

MSS EXAMINATION

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Setting	General look	General Inspection	Nodules
<ul style="list-style-type: none"> • Introduction, ask for permission and chaperone • Wash hands, ensure privacy, warmth, illumination • Exposure for any joint test is ideally one joint above and one joint below, but keep in mind cultural concerns • Position the patient • Ask for any site of pain and warm your hands before touching the patient, maintain eye-eye contact 	<ul style="list-style-type: none"> • Conscious, alert, oriented (place, person, time) • Looks well, not in pain • VITALS <ul style="list-style-type: none"> • Pulse • BP • RR • O2 sat • Temperature • BMI 	<ul style="list-style-type: none"> • Pallor, rashes, hair changes • Thickened tight skin (facial feature) • Eye redness, blue sclera • Mouth ulcers • Psoriasis • Hands flexion contractures, calcium deposits in finger pulps, ulceration, pulp atrophy, finger pallor • Nail pitting, onycholysis, telangiectasia, nail-fold infarcts 	<ul style="list-style-type: none"> • Rheumatoid arthritis (hands, extensor surface of forearm, sacrum, achilles tendon) • Osteoarthritis (DIP > Heberden, PIP > Bouchard) • Gouty tophi (Olecranon bursa, helix of the ear, extensor aspects of the fingers, hands, knees, toes)

Always **compare limbs**, **active before passive movements**. Demonstrate actions to the patient.

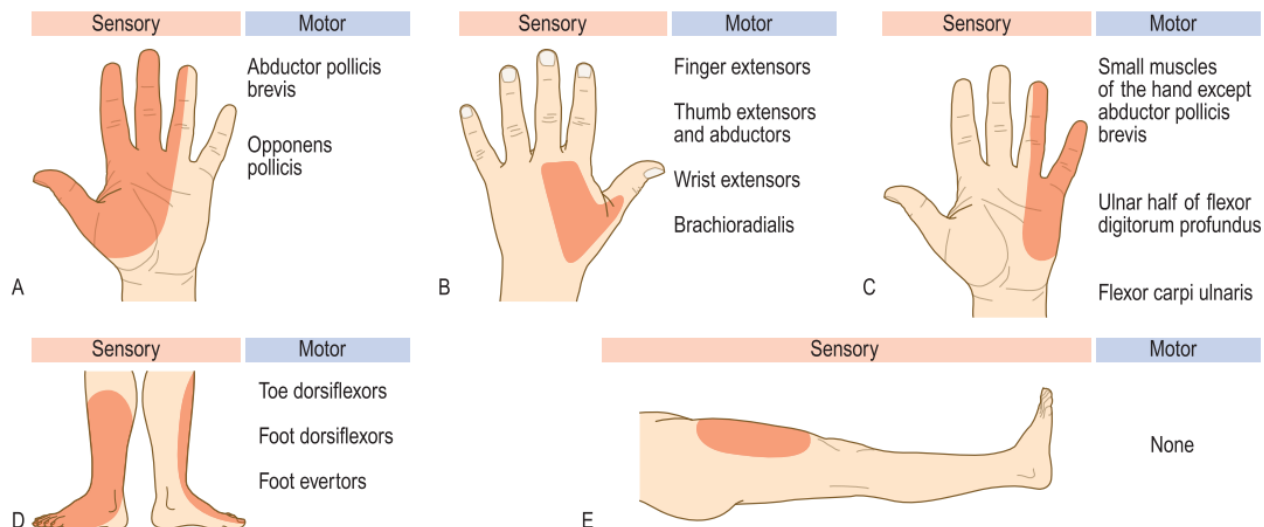


Fig. 7.27 Sensory and motor deficits in nerve lesions. **[A]** Median. **[B]** Radial. **[C]** Ulnar. **[D]** Common peroneal. **[E]** Lateral cutaneous of the thigh.

Common peroneal exam: Weakness of ankle dorsiflexion and eversion, extension of the big toe. (Note inversion and ankle reflex will be preserved) // Sensory loss over the dorsum of the foot.

Lateral cutaneous nerve of the thigh exam: lateral aspect of the thigh sensation. // Palpate the abdomen and groin for masses or inguinal lymph nodes.

