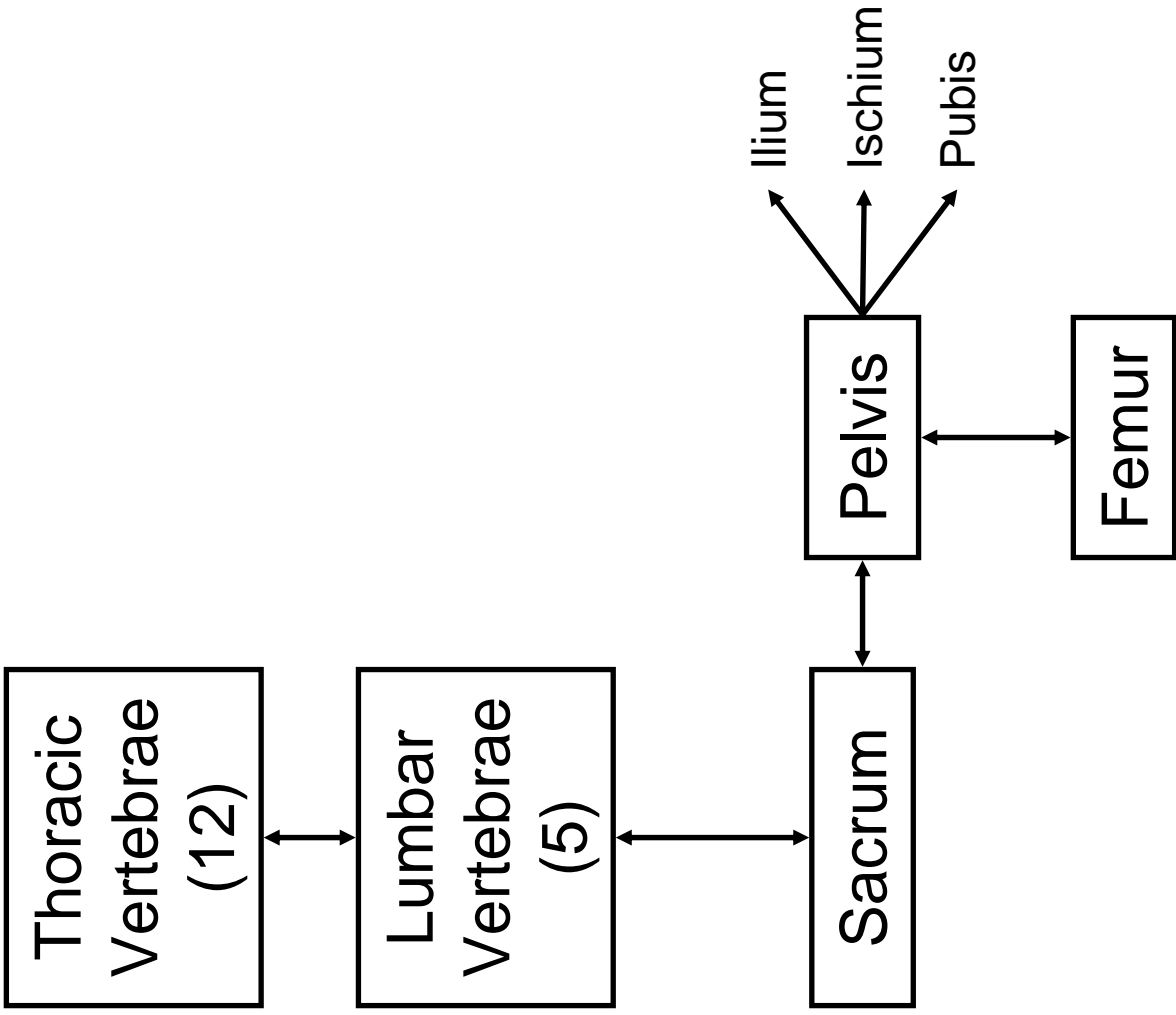


Hip, Pelvis

&

Low Back

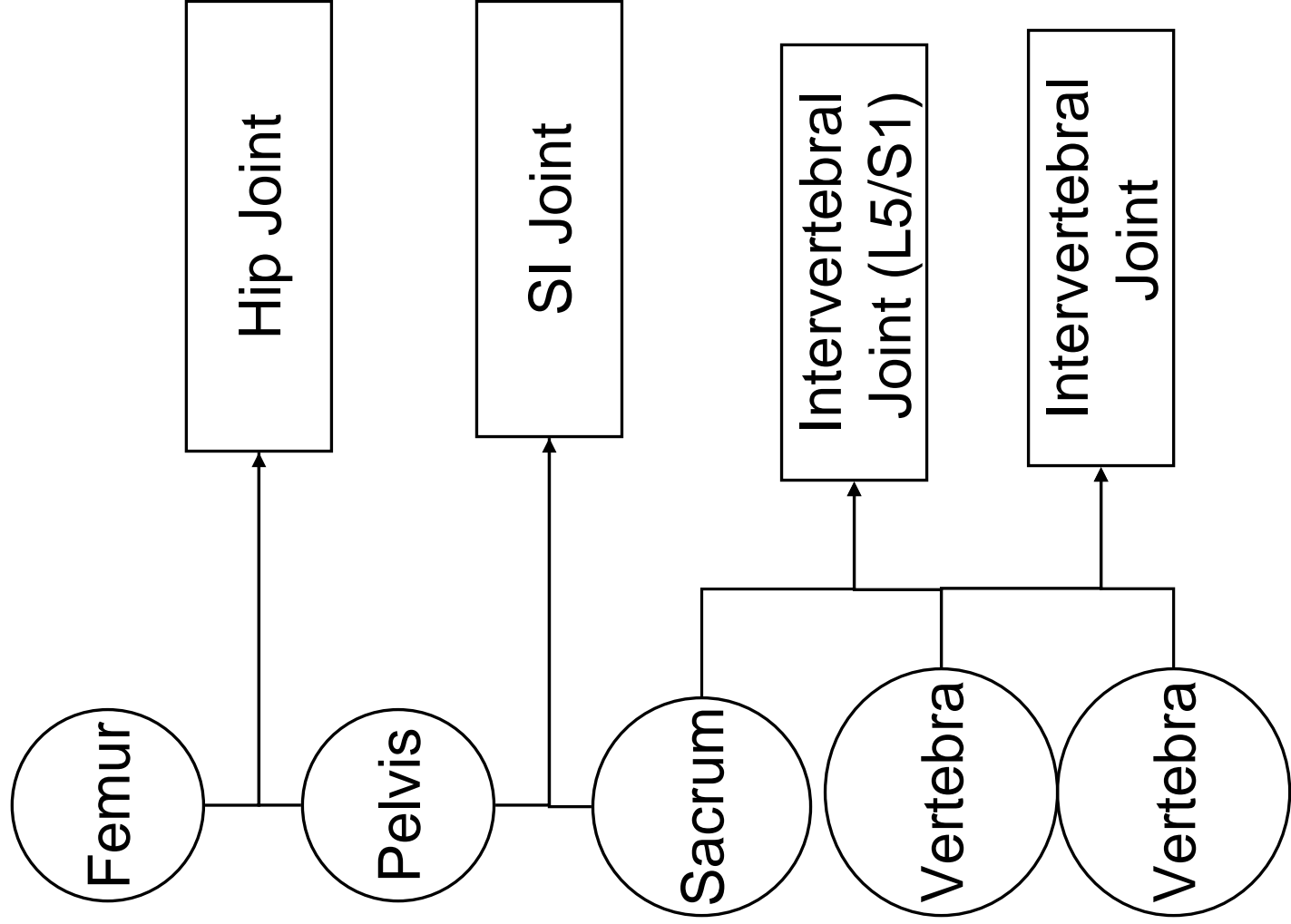


Femoral Neck

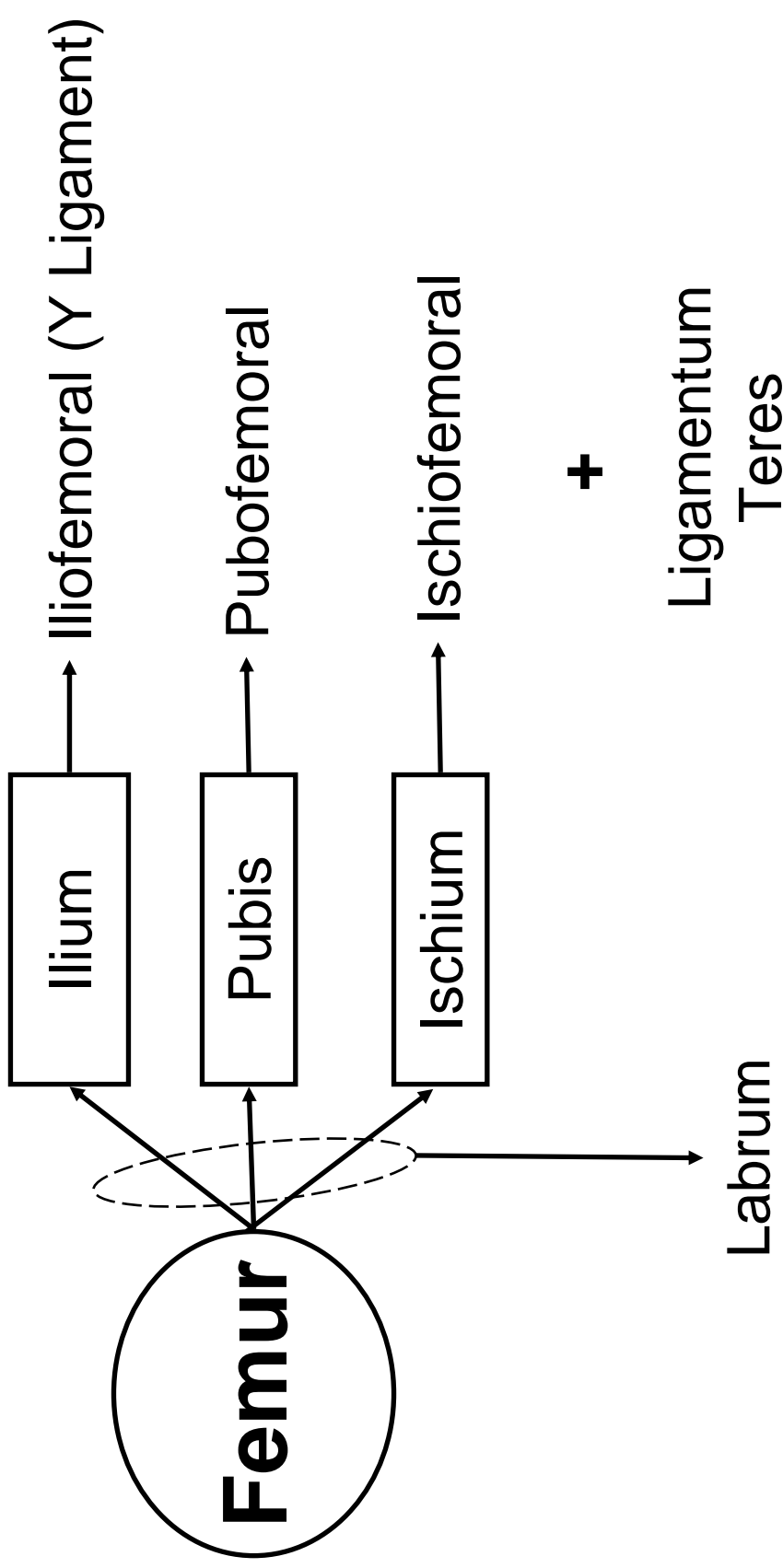
	Normal	Increased	Decreased
Angle of Inclination			
Angle of Torsion			

Important Parts of the Vertebrae

- Vertebral Body
- End Plate
- Foramen
 - Vertebral
 - Intervertebral
- Neural Arch
 - Pedicle, Lamina, Pars Interarticularis
- Intervertebral Disc
 - Annulus Fibrosus
 - Nucleus Pulposus



Hip: 3 Bones, 3 Ligaments



Hip Ligaments

Ligament	Connects	Restrains
Ilofemoral		
Pubofemoral		
Ischiofemoral		
Ligamentum Teres		

SI Joint Ligaments

- Sacroiliac Ligaments
 - Iliac crest to tubercles of 1st 4 sacral vertebrae
- Sacrotuberous Ligament
 - Ischial tuberosities to lat border of sacrum
- Sacrospinous Ligament
 - Ischial spines to lat border of sacrum

Spine Ligaments

