



# Dysfunctions of the trunk



Nerve impingement

SI joint dysfunction

Degenerative conditions of the spine

Facet syndrome

Instability

Degenerative disc disease

Hyperkyphosis

Osteoarthritis

Spinal fusions



# Nerve entrapment

Usually involves Sciatic nerve or Obturator nerve. Sciatic entrapment results in sensation along lateral and posterior parts of the leg and the dorsal and plantar surface of the foot, along with possible weakness of the leg muscles and foot. Obturator entrapment usually results in sensation along medial aspect of the thigh with possible adductor weakness.

- Avoid painful movements that could cause a flare
- Strengthen surrounding structures, especially lateral hip if weak



# SI Joint Dysfunction

Usually result of stress on surrounding tissues. Joint itself can be painful during pregnancy, which can be alleviated with support like tape or an SI belt.

Focus on low load, closed chain exercise in non-weightbearing positions where possible. Address any muscle imbalances and ensure core is working.



# Degenerative Conditions

Due to facet joint synovitis (loss of fluid,) hypermobility and/or progressive degeneration due to age and poor biomechanics causing repeated microtrauma.

Avoid extension, rotation and any combination of the two. Avoid flexion combined with rotation and allow only minor flexion.



# Facet Joint Syndrome

The first stage of the degenerative cycle involving inflammation of the joint capsule. Symptoms include LBP with inactivity and radiating symptomology due to nerve impingement.

Flexion is most comfortable as it opens the joints and separates the facets

Recumbent bikes are better than treadmills

Will likely do imprinted position as opposed to neutral

Place a pillow under the hips for prone

Work toward a neutral position over time

If eventually reintroducing rotation and extension, it must be slow and controlled

Try a cat stretch, flexion to neutral only, no extension

Try a small hip roll (start rolling pelvis up towards a bridge, but very small range. Barely off the mat.)



# Spinal Instability

Also known as mechanical low back pain. Poor segmental control in varying planes of motion. Symptoms are pain with position changes and poor endurance in static positions, especially sitting.

Work on segmental control

Focus on neutral

Begin in closed chain with short levers

No rotation in the direction of the instability

Work towards achieving function in all planes of motion



# Degenerative Disc Disease

End stage of overuse, instability, muscles strain and ligament sprain. Fluid content decreases and the discs begin to change from gelatinous to fibrocartilaginous. The disc spaces narrow and the ligaments slacken. Symptoms are pain or rising and pain may radiate to lower extremities.

Focus on segmental control

Work in neutral as much as possible

Avoid long levers, rotation and open chains at first

Ab prep with supported legs

Thoracic extension prone

4 point swim





# Hyperkyphosis

An exaggerated or excessive curve in the thoracic spine caused by poor posture, muscle imbalances, osteoporosis or degenerative disc disease. Focus on improving muscle imbalances.

Focus on prone extension exercises to strengthen back extensors

Modified yoga with a focus on 4-point kneeling, lunges, shoulder flexion

Prone & 4-point spinal extension strengthening (with weights potentially,) lower trapezius and Transverse abdominus strengthening

