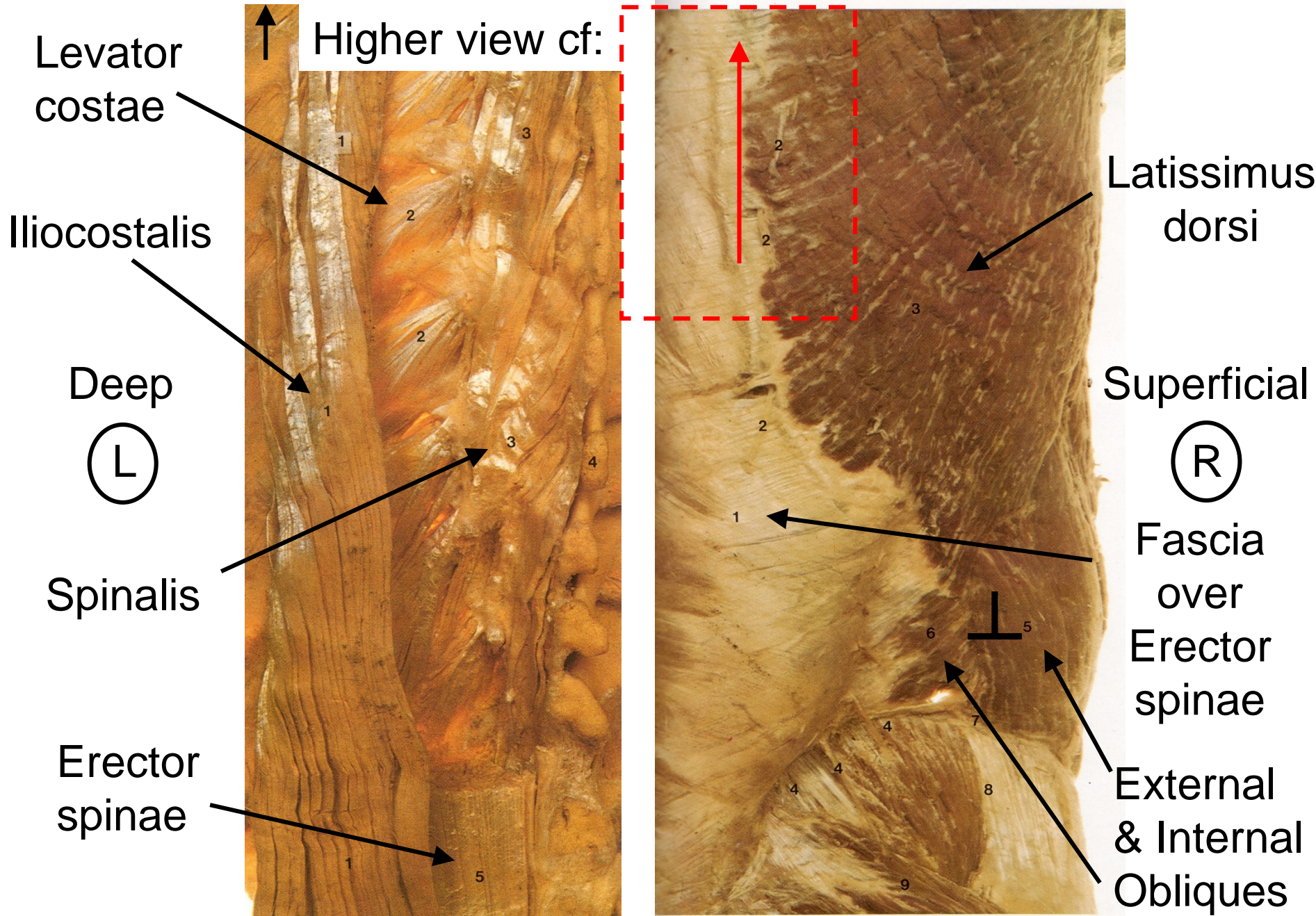
Latissimus dorsi

Erector spinae
beneath fascia

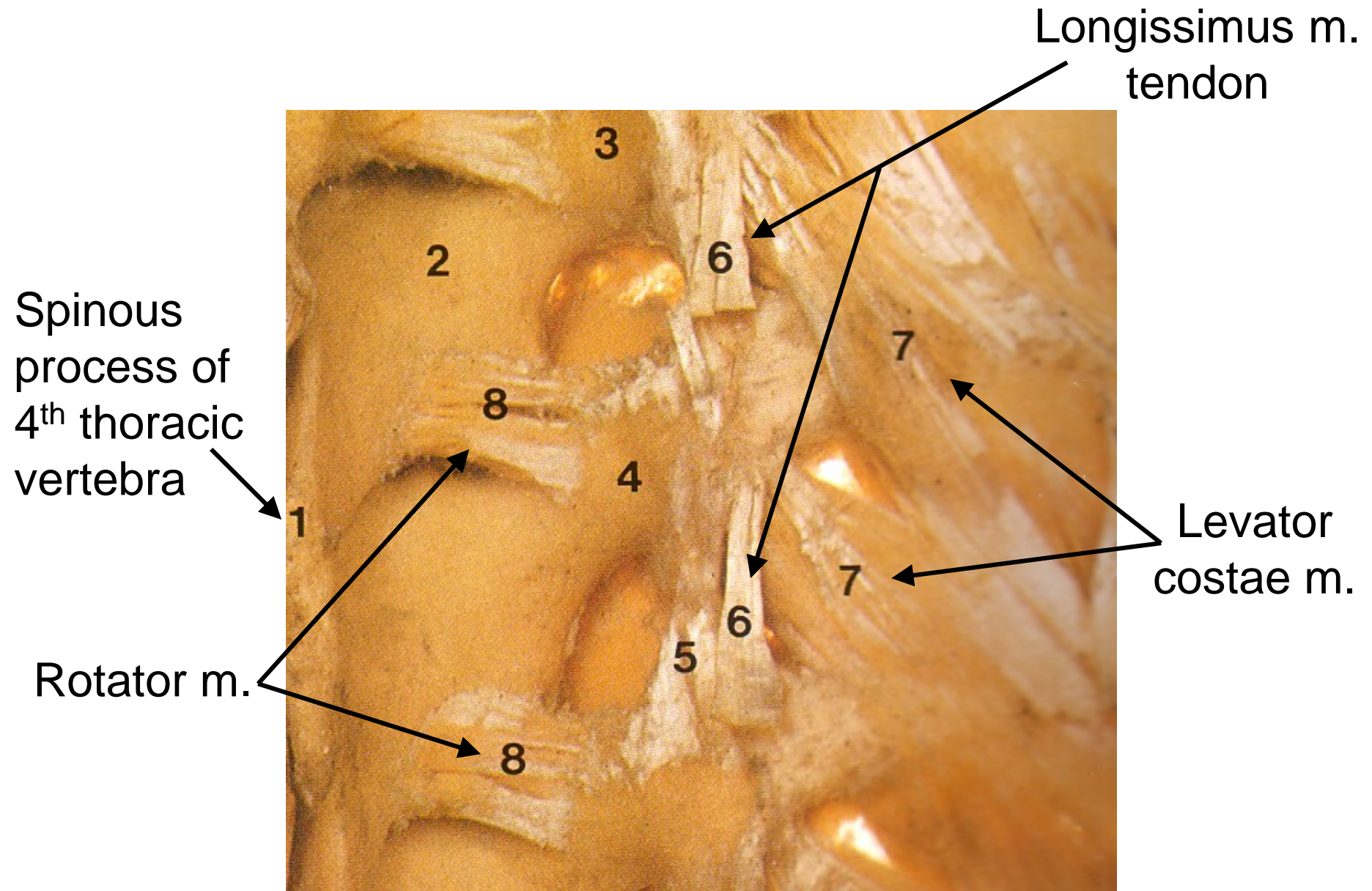