Hand and wrist examination (Seat the patient facing you, with their arms exposed to elbow)

Look

- Skin changes (Erythema)
- Swelling (note loss of interknuckle indentation (fist))
- Hair distribution
- Deformity
- Extra-articular signs

Deformity

- Arachnodactyly
- Boutonniere (buttonhook), swan neck, mallet
- Bouchard (PIP) and Heberden (DIP)
- Subluxation, ulnar deviation at MCP joints
- Wrist displacement or deviation
- Rotational deformity: Flex fingers, they don't cross and point to scaphoid tubercle

Extra articular signs

- Dupuytren's contracture
- Muscle wasting (interossei, thenar, hypothenar)
- Psoriasis
- Nail-fold infarcts (vasculitis), telangiectasia, scars
- Nail pitting and onycholysis
- Rheumatoid nodules on the extensor surface of forearm, and psoriatic plaques at elbow

Feel (DIP,PIP,MCP,Wrist)

- Temperature, sweaty/dry
- Swelling (hard, soft spongy)
- Tenderness
- MCP squeeze test
- Crepitation (MCP, wrist)
- Ask the pt. to flex and then extend their fingers (triggering, locking)
- Palpate flexor tendon sheaths (Swelling & tenderness)

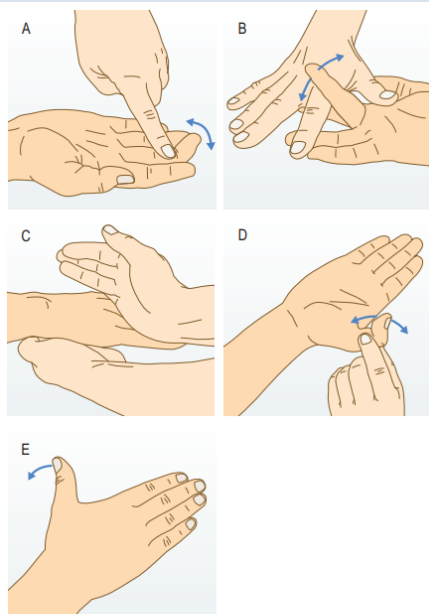


Fig. 13.24 Testing the flexors and extensors of the fingers and thumb. [A] Flexor digitorum profundus. [B] Flexor digitorum superficialis. [C] Extensor digitorum. [D] Flexor pollicis longus. [E] Extensor pollicis longus.

Move (intact tendon)

- **Active**
 - Make a fist then extend fingers
 - **FDP** (ask the patient to flex DIP while you hold PIP extended)
 - **FDS** (hold all fingers extended but one, ask to flex the PIP of the tested finger)
 - **Extensor digitorum** (extend fingers with the wrist in neutral position)
 - **Flexor and extensor pollicis longus** (hold the proximal phalanx and ask to flex and extend the IP joint of thumb)
 - **Extensor pollicis longus** (extend thumb with palm flat on surface)
 - **Thumb opposition, abduction, adduction**
 - **Test grip**
 - **Wrist:** test phalen's and reverse phalen's, flexion & extension, check pronation and supination, ulnar and radial deviation
- **Passive** (Move all joints)
- Mention using **finkelstein test** (De Quervain's tenosynovitis)

Peripheral nerve exam (intact motor & sensation)

- **Median (carpal tunnel)**
 - Wasting of thenar eminence
 - Thumb abduction (resist)
 - Finger flexion (**stone**)
 - Anterior interosseous nerve (**Ok sign**, resist)
 - **Test sensation**
 - **Carpal compression test**
 - **Tinel's sign**
 - **Phalen's and reverse phalen's test**
- **Radial**
 - Wrist and finger extension (**paper**) (resist)
 - **Test sensation**
 - Triceps movement & jerk
 - Brachioradialis elbow flexion
- **Ulnar**
 - Hypothenar wasting and claw hand, dorsal guttering
 - Finger abduction (resist), adduction (**scissors**)
 - Adduction power (hold a paper between fingers) (thumb adduction > pt. NOT flexing his thumb)
 - **Test sensation**
 - Trauma or scars on the medial elbow

Knee examination: Expose both legs up to mid-thigh. Patient standing and walking then laying supine.

Look

Stance and gait (valgum, varum), asymmetry

Leg length discrepancy

Scars, sinuses, erythema, rashes, hair distribution

Muscle wasting, measure thigh girth 20 cm above tibial tuberosity

Flexion deformity

Swelling (housemaid's knee, posteriorly baker's cyst)

Parapatellar hollow (effusion test)

Feel

Joint lines, patella, patellar tendon, tibial tuberosity

Head of fibula

Warmth (compare), tenderness

Effusion test:

- Ripple (milking) test
- Patellar tap
- Patellar fluctuation
- Transmitted thrill

Synovitis (sponginess)

Move (normal range 0-140 degrees)

Active flexion and extension (crepitation)

