

Clinical examination of the Spine

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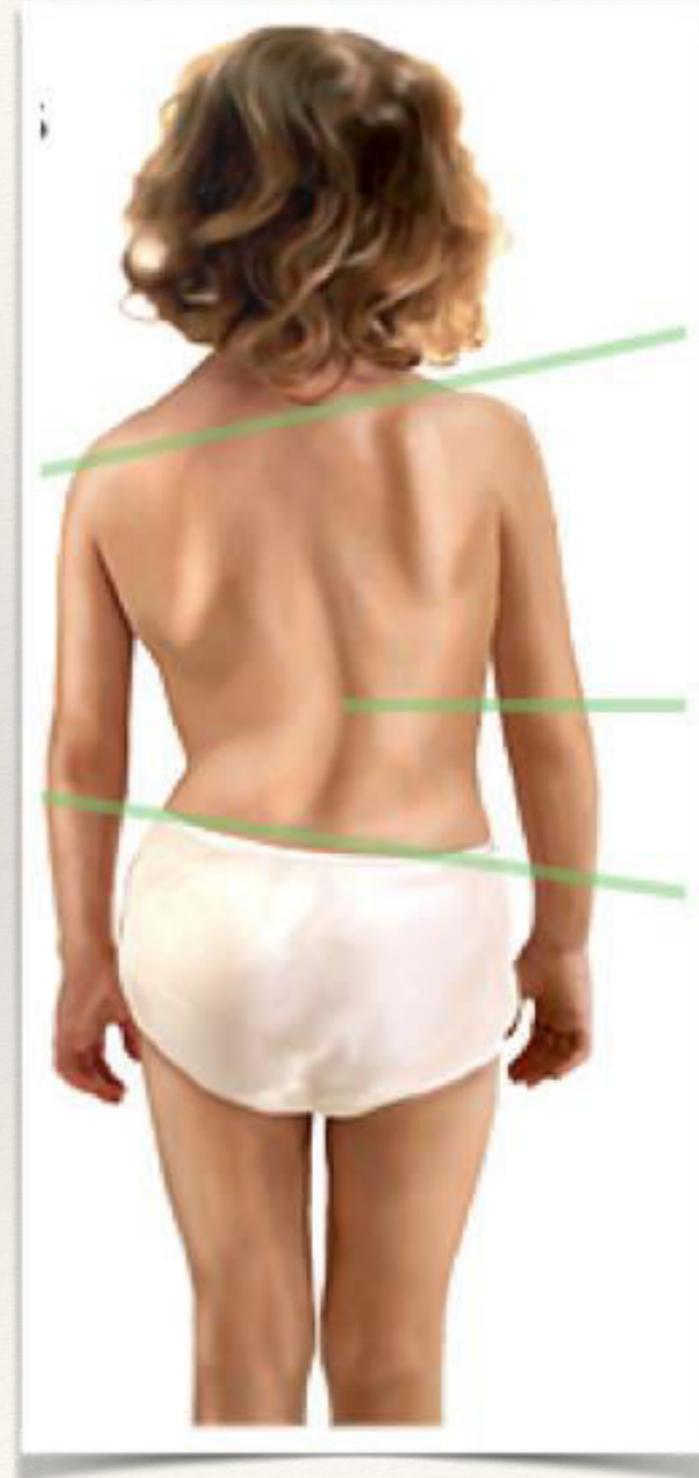
Bromsgrove Private Clinic

General aspects

- ❖ Introduction
- ❖ Consent to examination
- ❖ Non-verbal communication (eye contact)
- ❖ 'First impressions'
- ❖ Exposure; comfort (warm hands and room)
- ❖ Inflicting pain