External oblique

Gluteus maximus

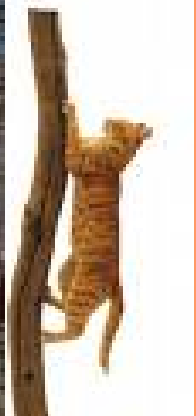
Lower Back Muscles



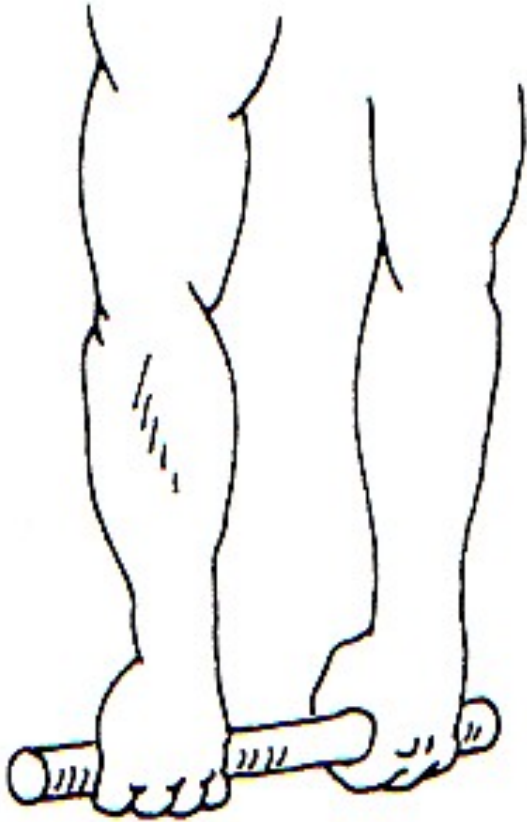