**Anterior
Longitudinal
Ligament**

Body

**Posterior
Longitudinal
Ligament**

**Ligamentum
Flavum**

**Supra-
Spinous
Ligament**

**Spinous
Process**

**Inter-
Spinous
Ligament**

**Inter-
Transverse
Ligament**

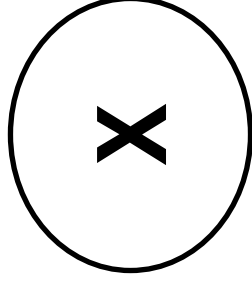
Spine Ligaments

Ligament	Connects		Restrains
ALL			
PLL			
Ligamentum Flavum			
Supraspinous Ligament			
Interspinous Ligament			
Intertransverse Ligament			

Hip Joint

Flex

Anterior



X

Lateral

Medial

Abduct

Adduct
IR

Posterior

Extend
ER

Hip Joint

Rectus Femoris
Sartorius
Psoas Major
Psoas Minor
Iliacus

Pectineus
Adductor Brevis
Adductor Longus
Adductor Magnus
Gracilis



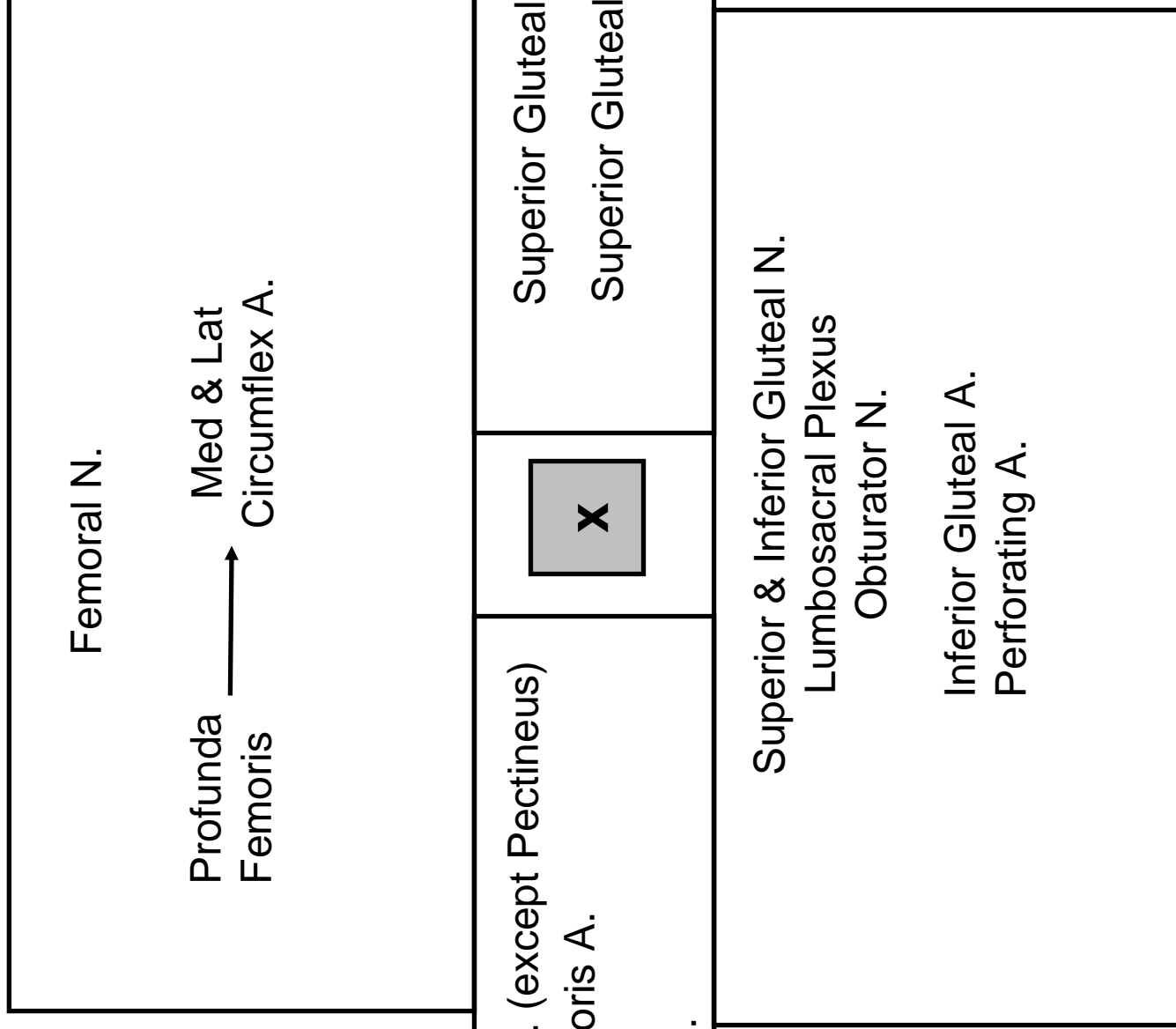
TFL
Gluteus Medius
Gluteus Minimius

Glute Max
Hamstrings
Adductor Magnus
Piriformis
Gemellus Superior
Obturator Internus
Gemellus Inferior
Obturator Externus
Quadratus Femoris