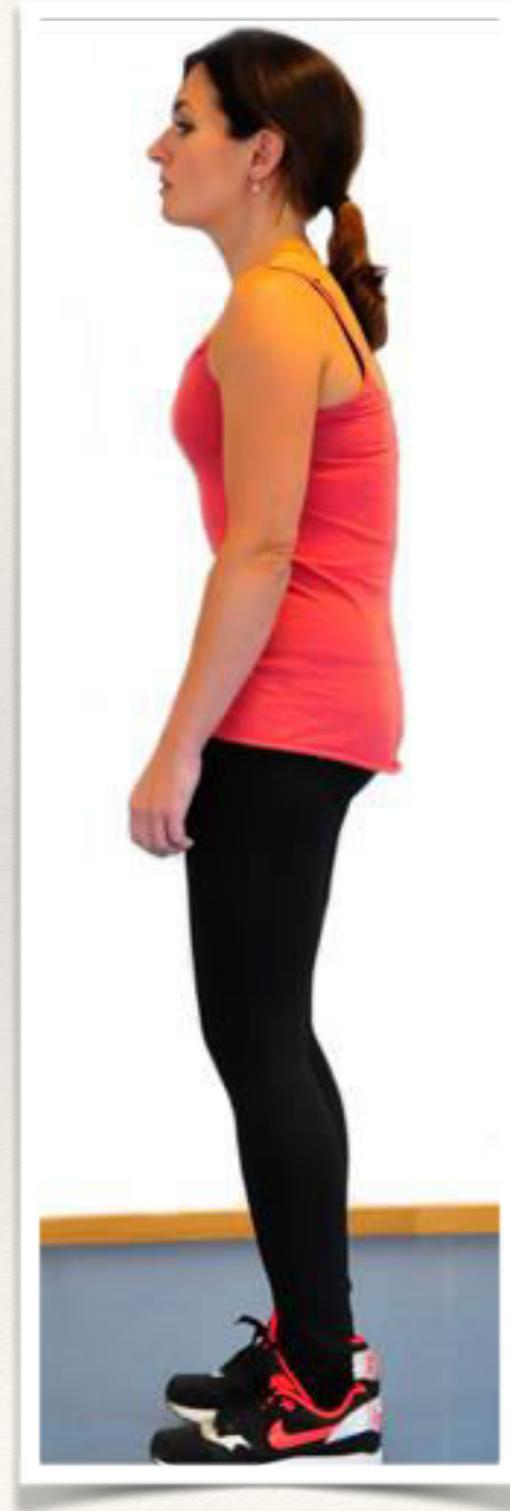
Standing un-supported

- ❖ Shoulders, Pelvis
- ❖ Muscle contours
- ❖ Spinal contours
- ❖ Limb lengths

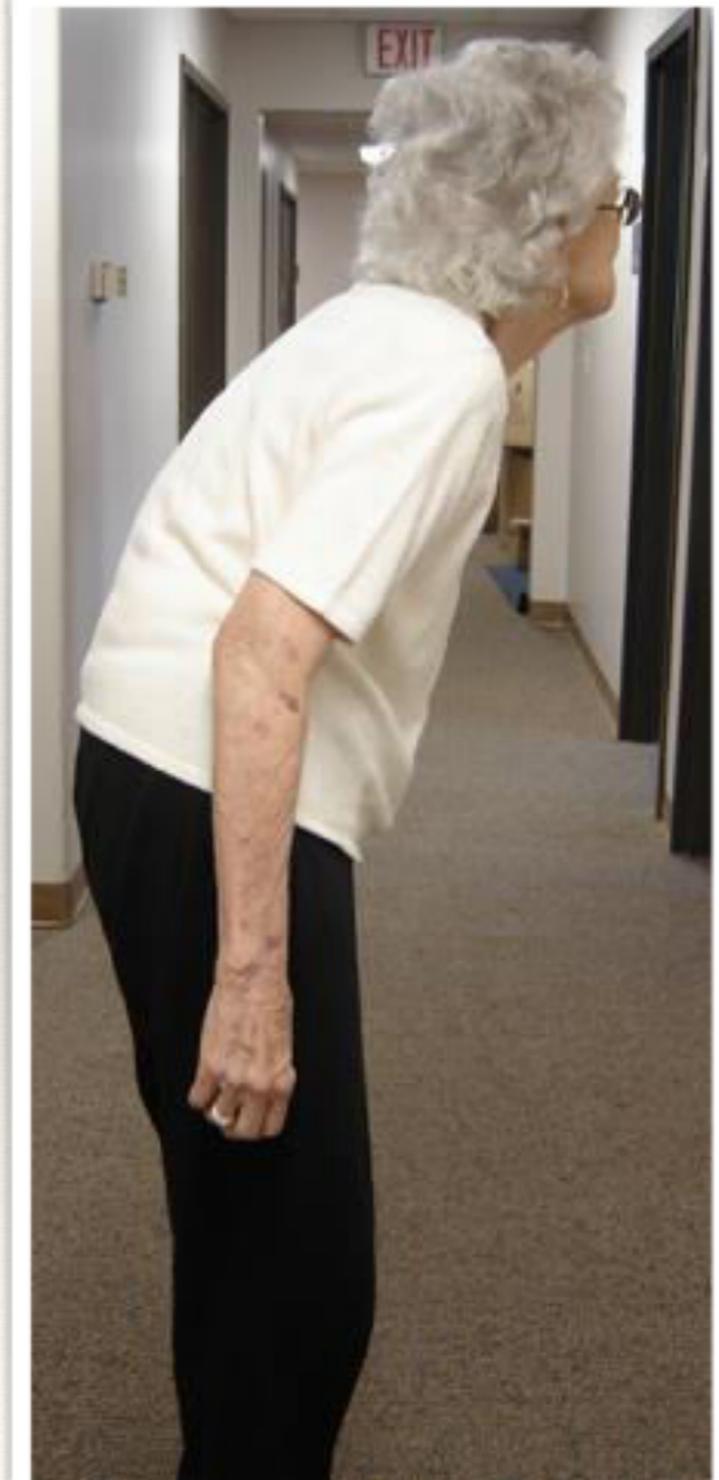


Standing: side profile

- ❖ Forward stoop
- ❖ Hips and knees
- ❖ Forward gaze
- ❖ Spinal contours



'Crouched' stance

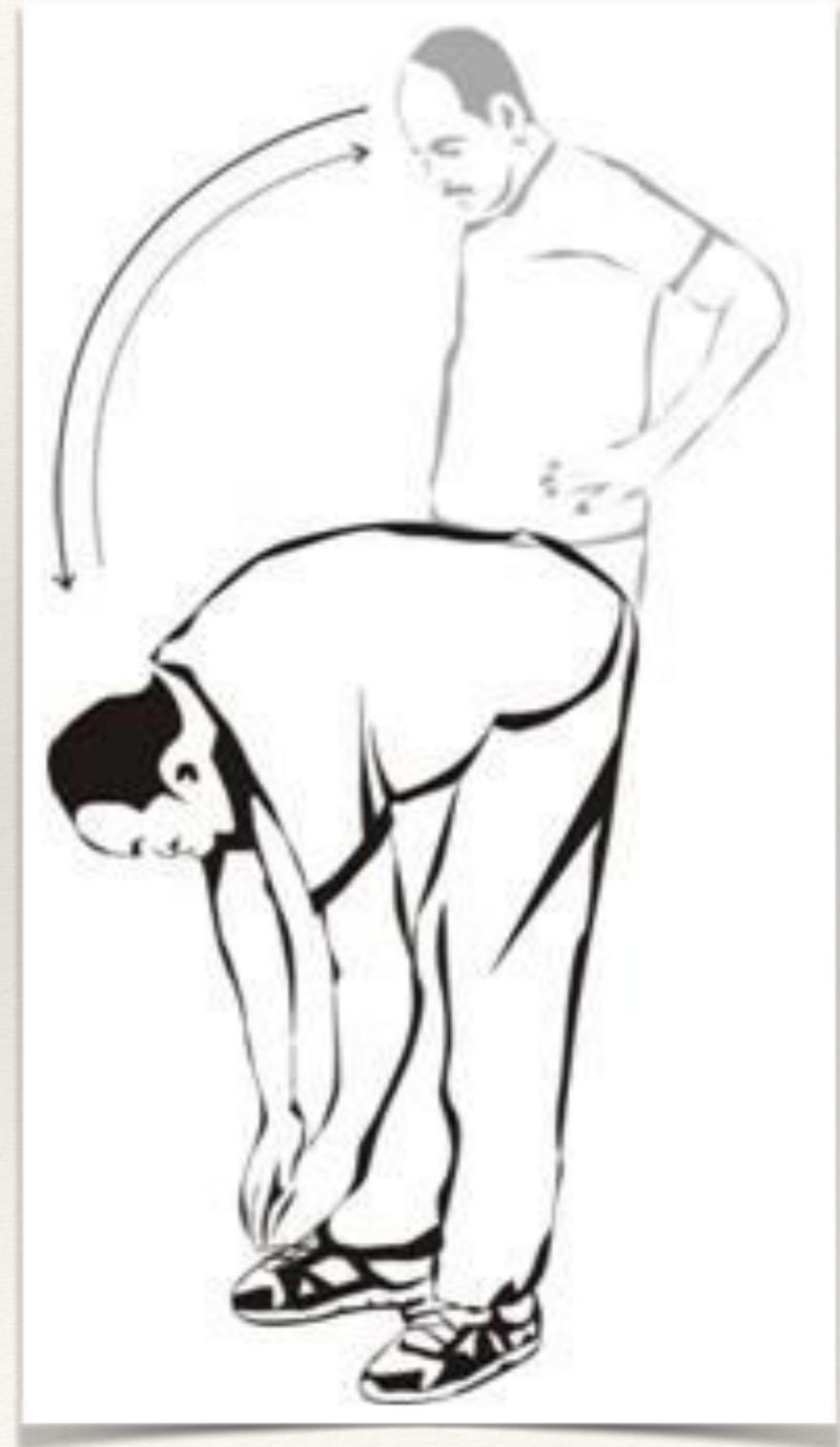


Range of motion

- ❖ Range