Deep Upper Back Muscles, (R) Thorax/Chest



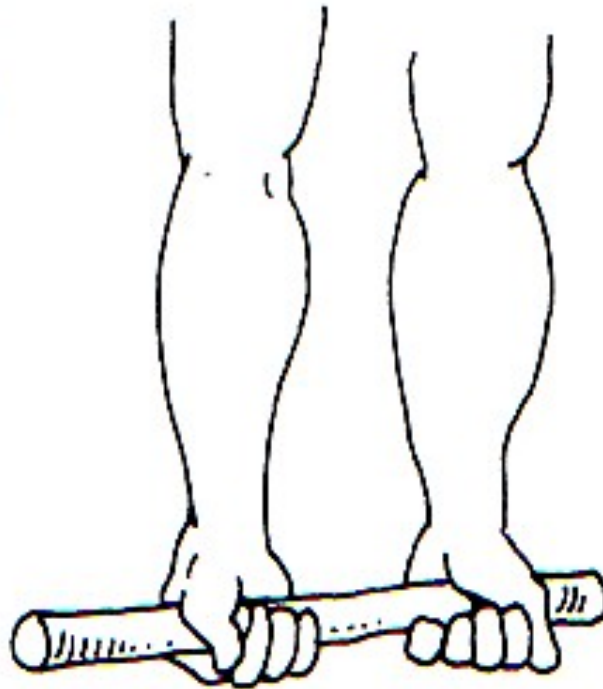
What are upper & lower extremity climbing muscles?