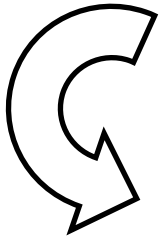
Hip Muscle – Joint Interaction

Motion	Prime Mover(s)
Flexion	
Extension	
IR	
ER	
Abduction	
Adduction	

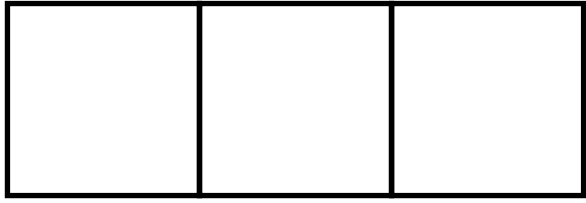
Hip Joint



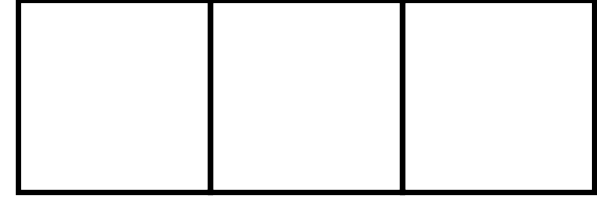
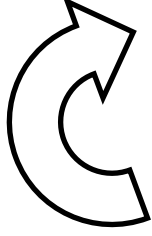
SI Joint Movements



Anterior

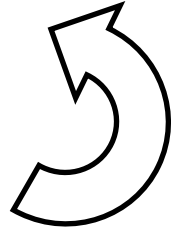


Nutation



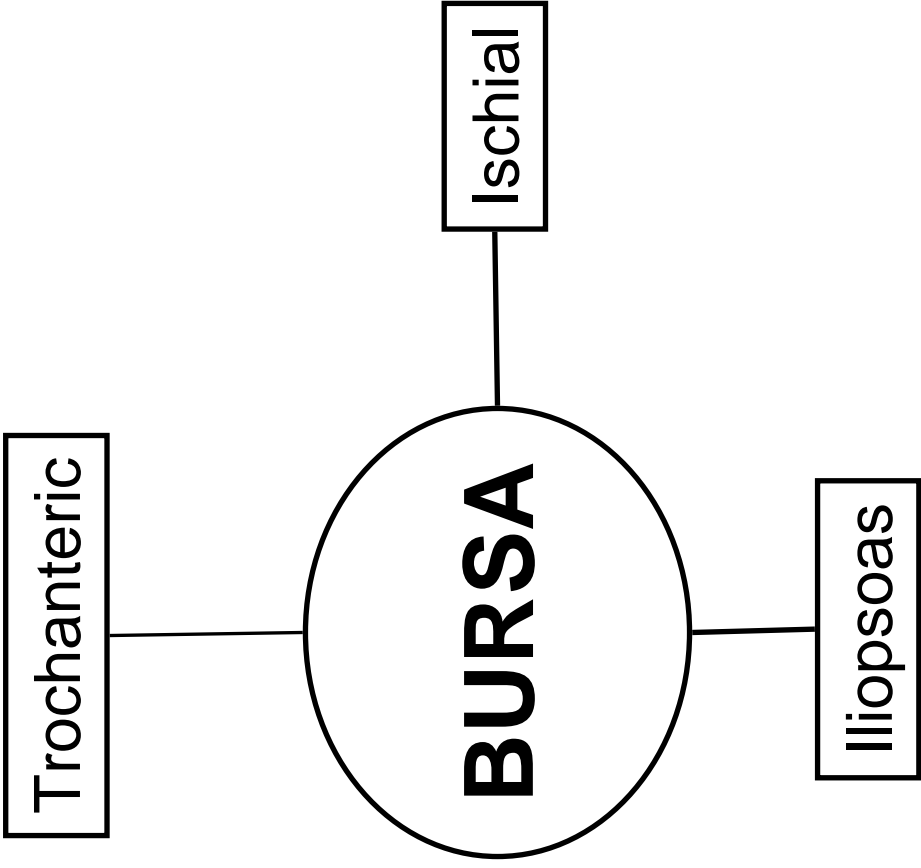
Posterior

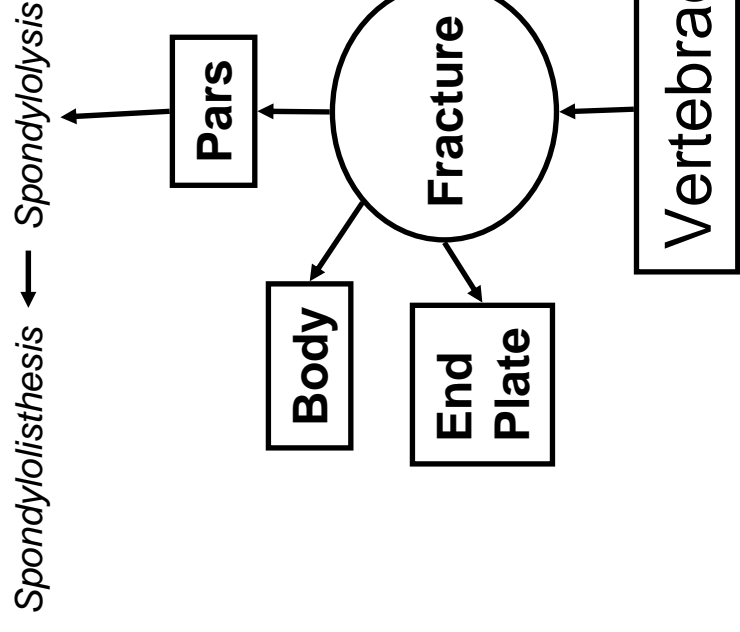
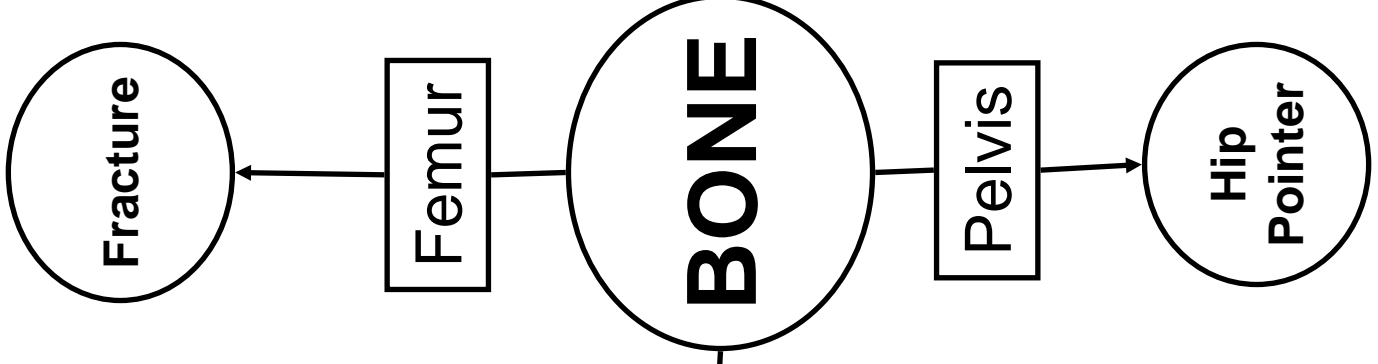
**Counter-
Nutation**