- ❖ Rhythm
- ❖ Extremes of range
- ❖ Pain

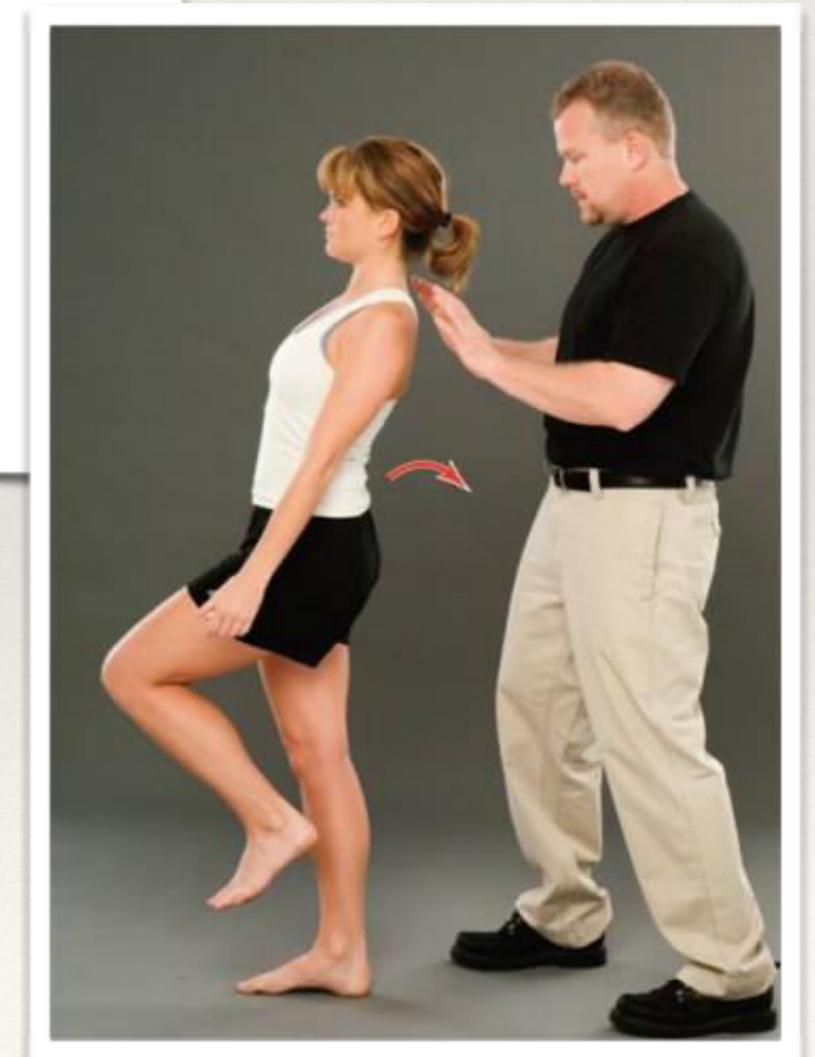
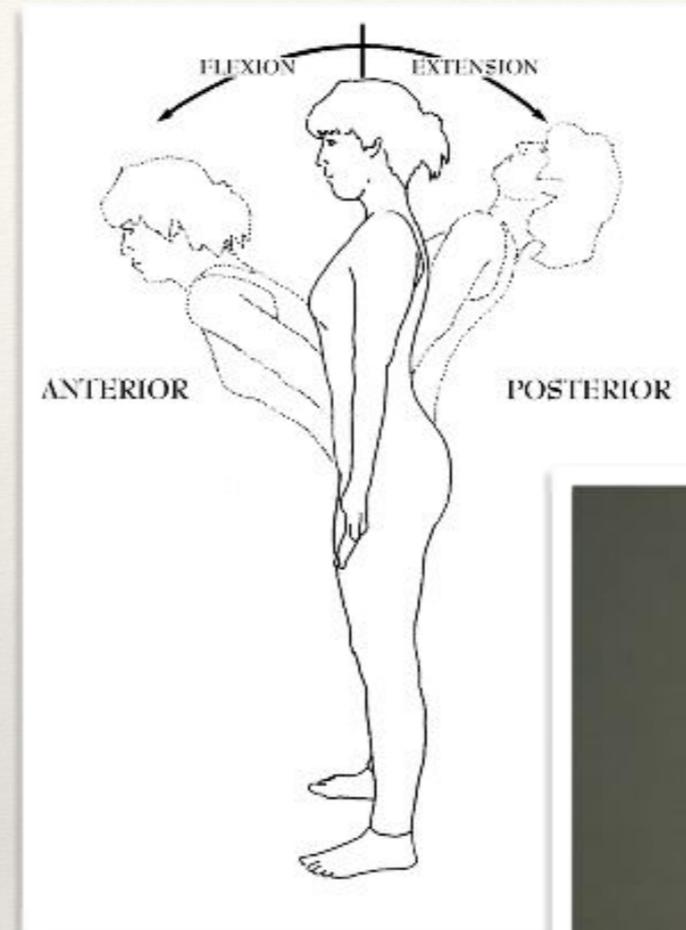
Flexion of the trunk

- ❖ General flexibility
- ❖ Getting up to neutral
- ❖ Discogenic: painful

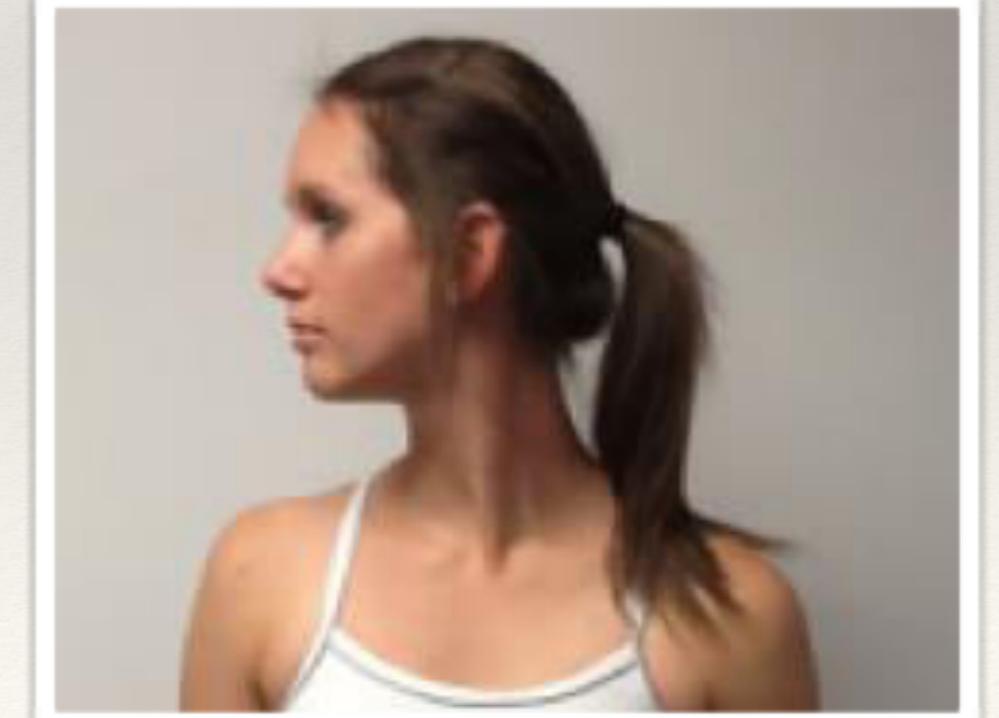


Extension of the trunk

- ❖ Facet loading
- ❖ Disc prolapse / stenosis
- ❖ Spondylolysis
- ❖ 1 leg hyper-extension