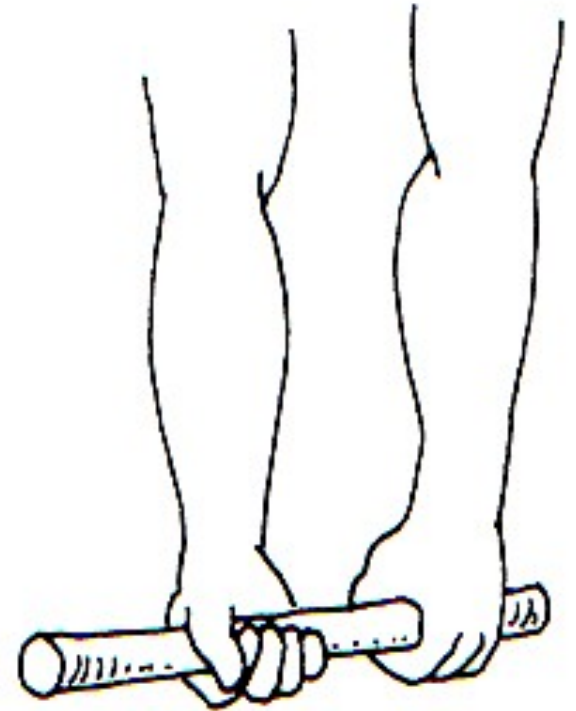
Common grips used in weight training



Pronated
/Overhand

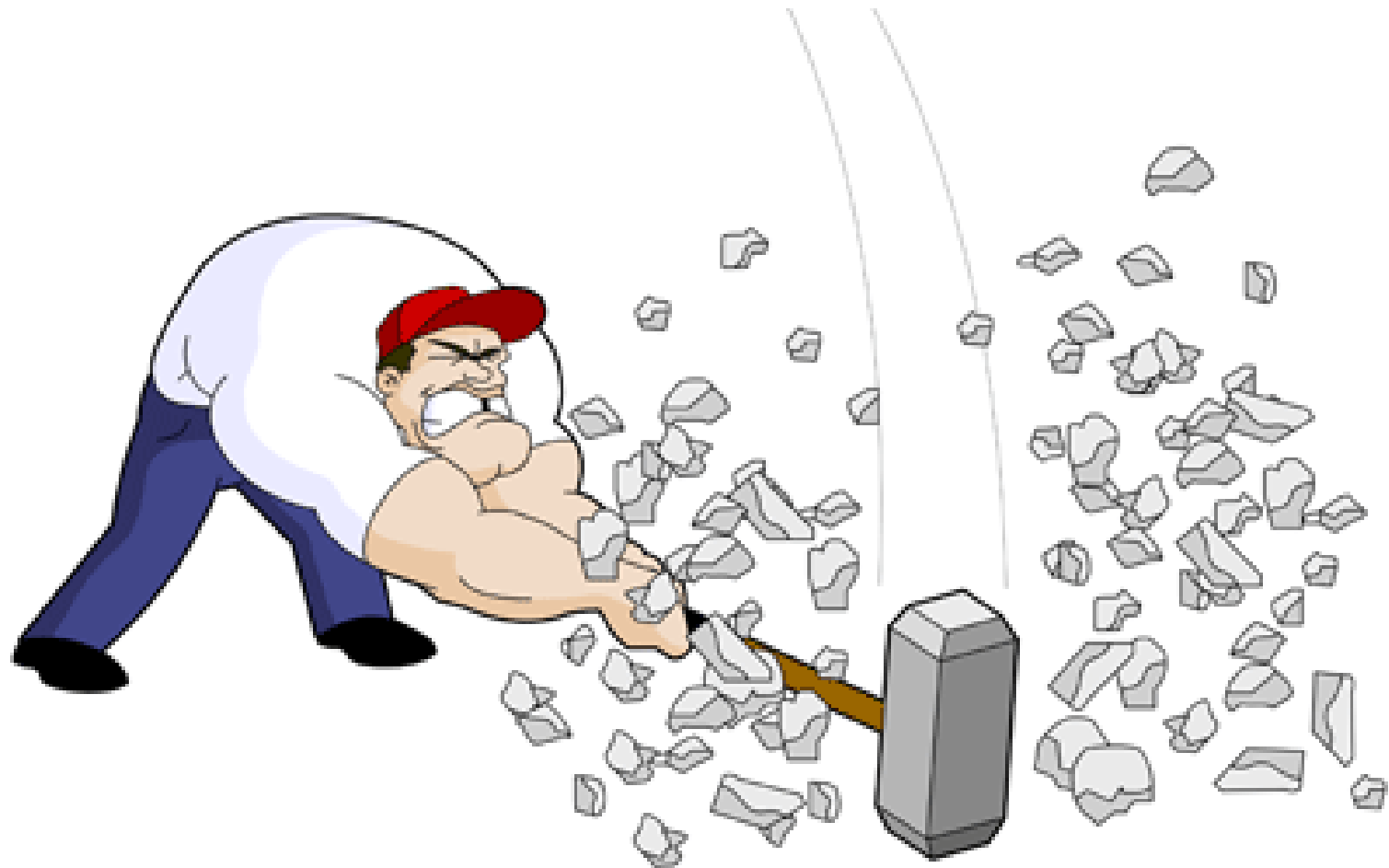


Supinated
/Underhand



Alternate
/Spotting