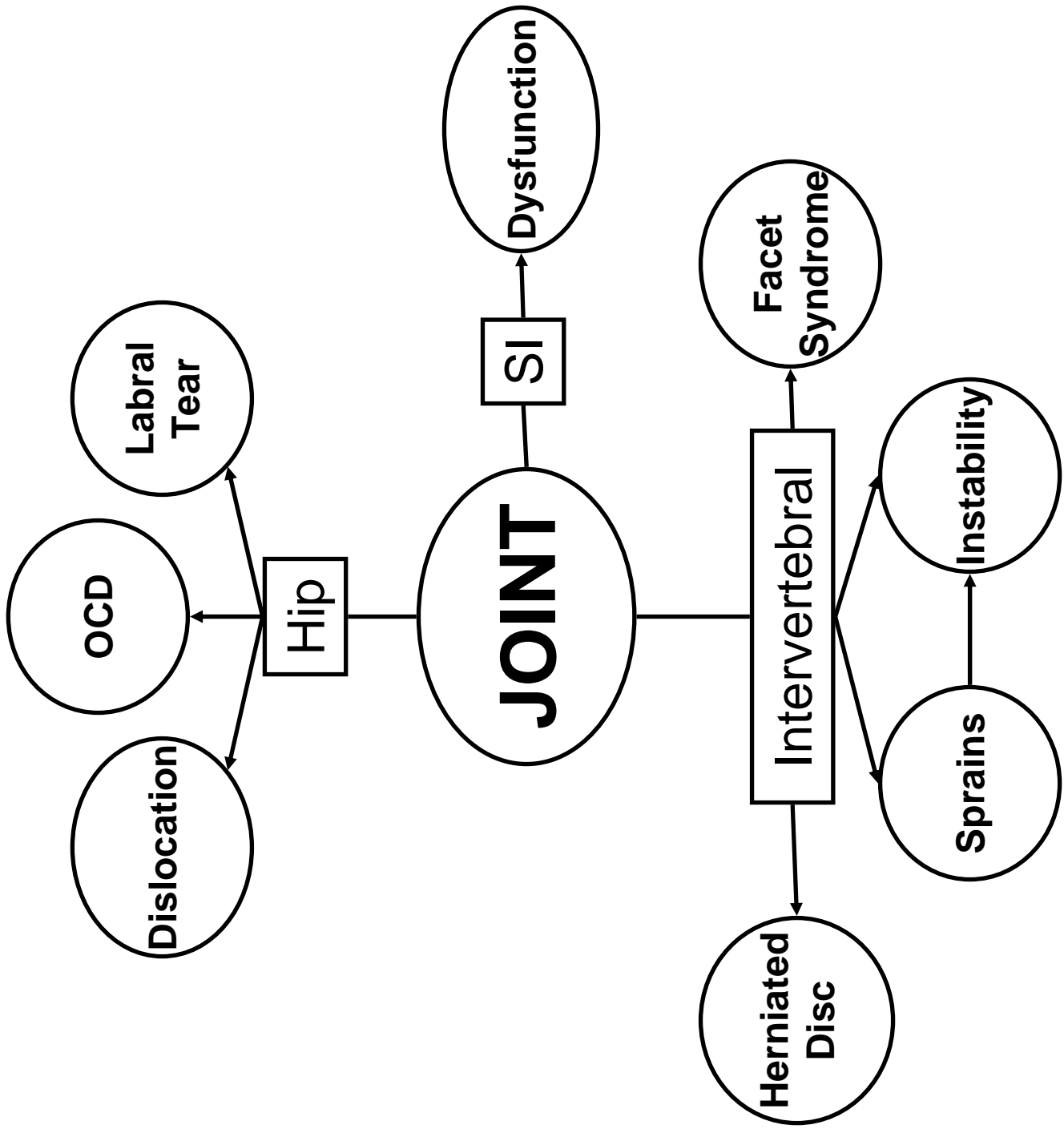


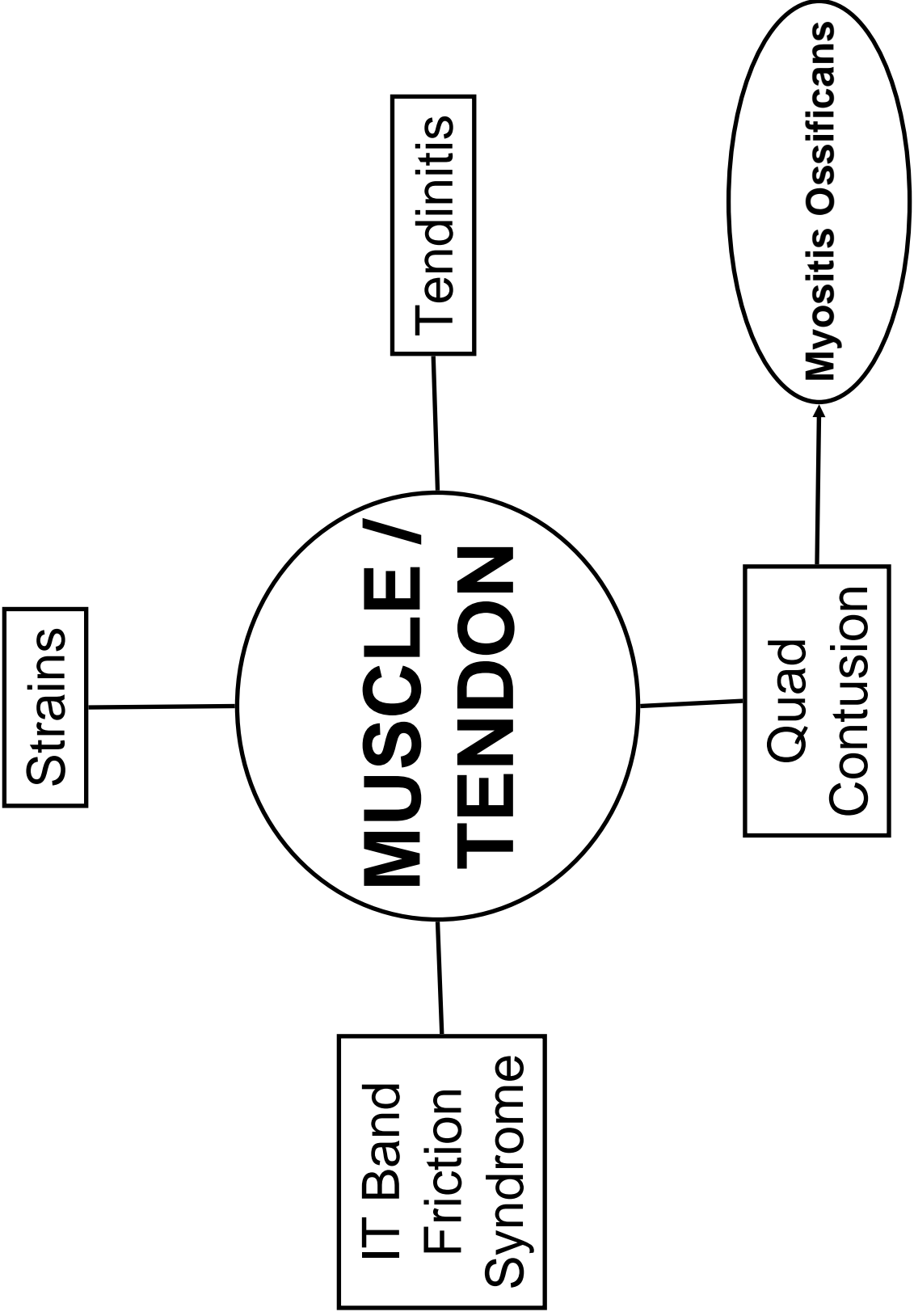
Spine Muscle – Joint Interaction

Motion	Prime Mover(s)
Flexion	
Extension	
Rotation	
Lateral Flexion	