Cervical spine range examination



Pain

- ❖ Symptom reported by the patient
- ❖ Tenderness
 - ❖ Midline
 - ❖ Gentle thump
 - ❖ Segmental rotation
 - ❖ Muscle spasm, tender points

Neurology

- ❖ Motor (grades, through the full range of the joint)
- ❖ Sensations (all modalities)
- ❖ Reflexes (deep, superficial and pathologic)
- ❖ ASIA charts
- ❖ Document with date

Neurologic Examination Check normal, circle & describe abnormal

CC & significant history: _____

Patient: _____ date: _____

Insurance: _____

Date of birth: _____ MF

Key considerations: headache, head injury, dizziness/vertigo, seizures, tremors, weakness, incoordination, numbness/tingling,
 difficulty swallowing, difficulty speaking, significant past history, environmental hazards, other: _____

Refer for secondary consultation: _____

Refer for diagnostic imaging: _____

Mental Status: WNL

Development (good, fair, poor)

Behavior (Alert, lethargic, confusion, speech)

Orientation (Time, person, place & situation)

Memory/Concentration

- Name president/recent newsworthy events
- 3 word or place recall at 0 and 5 minutes
- (100) - (7) up to five times (93, 86, 79...)
- Spell word backwards
- Draw a clock (make the time 12:30)
- Draw overlapping pentagons

Reflexes: WNL

DTR (0-5)	R	L
Biceps (C5)		
Brachioradialis (C6)		
Triceps (C7)		
Patella (L4)		
Hamstring (L5)		
Achilles (S1)		

Pathologic	R	L
Babinski		
Abdominal		
Hoffman's		

*Note presence of clonus

Motor Function: WNL

Motor (0-5)	R	L
Deltoid (C5, C6) (axillary)		
Brachioradialis (C5, C6) (radial)		
Biceps (C5, C6) (musculocut.)		
Triceps (C6, C7, C8, T1) (radial)		
Wrist flexors (C6, C7) (med./ulnar)		
Wrist extensors (C6, C7, C8) (rad.)		
Interossei (C7, C8, T1) (ulnar)		
Tib. anterior (L4, L5) (deep per.)		
Extensor hallucis longus (L4, L5, S1) (deep peroneal)		
Fibularis (peroneus) longus (L5, S1) (superficial peroneal)		

Cranial Nerves: WNL

I - Olfactory	R	L	VII - Facial	R	L
Scent #1			Facial expressions		
Scent #2			Facial expression #2		
II - Optic			Normal eye moisture		
Visual acuity			VIII - Vestibulocochlear		
Visual fields			Rhombberg's test		
Fundoscopic exam			Auditory acuity		
III, IV, VI - Oculomotor, trochlear, abducens			Weber		
'H' pattern			Rinne		
Convergence			IX, X - Glossopharyngeal & Vagus		
Nystagmus			Gag reflex		
Consensual light reflex			Elevation of palate		
V - Trigeminal			XI - Spinal accessory		
Lateral jaw deviation			Trapezius muscle test		
Masseter contraction			SCM muscle test		
Face sensation			XII - Hypoglossal		
Corneal touch reflex			Stick out tongue		

Cerebellar: WNL

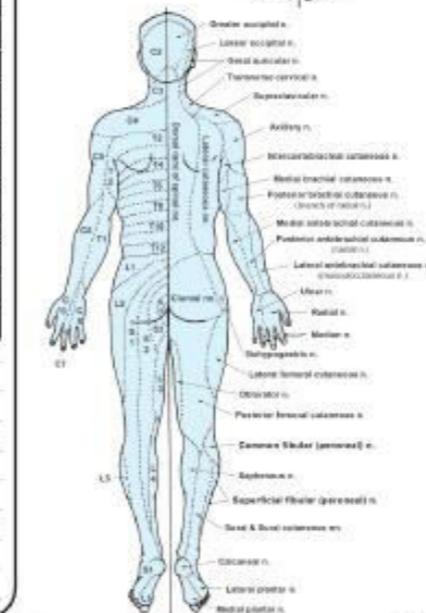
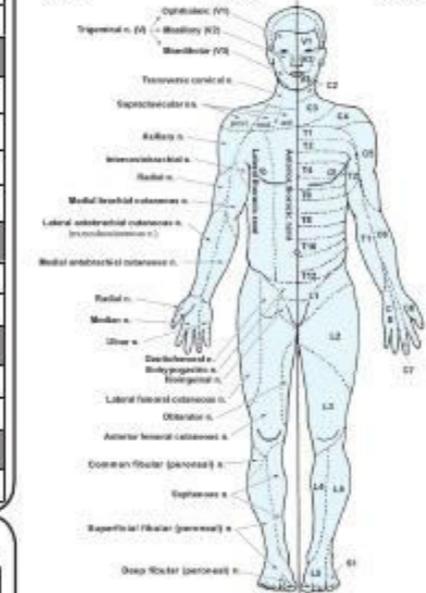
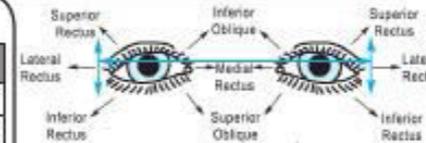
	R	L
Rapid finger movement		
Rapid pro/supination		
Finger-to-nose/finger		
Heel down shin		
Holme's rebound sign		
Gait/heel-toe walk		

Sensory: WNL

	R	L
Light touch		
Vibration		
Stereognosis		
Graphesthesia		
2-point discrim		
Position sense		
Proprioception		
Romberg		
Sharp/dull		
Hot/cold		

Nerve Tension: WNL

	R	L
Straight Leg Raise		
Maximal SLR		
Bragard's		
Femoral nerve traction		
Median nerve traction		
Radial nerve traction		
Ulnar nerve traction		
Tinel's		