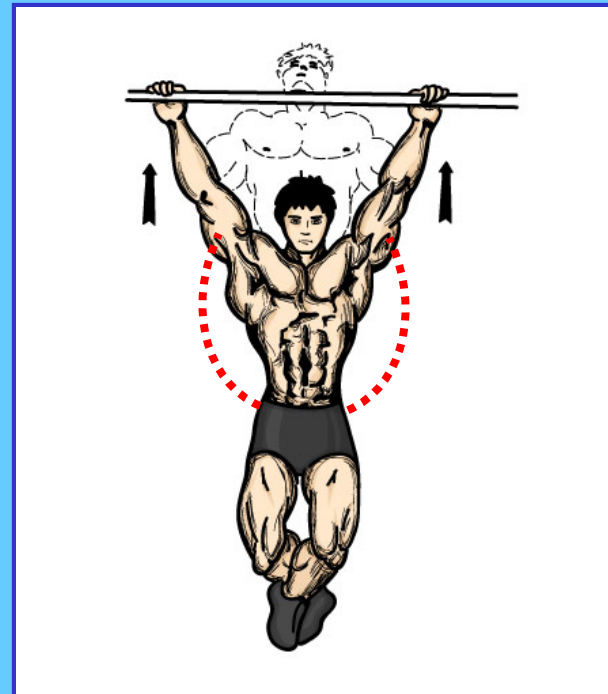
Latissimus Dorsi Most Heavily Activated in *Hammering Plane*!



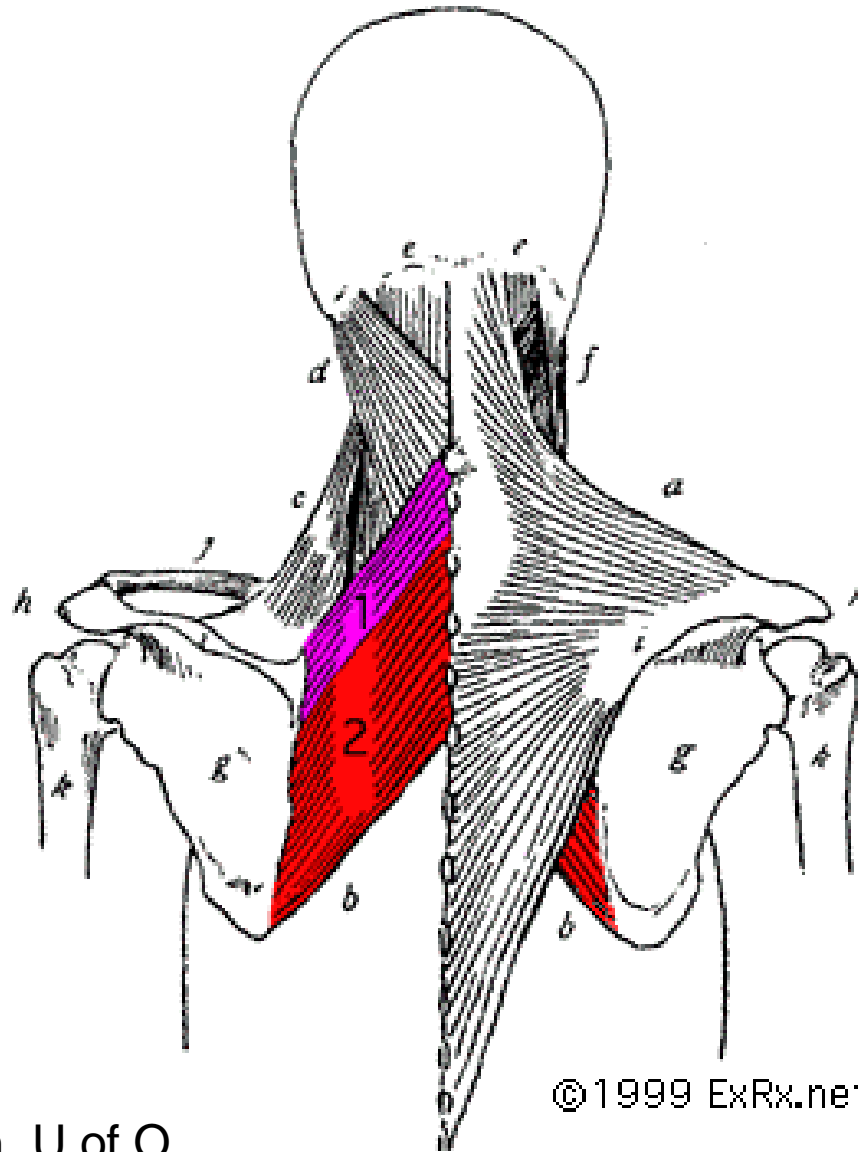
**Shoulder-width grip →
more Latissiumus dorsi**