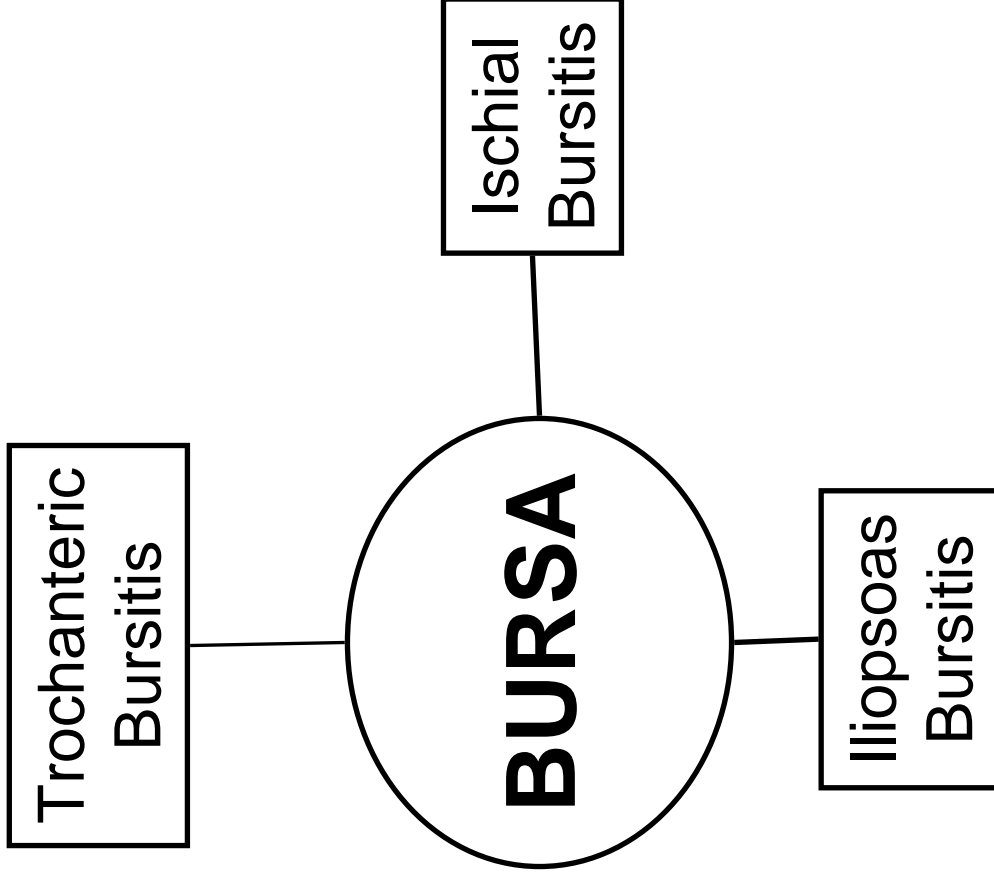


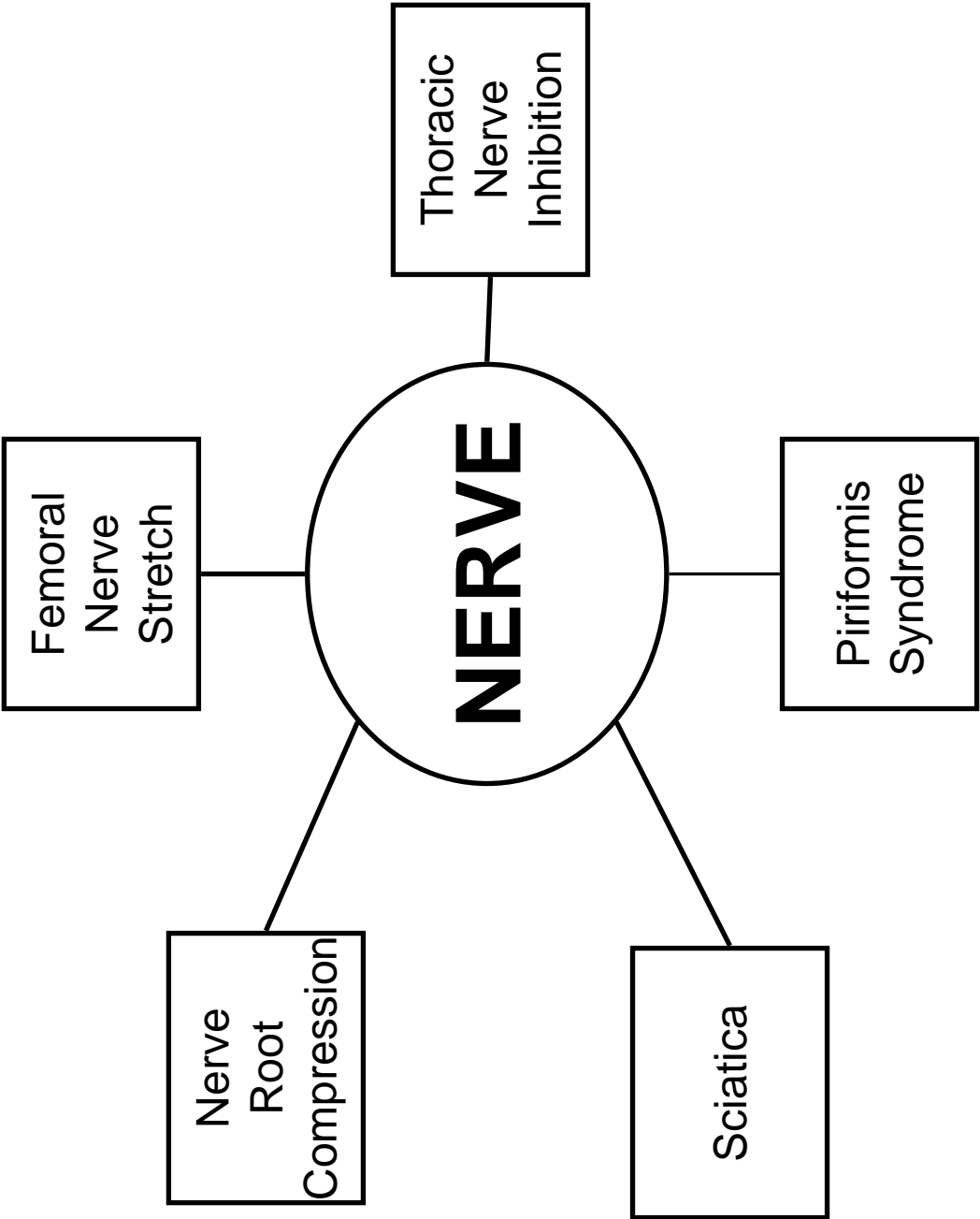


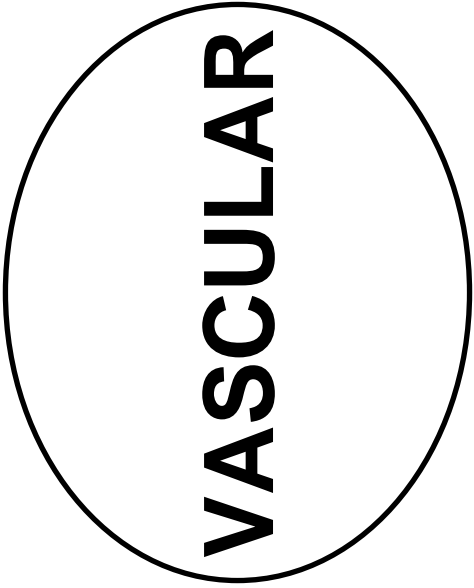




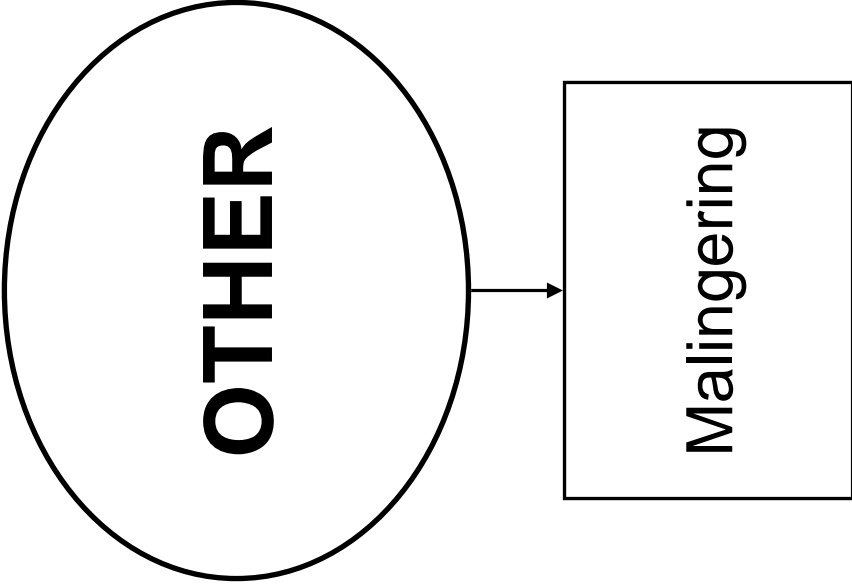
“Snapping Hip”