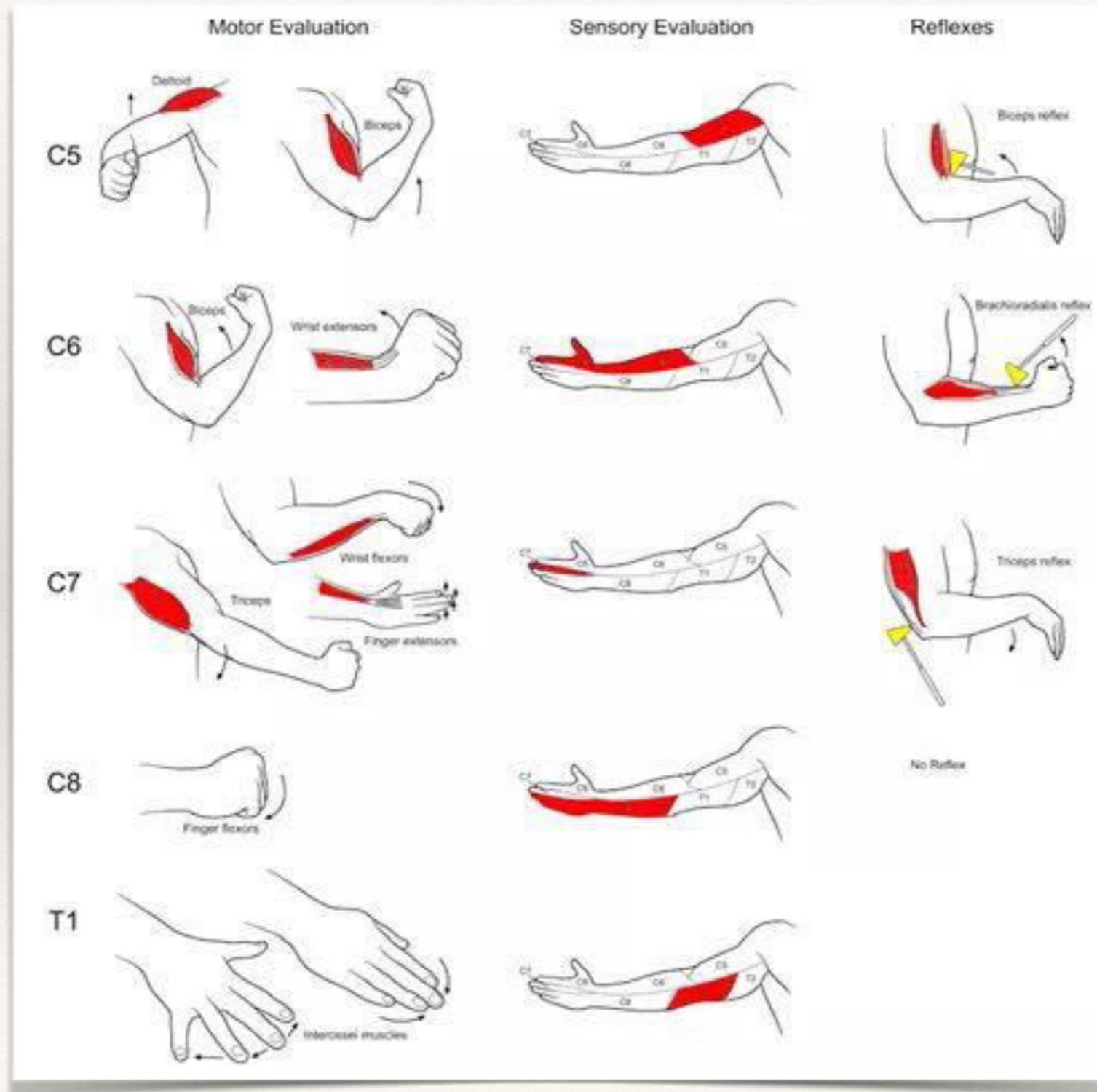


DDx: _____

This form is a comprehensive checklist of examination procedures. Each item should be utilized as a diagnostic option based on the patient's presenting symptoms and the clinical discretion of the examiner. Every procedure does not have to be performed on every patient. Some procedures may be contraindicated in certain situations. Patient information contained within this form is considered strictly confidential. Reproduction is permitted for personal use, not for resale or redistribution. www.prohealthsys.com ©2005 by Professional Health Systems Inc. All rights reserved. "Dedicated to Clinical Excellence."