**Wider grip → more
Rhomboids,
middle Trapezius**



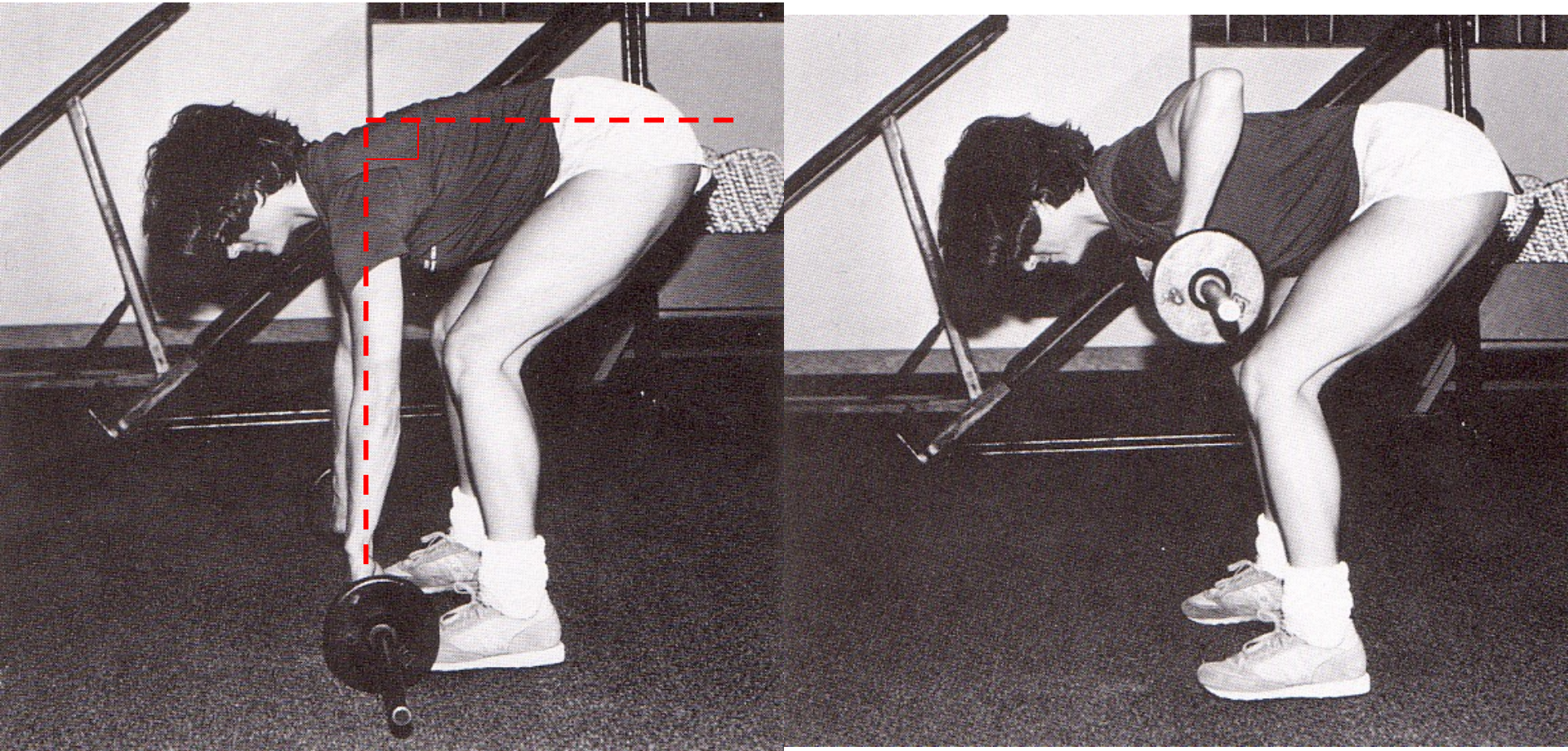
***Rhomboid muscles include
Major & minor***