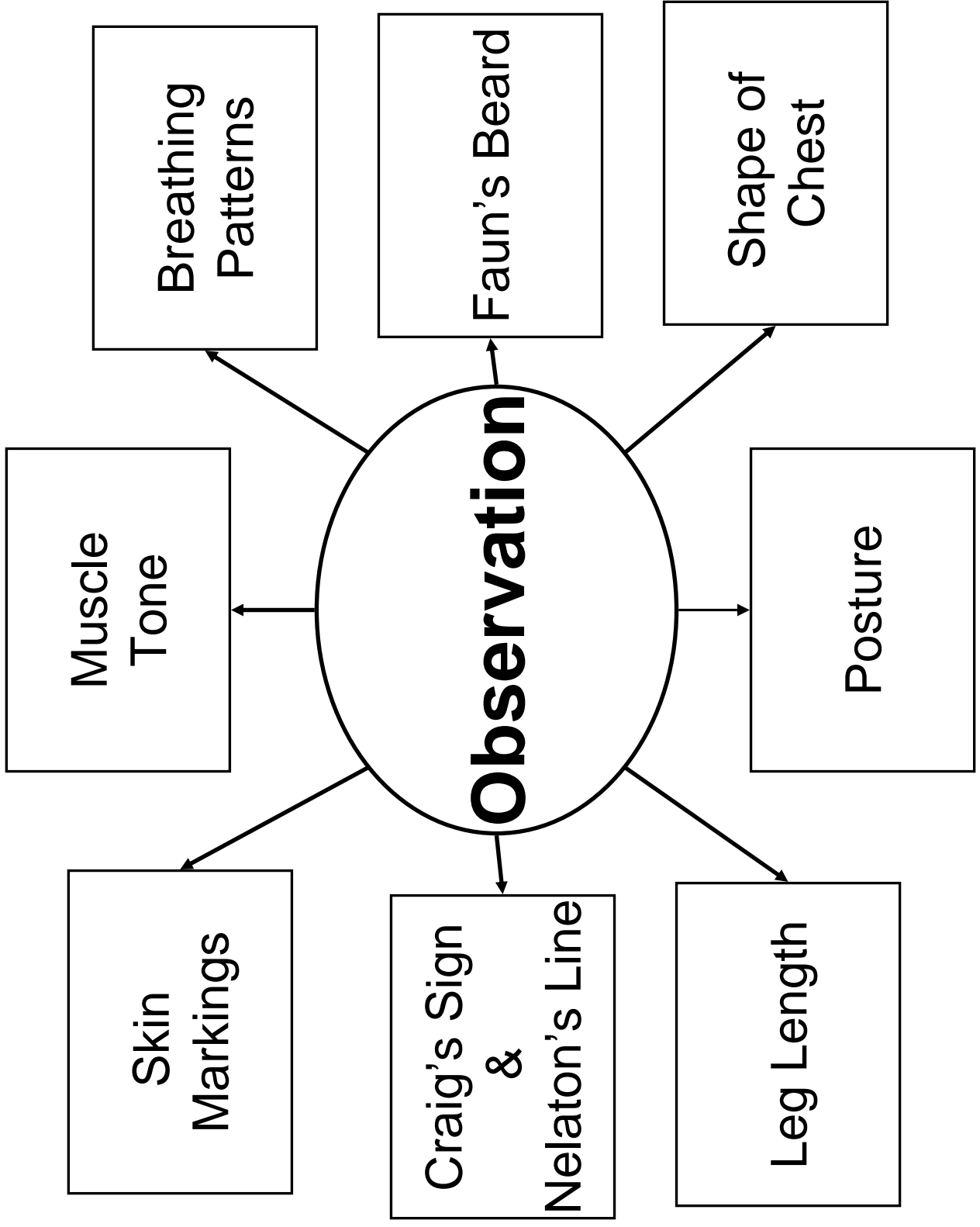






VASCULAR





Hip, Pelvis, & Low Back Palpation Guide

Medial Structures

Pubic Bone

Gracilis
Adductor Longus
Adductor Magnus
Adductor Brevis

Anterior Structures

ASIS

Sartorius
Rectus Femoris
Femoral Artery

AIS

Lateral Structures

Iliac Crest

Tensor Fascia Latae
IT Band
Gluteus Medius

Greater Trochanter

Posterior Structures

PSIS

Gluteus Maximus

Ischial Tuberosity

Hamstring Muscle Group
Sciatic Nerve

Median Sacral Crests

Lumbar Spine

Spinous Processes

Supraspinous Ligaments

Erector Spinae
Latissimus Dorsi
External Obliques
Rectus Abdominis

Thoracic Spine

Spinous Processes

Supraspinous
Ligaments

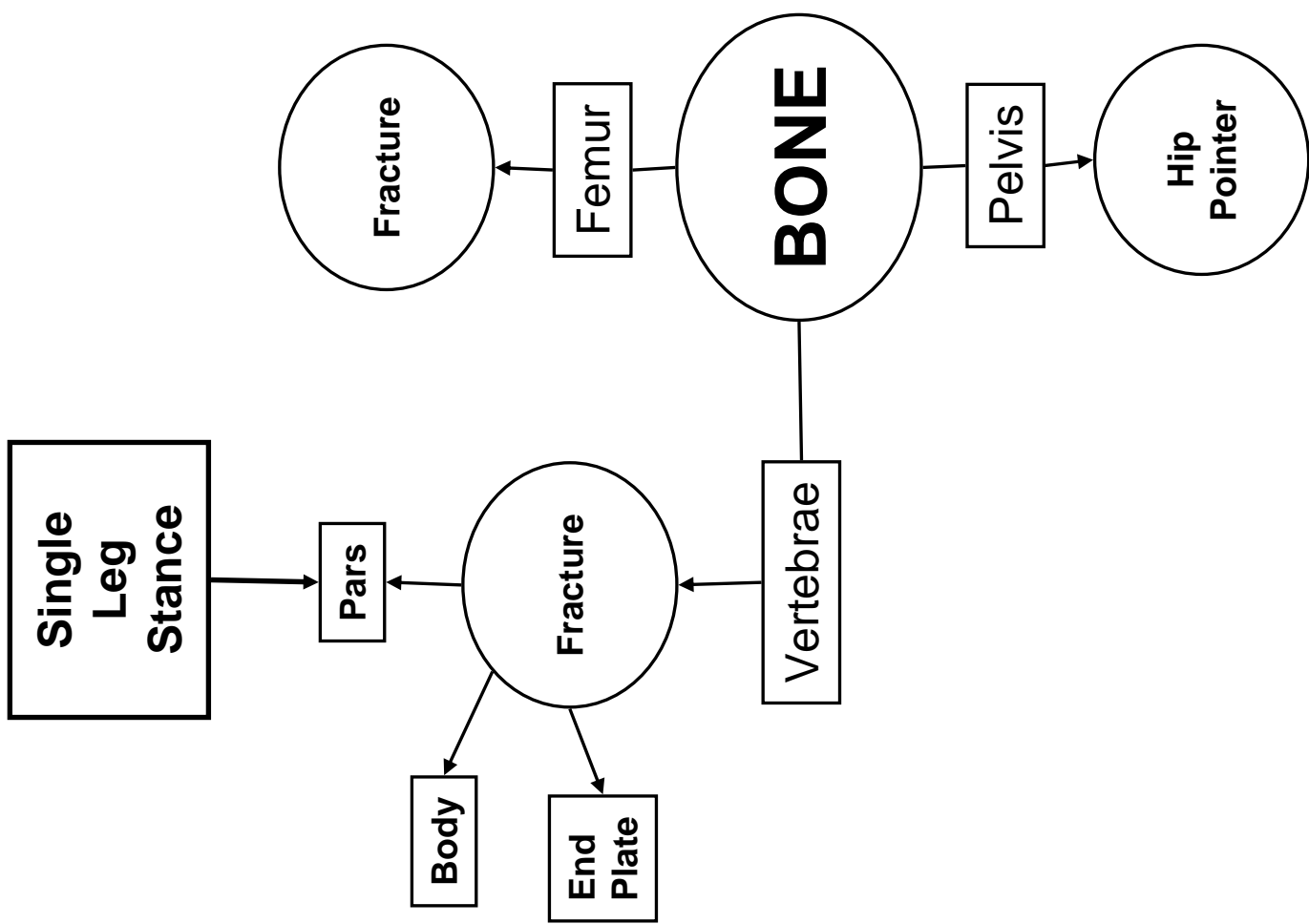
Costovertebral Junction

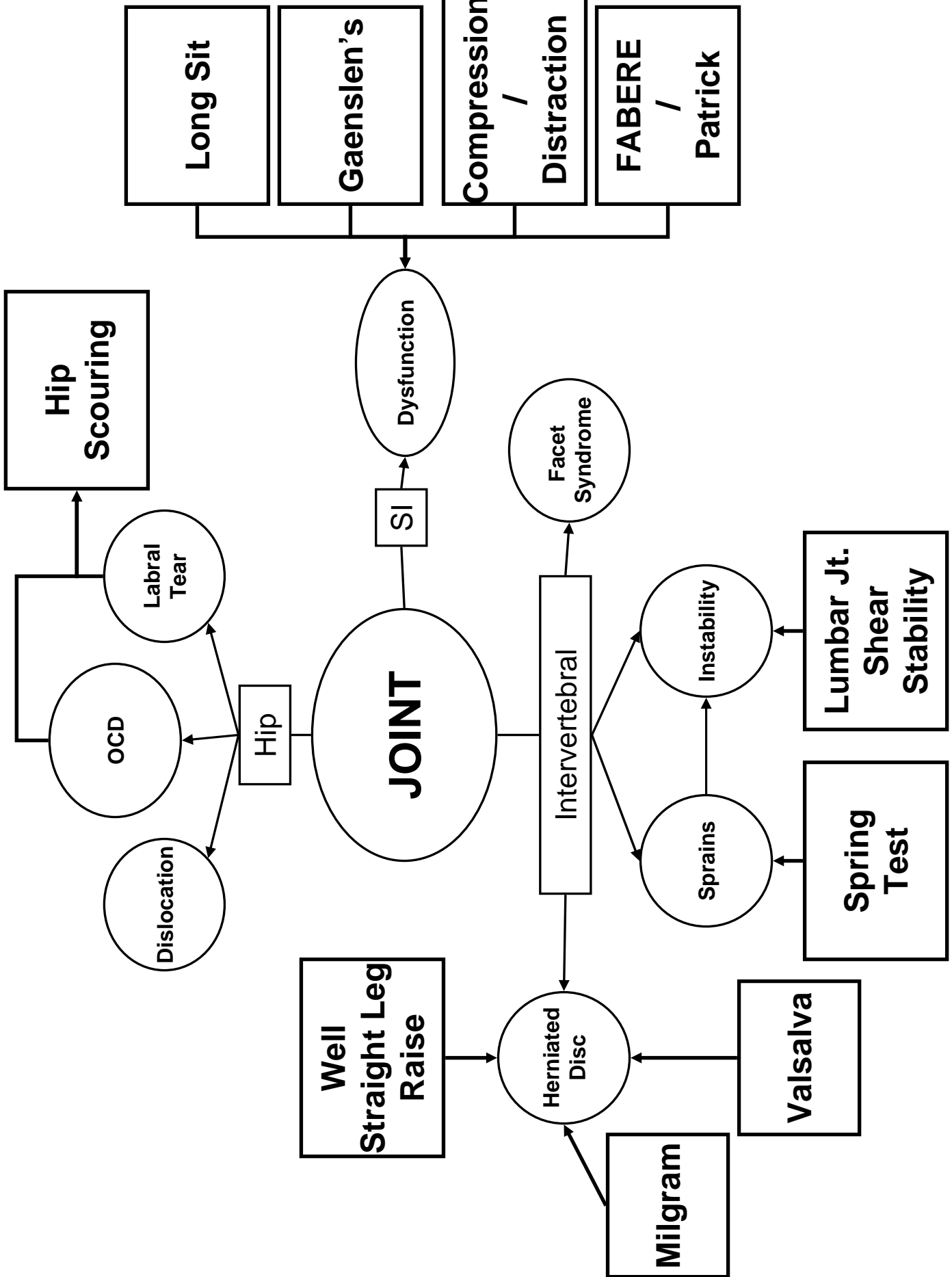
Trapezius

Erector Spinae

Structure	Landmark
C1	TPs are one finger's breadth inferior to mastoid process
C3-4	Posterior to hyoid bone
C4-5	Posterior to thyroid cartilage