Signature: _____ Date: _____

Upper limb neurological exam



Lower limb neurologic examination

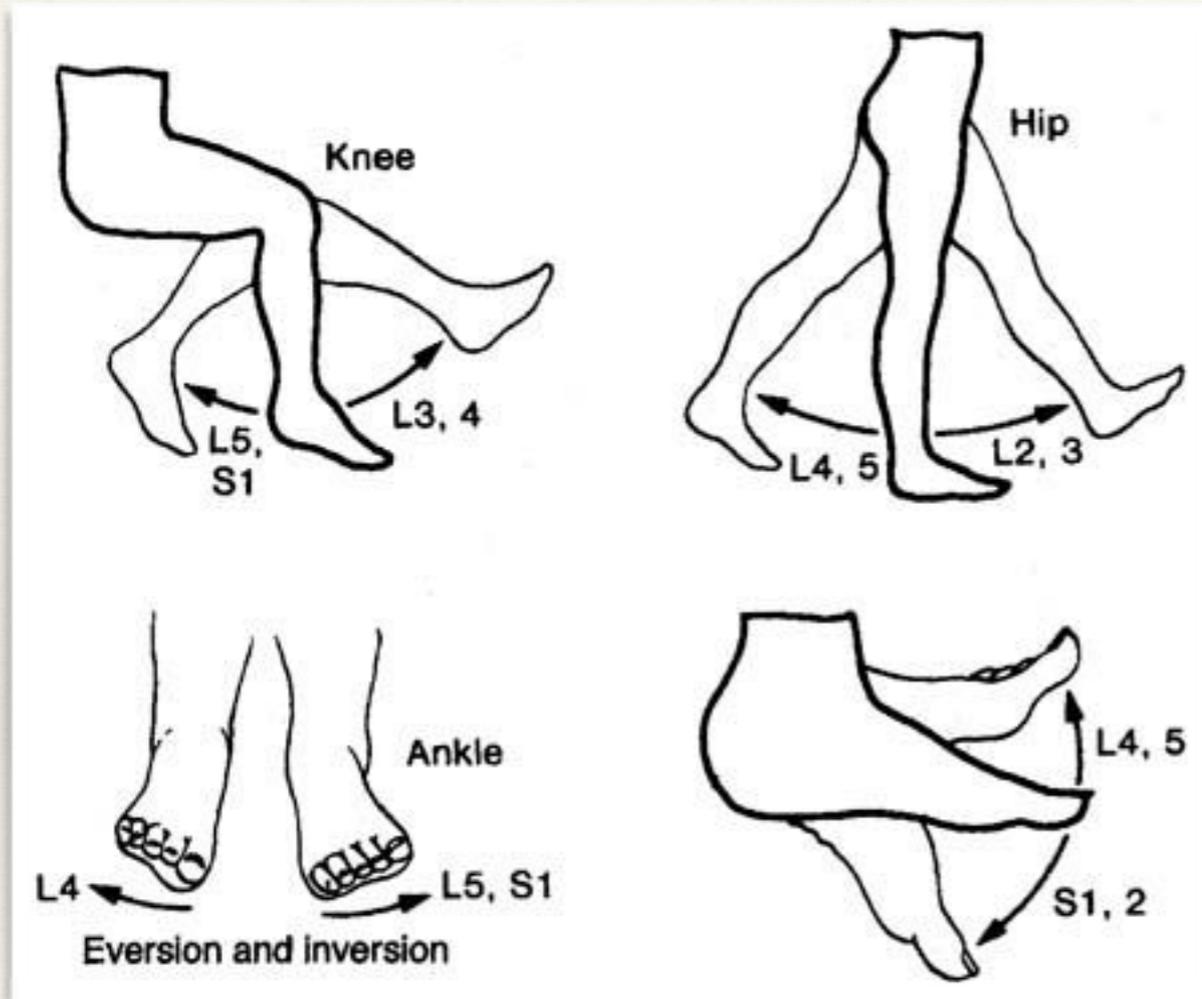


Figure 1. Testing for lumbar nerve root compromise.

Nerve root	L4	L5	S1
Pain			
Numbness			
Motor weakness	Extension of quadriceps.	Dorsiflexion of great toe and foot.	Plantar flexion of great toe and foot.
Screening exam	Squat & rise.	Heel walking.	Walking on toes.
Reflexes	Knee jerk diminished.	None reliable.	Ankle jerk diminished.

Deep tendon reflex

❖ Grading:

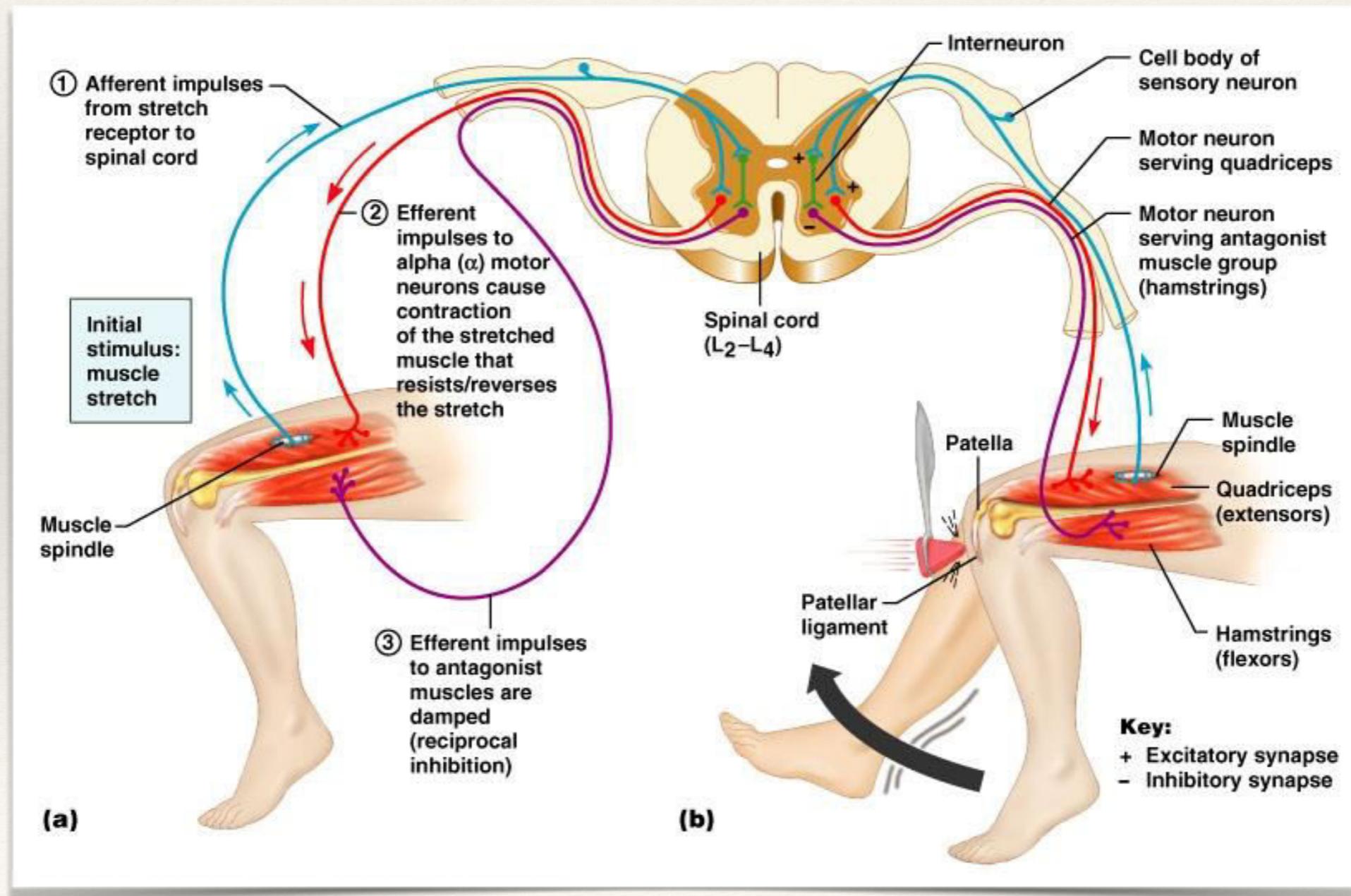
- 0 absent
- 1+ hypoactive
- 2+ normal
- 3+ hyperactive
- 4+ hyperactive with clonus
- 5+ sustained clonus