Spinal mobility exercise, shoulder/hip stretching

Postural alignment work

Avoid flexion to avoid risk of fracture



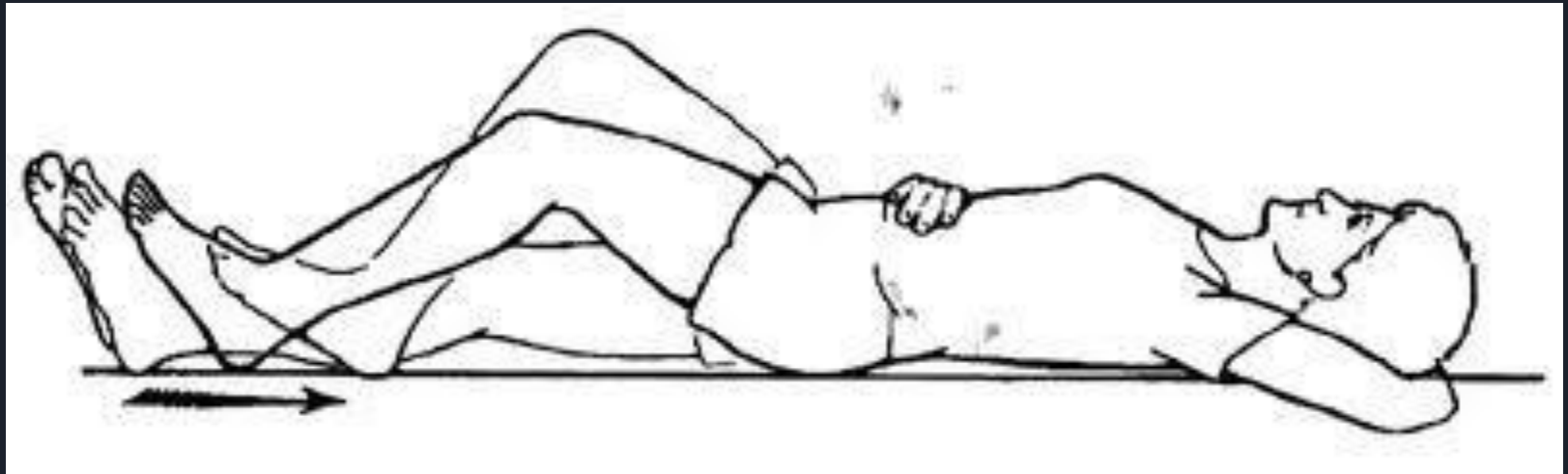
# Exercises of the trunk

The following exercises should be done while maintaining a neutral pelvis. If a neutral pelvis cannot be maintained an easier exercise should be given. Once an exercise can be done with neutral pelvis a client can progress to a more difficult exercise.

