GALS Examination

1. Introduction

- **Wash** Your hands
- **Introduce** yourself by name and role
- **Check** their identity – name and DOB
- **Explain** the procedure - why you need to do it and what does it involve
- **Ask** for consent
- **Expose** the patient appropriately
- **Check** if the patient is currently in any pain

e.g. Good morning, my name is .. and I am a medical student. *Can I check your name and date of birth?*
I have been asked to do an examination of your muscles and joints today, which would involve me having a look at your walk and asking you to do a number of different movements with your head, arms and legs, to screen any problems you might have. Is that ok?
- Would you mind removing all of your clothes except for your underwear, please?
- And can I just check whether you are in any pain?

2. Bedside Inspection

- *Observe the patient*: Patient is **A – A**lert **B – (**normal) **B**ody habitus **C – C**omfortable at rest
- *Observe the surroundings*: mobility aids, Zimmer frame

3. Screening questions

- There are 3 screening questions that you might ask at the beginning of the exam.
  a) *Do you have any pain or stiffness in your joints, muscles or back?*
  b) *Can you dress yourself without difficulty?*
  c) *Do you have any difficult when going up or down the stairs?*

4. Gait

- Ask the patient to walk over to the wall, turn around and walk back.
- Check for **s**ymmetry, **s**moothness, and **s**tep height
- Observe gait cycle (heel strike, toe-off)
- Is the turn smooth and quick?

Gait pathology	Sign	What it can indicate
Antalgic gait	**Stance phase abnormally shortened to reduce time on that foot**	Implies pain in specific leg
Waddling gait	**Patient moves their upper body forwards and drags lower leg forward**	Weakness of proximal muscles of pelvis which causes weakness of gluteus muscles
Spastic gait	**Stiffness in the legs and tendency to circumduct the feet**	Upper Motor Neuron (UMN) lesion
Fixed flexion/hyperextended knee	**The knee is in fixed flexion/knee is hyperextended**	Occurs in polio as patient have quadriceps wasting
High-stepping gait	**Characterized by foot-drop due to loss of dorsiflexion**	Damage to the deep fibular nerve
Trendelenburg's gait (look for Trendelenburg sign)	**Support the patient's outstretched arms, get them to stand on one leg. If unsupported side of pelvis drops down, then positive sign.**	Indicated damage to the gluteus medius on the supported side, due to lesion of the superior gluteal nerves

5. Patient standing

OBSERVE: Ask patient to stand in the anatomical position and observe from the **front, side** and **back**

Action	Sign	What to look for
Front	**Posture**	Obvious asymmetry
	Shoulder	Shoulder bulk and symmetry
	Elbow extension	Carrying angle (normal is 5-15 degrees)
	Leg length	Leg length inequality
	Quadriceps	Wasting in chronic joint disease

	Knees	Erythema/Hyperextension
	Ankle	Swelling and erythema (seen inflammatory arthritis or sepsis)
	Feet	Hallux valgus Midfoot deformity (flat feet)
Side	**Cervical spine**	Assess hyperlordosis (indicates spondylolisthesis/discitis/osteoporosis)
	Thoracic kyphosis	Hyperkyphosis (Scheuemann's kyphosis)
	Lumbar spine	Hyperlordosis (indicates sacroiliac joint disease)
	Foot arches	Pes planus (flat feet) and Pes cavus (high-arched feet)
	Toe clawing	Indicates plantar faschial fibromatosis
Behind	**Shoulders**	Tenderness
	Spine	Scoliosis (S-shaped spine)
	Iliac crest	ASIS symmetry Pelvic tilt
	Gluteal	Wasting of gluteal muscles
	Popliteal fossa	Baker's cyst (non-pulsatile) Popliteal aneurysm (pulsatile)
	Hind-foot	Thickening of the Achilles' tendon

6. Spine

- Look at the patient's spine for evidence of scoliosis, and from side for abnormal lordosis/kyphosis
- Assess **lateral flexion** of cervical spine: ask patient to tilt head to each side, moving their ear towards their shoulder
- Assess range of movement of the **TMJ** and deviation of jaw
- **Trigger squeeze supraspinatus** indicates whether the patient is any chronic pain
- **Schober's test:** assess lumber flexion by placing a finger on two adjacent lumbar vertebral spines and ask the patient to touch their toes:
- Look for expansion on flexion and back together on extension (reduced flexion --> ankylosing spondylitis)

7. Arms

- Ask the patient to sit down on the couch and put their hands behind their head (tests **shoulder abduction, external rotation,** and **elbow flexion**)

- Ask patient to hold hands out, palms down and fingers outstretched to test for the extension of joints
- Assess backs of hand for **asymmetry, joint swelling** and **deformity**
- Gently squeeze across metacarpophalangeal joints and assess for signs of discomfort

- Ask patient to turn their hands over so their palms are facing up
- Assess muscle bulk of the palms for evidence of thenar/hypothenar wasting

- Ask patient to make a fist to test range of movement of small joints of fingers
- Assess **power** and **precision grip**

8. Legs

- Look at the quadriceps muscle bulk and assess for any swellings/deformities
- Perform patellar tap for knee effusion
- Assess **passive flexion** and **extension** of knee
- Assess **internal rotation** of hip
- Inspect feet and squeeze metatarsophalangeal joints to assess for pain- active inflammatory arthropathy

Thank the patient and wash your hands again.

"To complete the examination, I would do a number of steps…"
Bedside – (***History***) Take a full history
Bloods – Take a full blood count, U&Es, ESR, CRP, specific rheumatoid factors, and auto antibodies
Imaging – AP and lateral radiographs, MRI for soft tissue damage
Special tests – Joint aspiration and microscopy for crystals