❖ Compare with opposite side



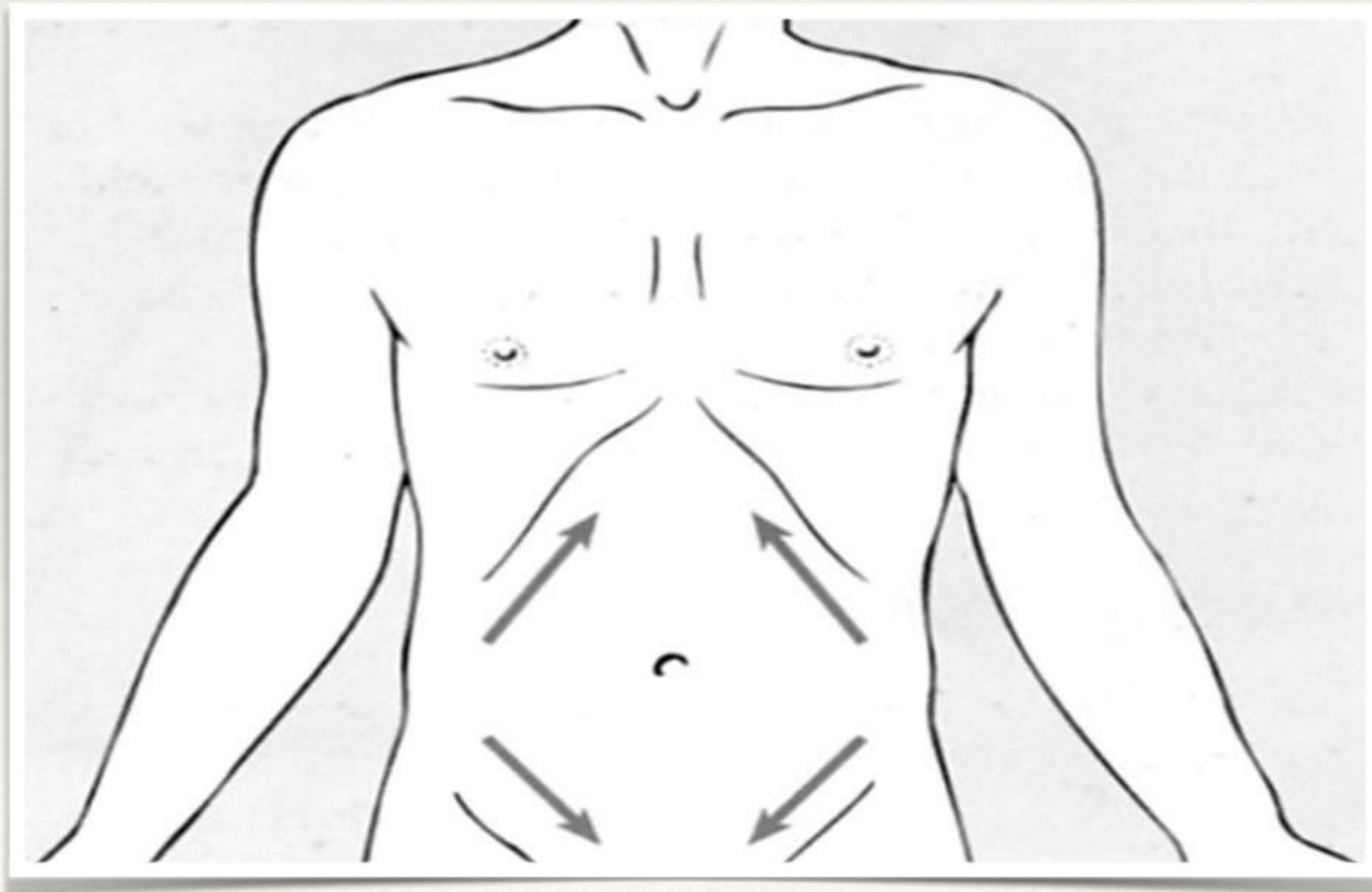
Deep tendon reflex

Stretch reflex: Contraction in response to stretch of muscle spindles (receptors in parallel to muscle fibres. 2 neuron arc.

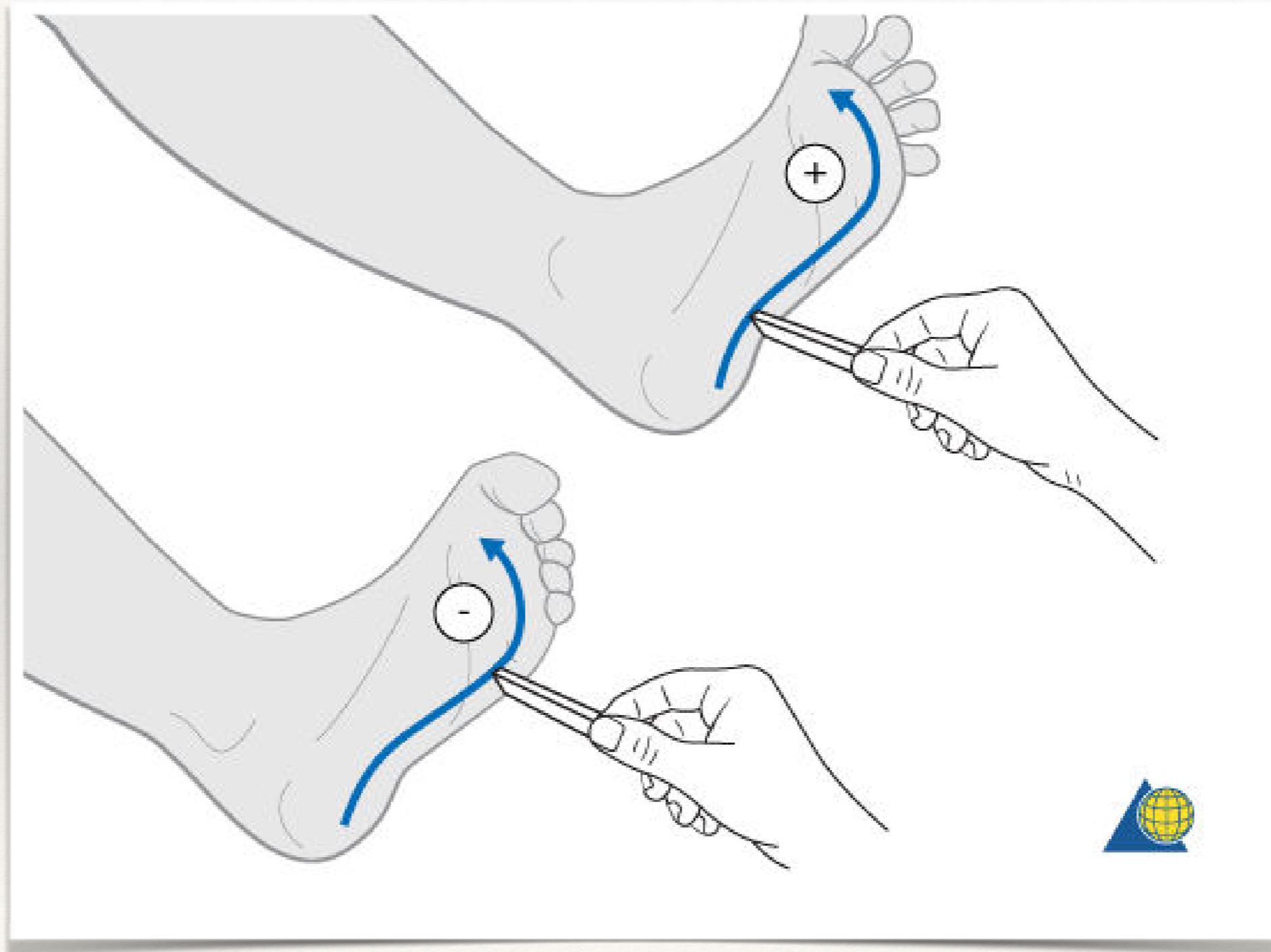


Superficial abdominal reflex

Motor response to skin stimulation. Poly-synaptic response. Peripheral sensory nerve; ascending sensory tract; brain; descending motor tract and muscle. Present; absent or asymmetric.