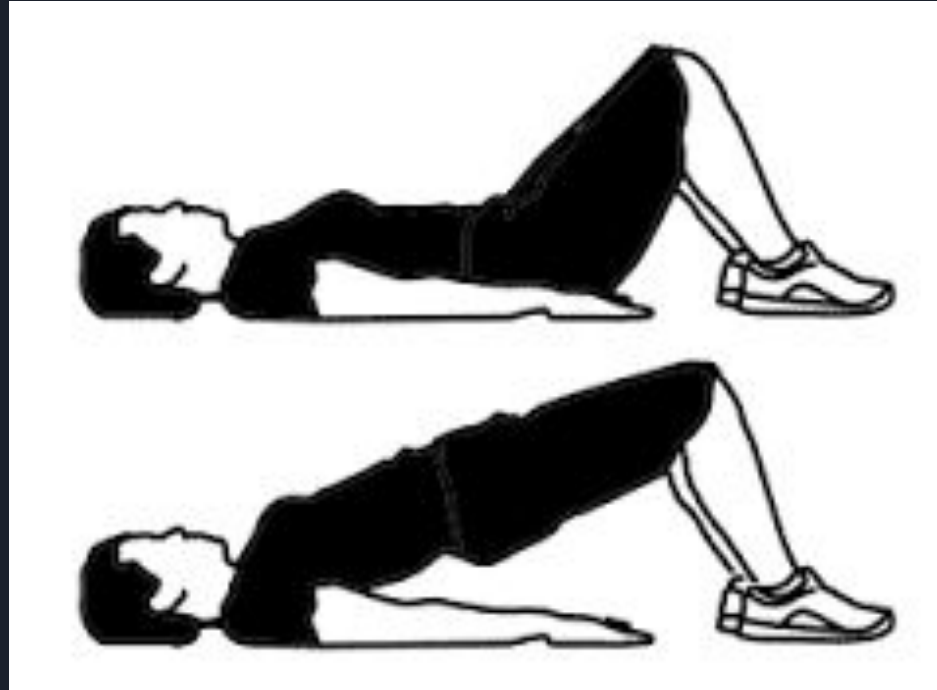
# Bent knee fall out



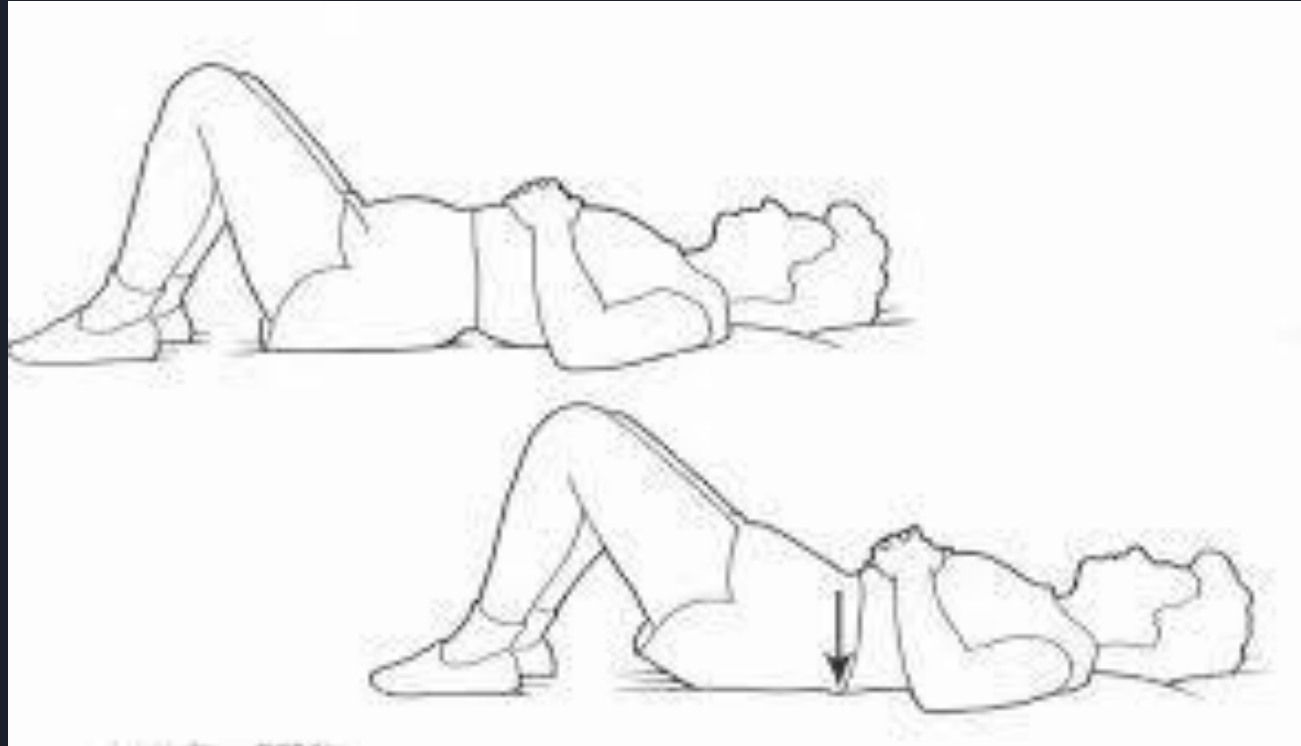
# Heel slide



# Bridge



# Bridge with pelvic roll



# Dead bug

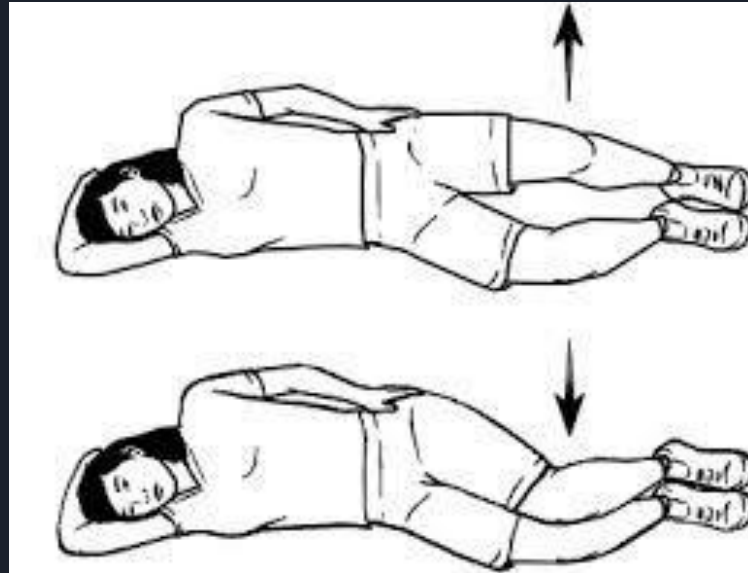


# Ab prep

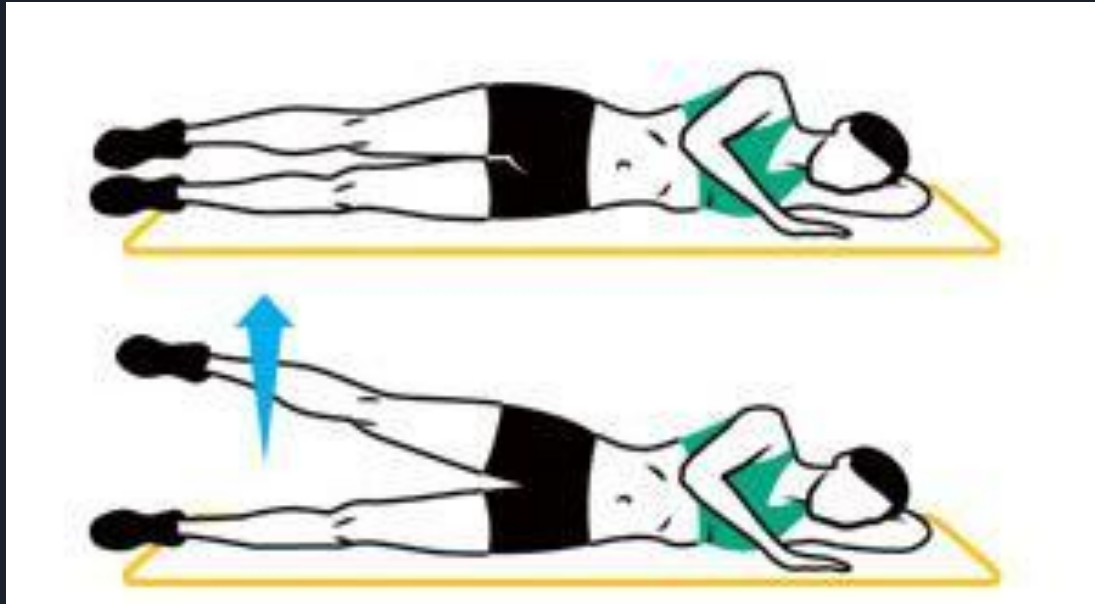




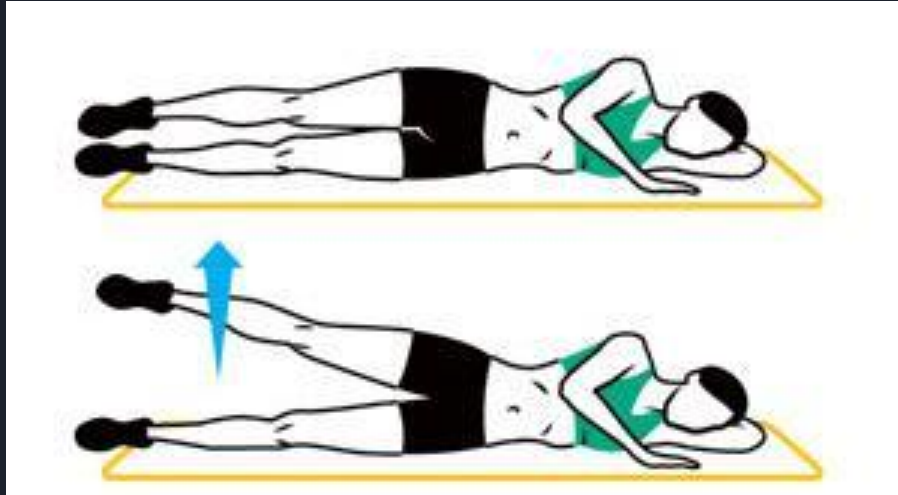
# Clam shell



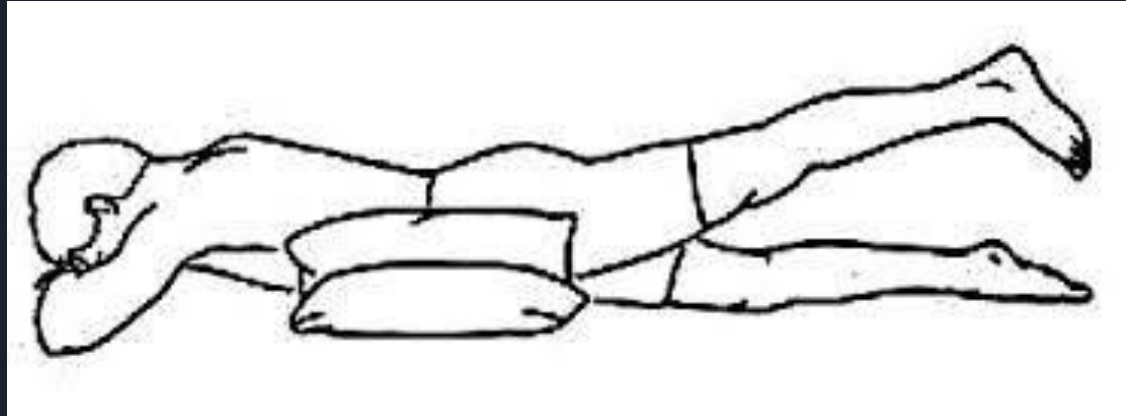
# Side leg lift



# Side leg lift with pulses



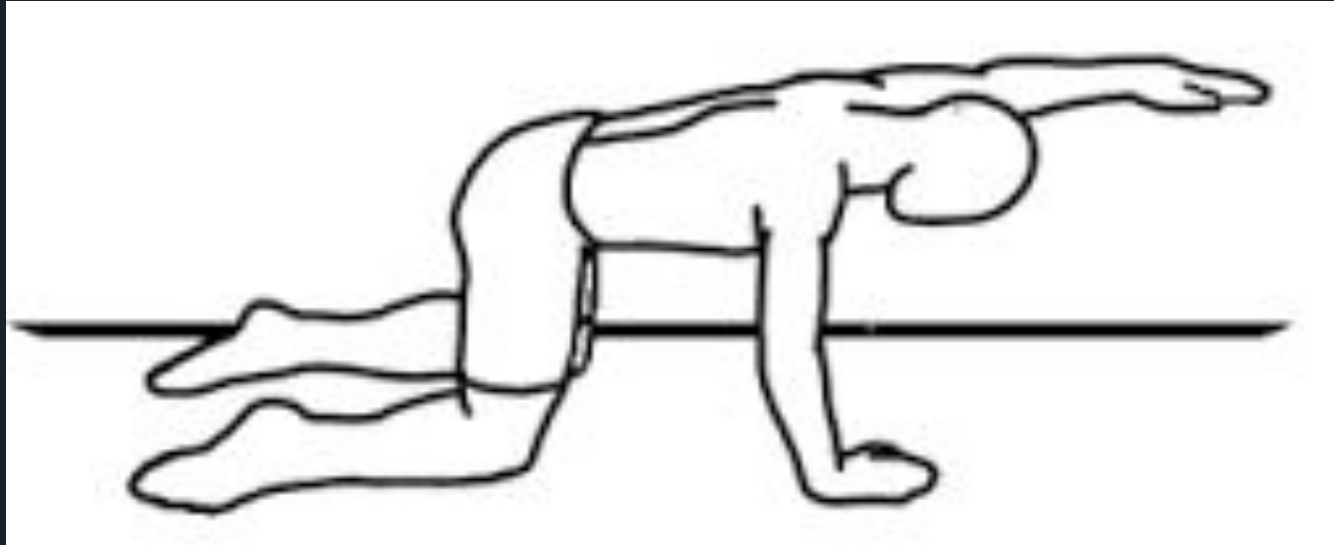
# Prone leg extension



# Swimming or superman



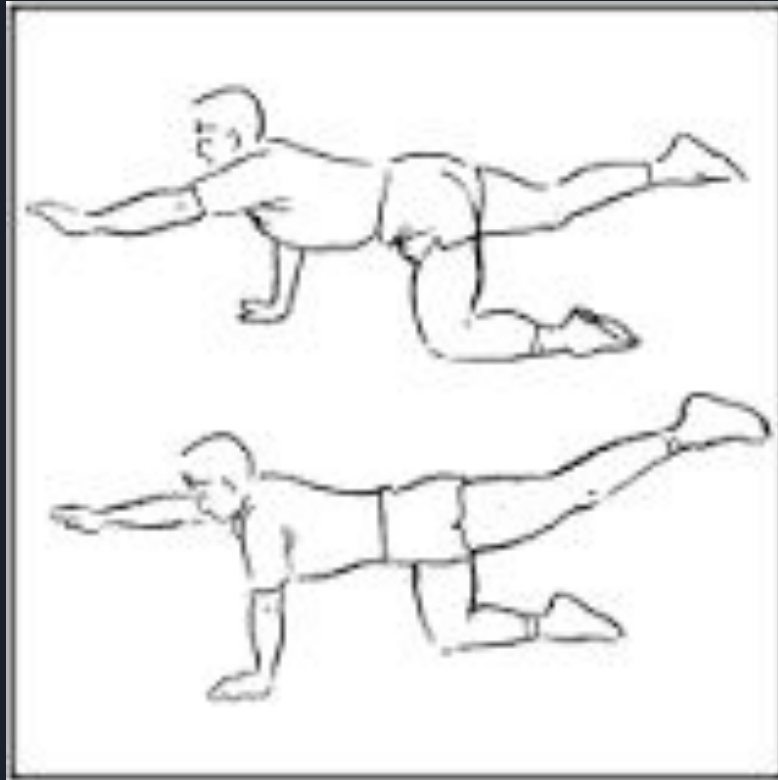