C6	Posterior to cricoid cartilage; moves during flexion and extension
C7	Prominent spinous process
T1	Prominent below C-spine, doesn't move with flexion/extension of C-spine
T2	Posterior from jugular notch
T3	Even with medial border of scapular spine
T7	Even with inferior angle of scapula
L3	Posterior to umbilicus
L4	Level with the iliac crest
L5	Bilateral dimples
S2	PSIS

Level	Spinous process is....
Cervical	Even with vertebral body
T 1-3	Even with TP
T 4-6	Midway between its TP and the TP of the vertebra below it
T 7-9	Even with the TP of the inferior vertebra
T 10	Even with the TP of T 11
T 11	Halfway between T 11 and T 12
T 12	Even with the vertebral body of T 12
Lumbar	Even with the inferior half of the vertebral body



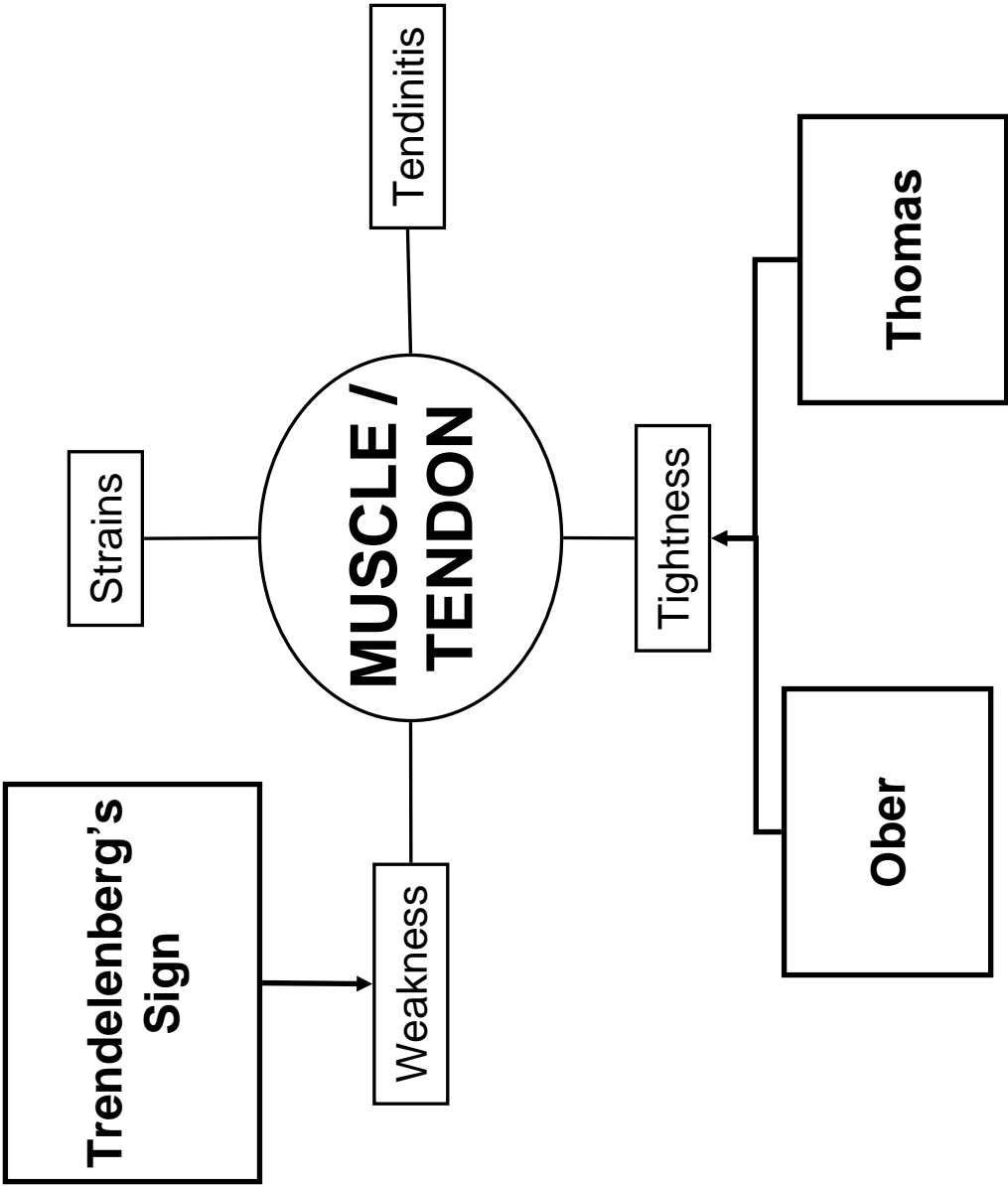


Goniometry - Hip

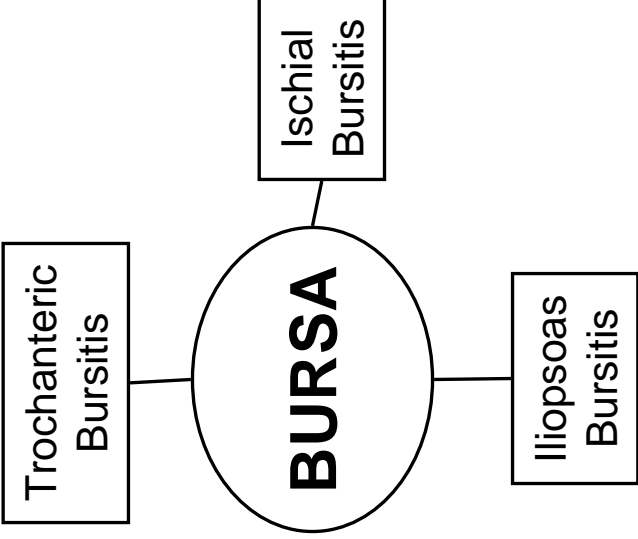
Motion	Normal ROM	Stationary Arm	Axis of Rotation	Moving Arm
Flexion				
Extension				
IR				
ER				
Abduction				
Adduction				