Babinski reflex



Hoffmans reflex

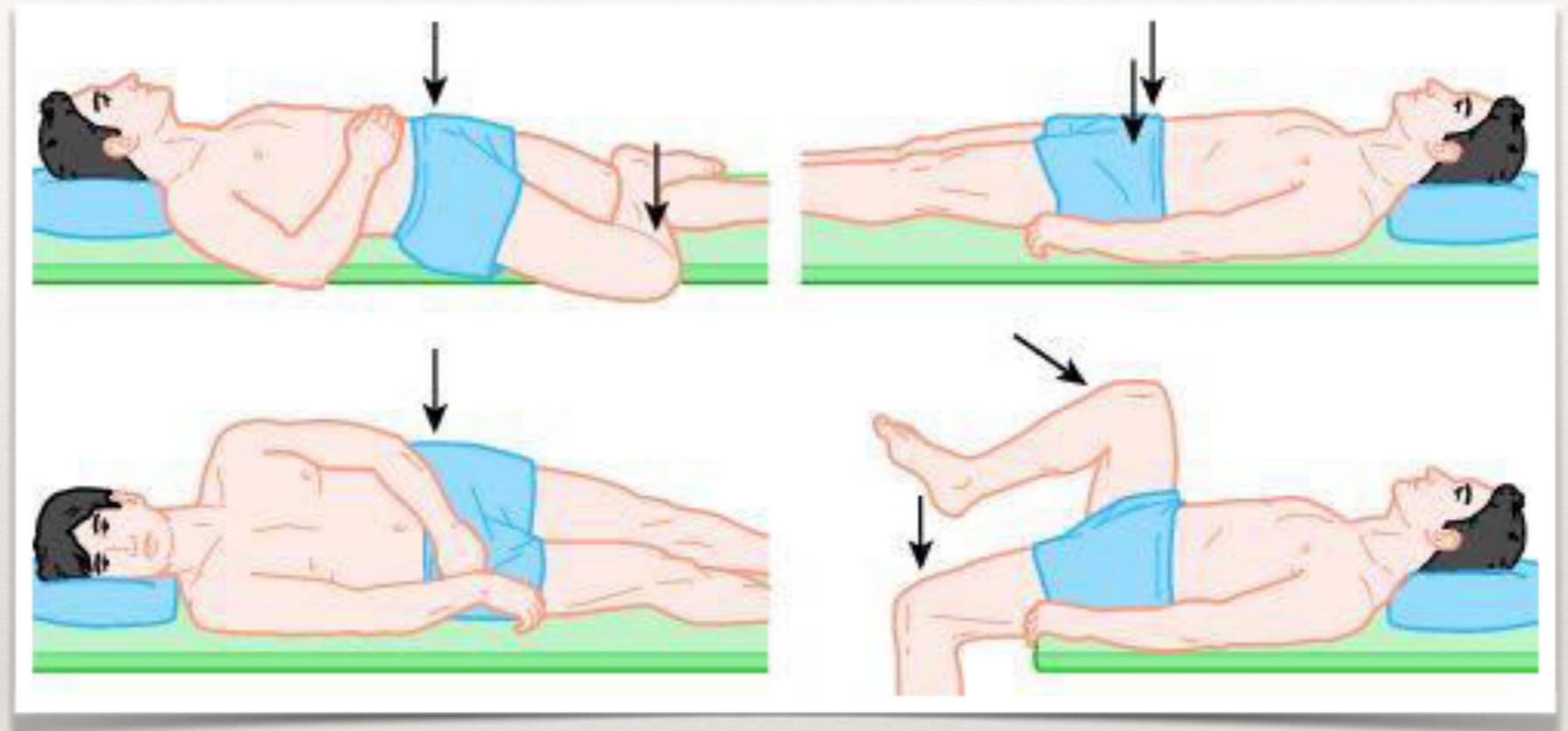


Inverted radial reflex



Sacro-iliac joints

- ❖ Stable joint
- ❖ Referred pain
- ❖ Tenderness
- ❖ Stressing joint
- ❖ Inflammation, injury



Waddell's 'non-organic' signs

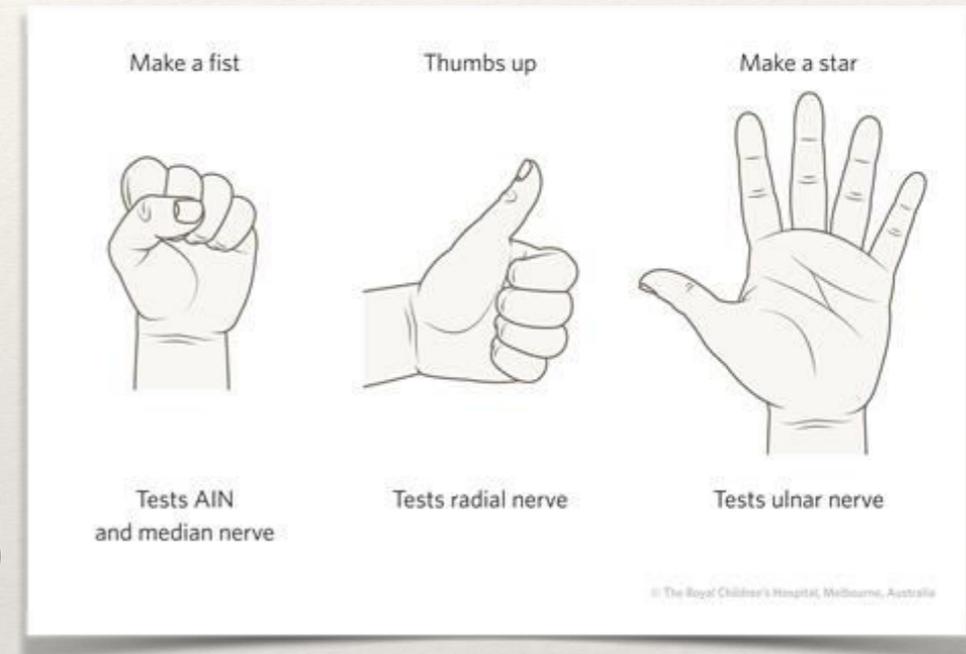
- ❖ Tenderness: superficial; non-anatomic
- ❖ Simulation of pain: axial load; rotation
- ❖ Distraction: straight leg raise
- ❖ Regional: motor; sensory
- ❖ Over-reaction

Ancillary examination

- ❖ Shoulder examination
- ❖ Hip examination
- ❖ Peripheral nerves and Brachial plexus
- ❖ Distal pulses

Peripheral nerves

- ❖ Tinel's sign over the course of the nerve
- ❖ Phalen's test for Carpal tunnel syndrome
- ❖ Neurological examination (sensations, motor)
- ❖ Median nerve; Ulnar nerve in upper limb



Thoracic outlet