## 4 point kneeling arm lift



## 4 point kneeling leg slide



# 4 point kneeling swim





# Four Point Kneeling Knee Lift in Neutral



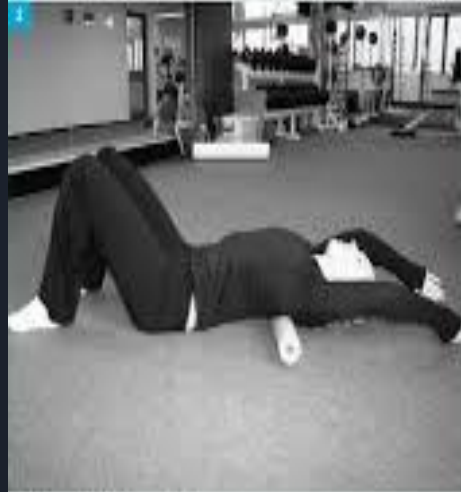
# Modified planks



# Bridging / hip raises



# Spine mobility exercises



Small rook/lower thoracic extension



Swan milk prone glider (adductor)

# SI mobility



# Exercise examples

You can include lateral exercises from the Hip Lecture, such as Clamshell and Side leg lifts. You could also add double leg lifts and leg swings if they are strong.

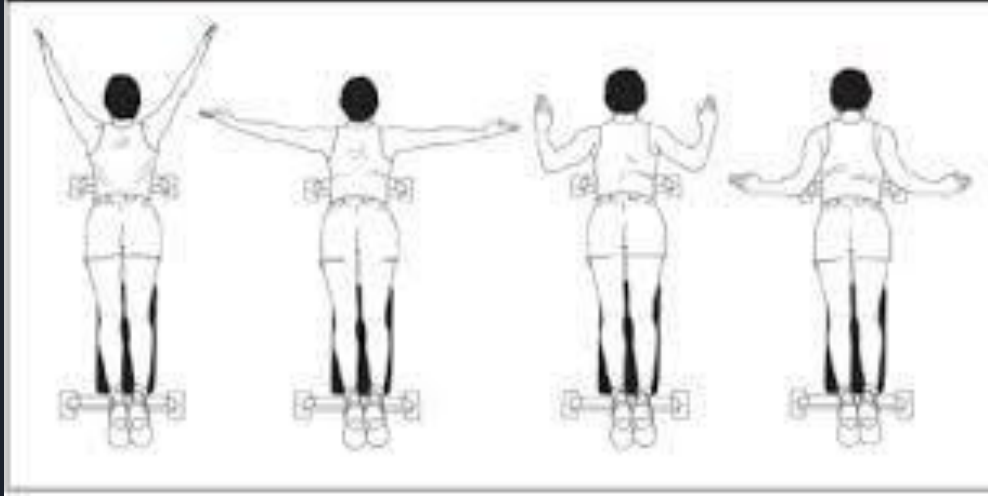




Double leg lift - watch that obliques support on bottom side and pelvis doesn't hike.



Leg Swings – best to rest head on pillow. Can bend bottom leg for additional support.



- Begin with arms by the sides and focus on stabilizing scapulae and lifting arms off floor.
- Move on to exercises in picture (right to left,) beginning with bent elbow arm lifts.
- Slowly increase the length of the lever to T's. As the lever increases, you can add a gentle squeeze between the shoulder blades as they lift.
- Follow with Y's only if they can keep trapezius muscles from overworking and elevating shoulders.
- Be aware of positioning. Your client may require a pillow under each arm to reduce the range and ensure a more neutral starting point. They will definitely require a support for their head.



# Prone rowing

If strong enough can use weights, but must be able to stabilize scapula when hand is dangling to the floor. I.e. Not allowing the shoulder blade to protract in the start position.