©1999 ExRx.net

Courtesy S. Dawson, U of O

Bent-over Row



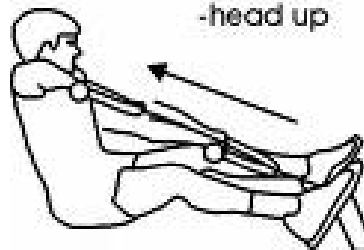
NB: Engages muscles exactly inverse to bench press. Upper back, back of shoulder, front of arm, back of forearm. Great for supersetting!

Seated Row! Wow Possibilities!?

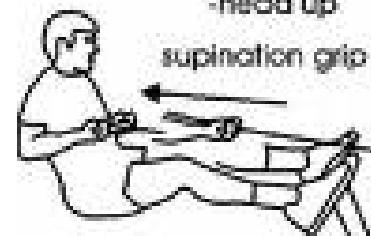


on pulley
with cable

- keep back straight
- chest out
- head up



- keep back straight
- chest out
- head up



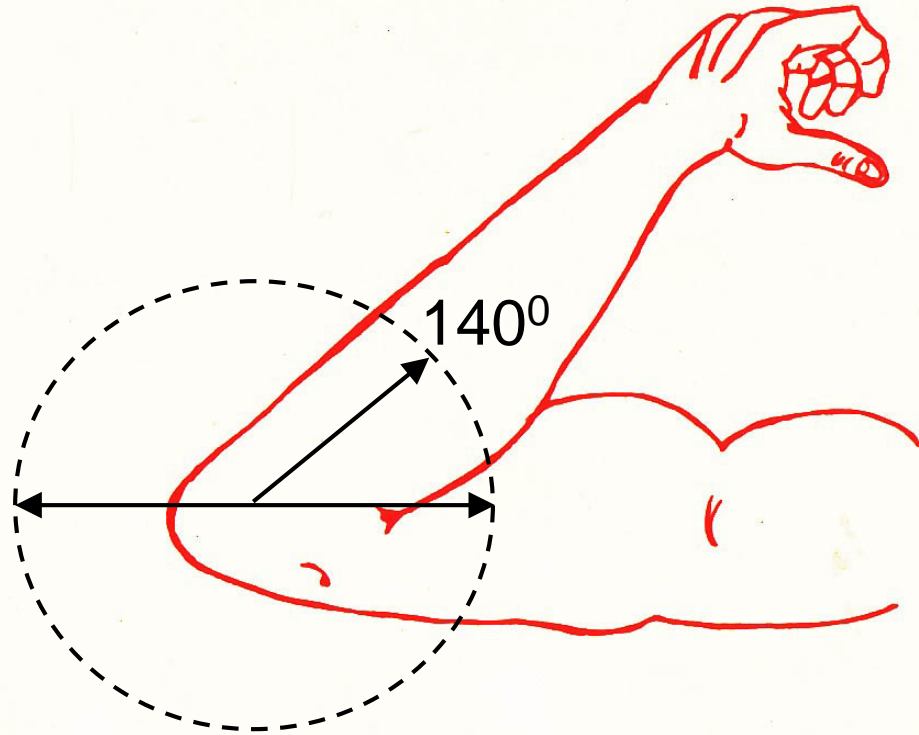
NB: Engages muscles inverse to bench press with a bit more lower back! Still good for supersetting! Variable grip and pull?

Latissimus dorsi grip vs wider rhomboid,
mid-trapezius grip. Posterior deltoid?
Pronated vs supinated?



SOURCE: www.fitworkz.com

http://www.ehow.com/video_2367237_do-rowing-upper-body-exercises.html



FROM Principle

Agonistic - Antagonistic?

Push - **Pull**

Prime Move(r) - **Resist(er)**

Promotes - **Opposes**

WT Exercise eg?

Bench press? - **Bent-over row**

Biceps curl? - **Triceps extension**

Leg extension? - **Leg curl**

JMAK!

Joint-Muscle-Activity Kits!