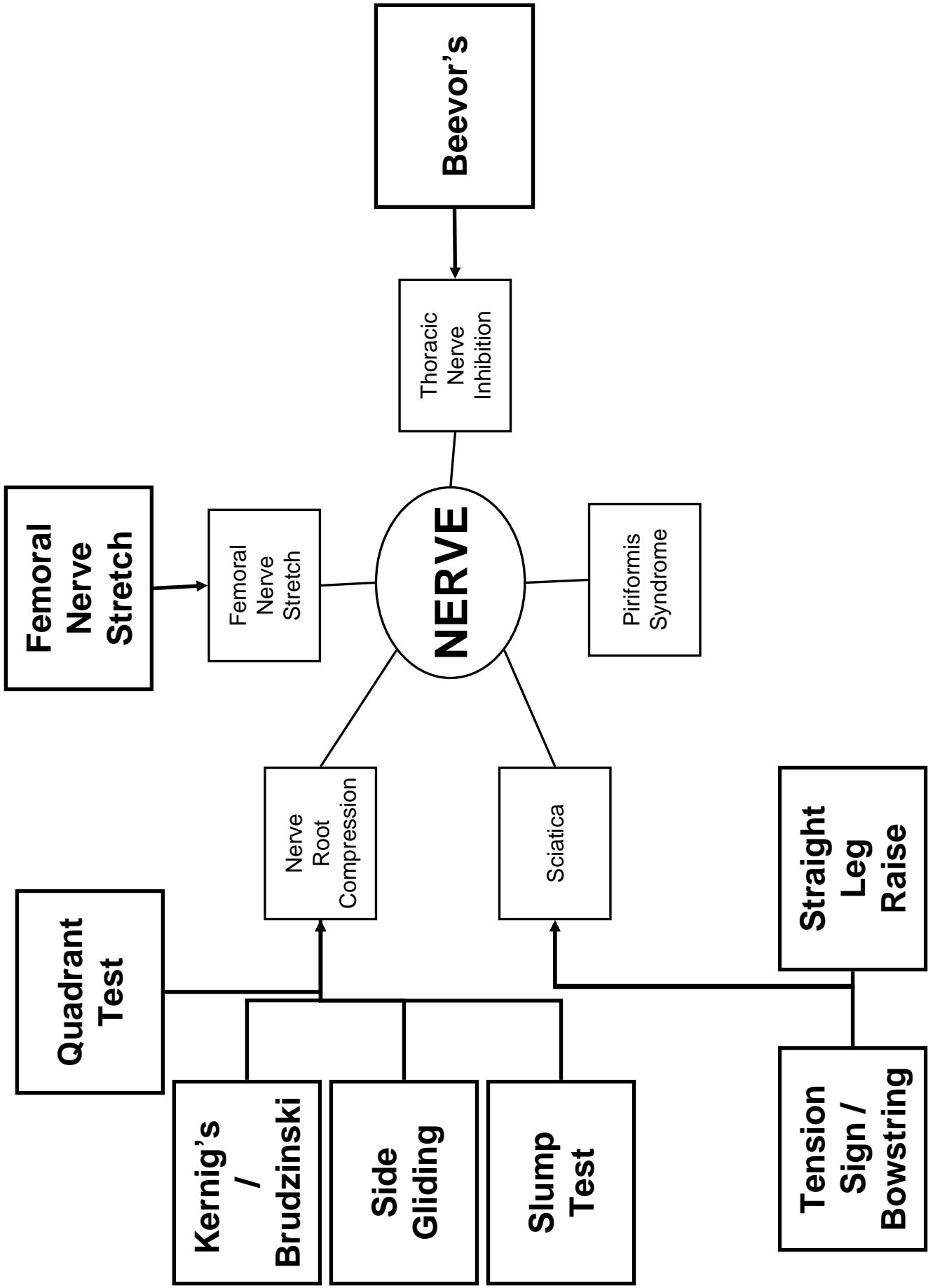
Goniometry - Spine

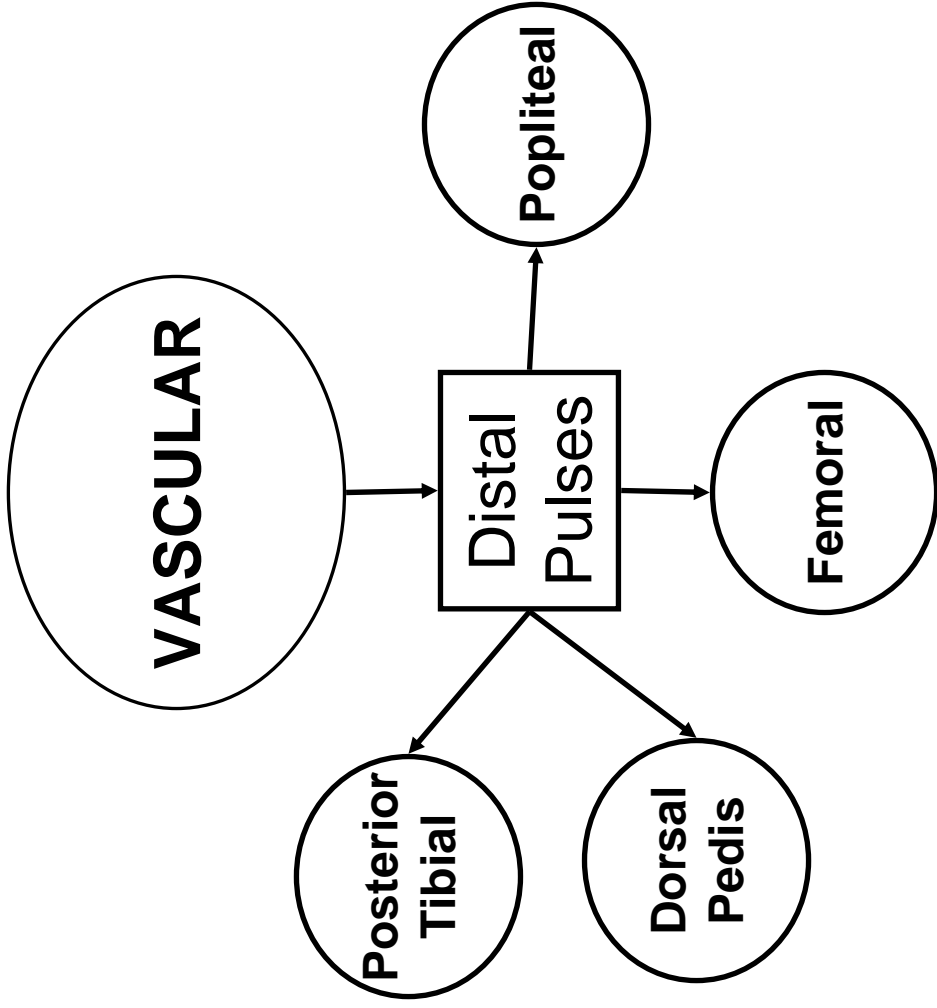
Motion	Normal ROM	Stationary Arm	Axis of Rotation	Moving Arm
Flexion				
Extension				
Rotation				
Lateral Flexion				

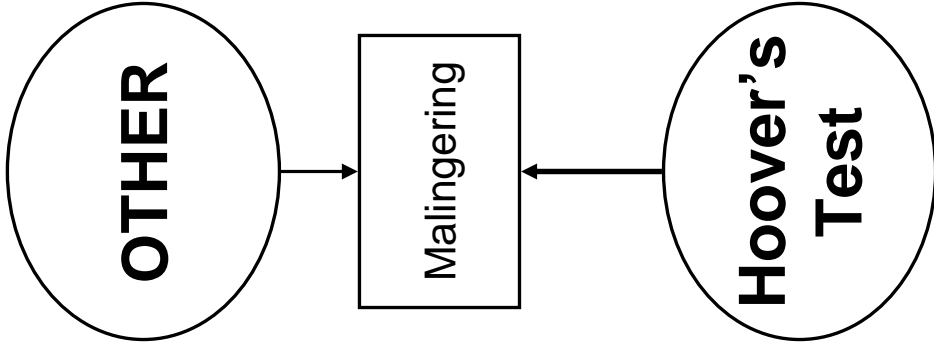


	PROM	AROM
Rectus Femoris	KNEE	KNEE
	HIP	HIP
Hamstrings		









Kinesiology 338L
Hip, Pelvis and Low Back Checklist

History _____

General History

Specific to this Region

Observation _____

General Inspection

Skin Markings

Faun's Beard

Muscle Tone

Breathing Patterns

Shape of Chest

Posture

Craig's Sign

Nelaton's Line

Palpation

Medial Structures _____

Pubic Bone

Gracilis

Adductor Longus

Adductor Magnus

Adductor Brevis

Anterior Structures

ASIS

Sartorius

Rectus Femoris

Femoral Artery

AIIS

Lateral Structures

Iliac Crest

Tensor Fascia Latae

IT Band

Gluteus Medius

Greater Trochanter

Posterior Structures

PSIS

Gluteus Maximus

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Erector Spinae

Latissimus Dorsi

External Obliques

Rectus Abdominis

Thoracic Spine

Spinous Processes

Supraspinous Ligaments

Costovertebral Junction

Trapezius

Erector Spinae

Stress

Bone

Single Leg Stance

Joint

PROM

Hip: Flex/Ext

Hip: ER/IR

Hip: Abd/Add

Spine: Flex/Ext

Spine: Lat Flexion

Spine: Rotation

Special Tests

Hip Scouring

Long Sit

Gaenslen's

SI Compression / Distraction

FABERE / Patrick

Lumbar Jt. Shear Stability

- Spring Test
- Valsalva
- Milgram
- Well Straight Leg Raise

Muscle/Tendon

A/P/RRROM

- Hip: Flex/Ext
- Hip: ER/IR
- Hip: Abd/Add
- Spine: Flex/Ext
- Spine: Lat Flexion
- Spine: Rotation

Special Tests

- Thomas Test
- Ober's Test
- Trendelenberg Sign

Nerve

Neurological Screen

Special Tests

- Beevor's
- Femoral Nerve Stretch
- Quadrant Test
- Kernig's Brudzinski
- Side Gliding
- Slump Test

Tension Sign/Bowstring

Straight Leg Raise

Vascular

Distal Pulses

Dorsal Pedis A.

Post Tib A.

Popliteal A.

Femoral A.

Other

Hoover's