Ask the patient to lift their leg extended and note any **extensor lag**

Passive flexion and extension

Assess hyperextension (**recurvatum**) by lifting both legs by the feet

Ligament testing & Special

Anterior & Posterior cruciate ligaments

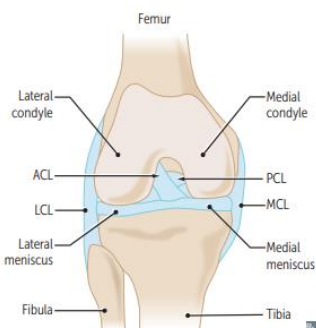
- No posterior sag
- Posterior then Anterior drawer sign
- Lachmann test

Collateral ligaments

- Valgus & Varus stress on 0 and 30 degrees

Meniscus tear (McMurray test) (flex knee first)

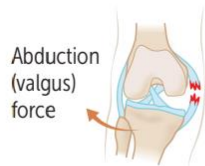
Patellar apprehension test



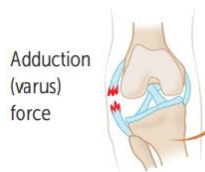
ACL tear



PCL tear



MCL tear



LCL tear

Internal rotation and varus force



Lateral meniscal tear

External rotation and valgus force



Medial meniscal tear

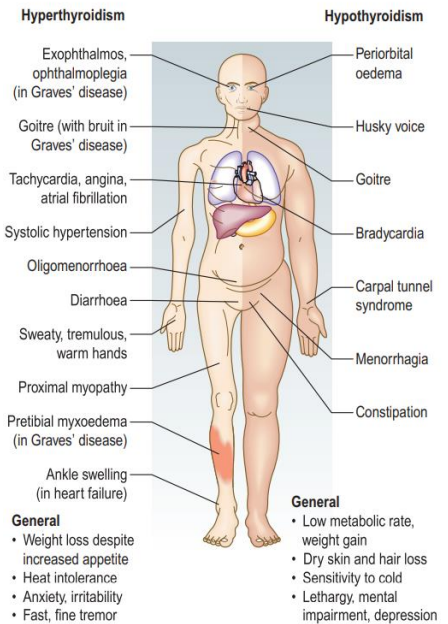
THYROID EXAMINATION

Setting

- Introduction, ask for permission and chaperone
- Wash hands, ensure privacy, warmth, illumination
- **Exposure** of neck and upper chest
- **Position** the patient sitting upright with neck slightly extended
- Ask for any site of pain and warm your hands before touching the patient, **maintain eye-eye contact**

General look

- Conscious, alert, oriented (place, person, time)
- Looks well, not in pain
- Not agitated, restless, apathic or slow in movement
- Normal speech (not pressured, not slow and deep) (No hoarseness or bovine cough)
- Fat, thin
- Appropriate clothing to weather
- **VITALS** (Pulse (rate, rhythm, volume, atrial fibrillation, collapsing pulse) and BP, BMI, temperature, RR, O2 sat)



General examination

- **Facial** appearance, dry skin, excessive sweating, hairloss, loss of lateral third of eyebrows, enlarged tongue and lingual goiter
- **Hands** for thyroid acropachy (mimics clubbing), onycholysis, palmar erythema, temperature, sweaty/dry hands, vitiligo, fine tremor, carpal tunnel syndrome tests
- Test **proximal muscle weakness** (stand with arms crossed), **tendon reflexes** (biceps, knee jerk, ankle)
- **Auscultate** the heart for a midsystolic flow murmur (hyperthyroidism)
- Inspect the **limbs** for coarse, dry skin and **pretibial myxedema**, ankle swelling

Eyes

- **Inspect** for periorbital puffiness or edema, lid retraction, ptosis, lid swelling or erythema, lid lag, proptosis
- Conjunctival redness or swelling (chemosis), corneal ulceration.
- Test **eye movements** (make an H) (diplopia, ophthalmoplegia, pain)

Inspection

- (Front and side with neck extended) Asymmetry or scars, masses (goiter). (normally thyroid not visible)
- Ask the patient to **swallow** and note any mass moving.
- Ask the patient to **protrude his tongue** and note any mass moving.
- **Pemberton's sign** (both arms flexed anteriorly, note any change in facial color)

Palpation

- **Palpation** from behind or front of the patient with **neck slightly flexed**, feel for thrills
- Comment on (palpable or not, if palpable: Symmetry, size and surface, consistency, tenderness, mobility)
- Ask the patient to **swallow** while you feel symmetrical elevation of the thyroid lobes, then ask the patient to **protrude his tongue**
- **Cervical lymphadenopathy palpation**
- **Percuss** the manubrium (directly on bone) to assess dullness due to retrosternal extension of goiter
- **Auscultate** for a thyroid bruit