Musculoskeletal Exam – The GALS Examination

Please note: as with other examinations, different clinicians will perform these examinations in slightly different ways – and different resources (Macleod’s Clinical Examination, www.geekymedics.com etc.) may describe the examination slightly differently. Students need to establish their own routine for performing these examination and this Guide is intended to help them do this. Students do NOT fail assessments if they do the examination slightly differently to as described here.

Feedback is welcome – please send to Paul Kinnersley (kinnersley@cf.ac.uk)
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At the start of every examination

Clean hands
Introduce yourself to the patient
Explain what you are going to do and check if patient in any pain – check the patient consents to you examining them
Expose the patient appropriately preserving dignity

The GALS Examination (Gait, Arms, Legs, Spine)

The GALS examination is a brief screening examination which takes only a few minutes and can thus be used in routine assessments. It can be useful for detecting problems with the musculoskeletal system. The particular sequence of the examination may vary but it is usually easier to perform those parts of the examination with the patient standing up and then get them on to the couch for the remainder of the exam.

The GALS exam is a good example of an examination using the LOOK/FEEL/MOVE structure

Initial Screening Questions

- Do you have any pain or stiffness in your muscles, joints or back?
- Can you dress yourself fully in the morning?
- Can you climb up and down stairs with no difficulty?

With the patient standing and with ideally exposed trunk and limbs (preserving dignity)

Gait

- Ask the patient to walk a short distance, turn and then walk back.

- **Look** for symmetry, smoothness of movement, normal stride length, pelvic tilt, arm swing, normal heel strike, stance, toe-off, swing through and ability to turn with ease.

- Common abnormal gaits are:
  - Antalgic (a limping gait due to pain)
  - Trendelenburg (with asymmetric trunk and pelvis due to weakness of the muscles of hip and pelvis)
  - Hemiplegic (one leg clearly weaker than the other – as after a stroke)
Parkinsonian gait (small shuffling steps, slow to start moving)

Arms, legs and spine

- From behind
  - **Look** for a straight spine (note any scoliosis), normal paraspinal muscle bulk, symmetrical shoulder and gluteal (buttock) muscle bulk, symmetry of iliac crests, absence of popliteal swellings, absence of foot or hind foot swellings.
  - **Feel/Palpate**: Over mid supraspinatus and roll the skin over the trapezius to test for signs of hyperalgesia (tenderness or pain felt on comparatively gentle touch found in fibromyalgia).

- From the side
  - **Look** for normal cervical and lumbar lordosis and normal thoracic kyphosis. Whilst standing beside the patient place your index finger on one of the lumbar vertebral spinous processes, and your middle finger on the next one down and ask the patient to bend over and touch their toes, keeping their legs straight. Normally, as the patient bends, the spinous processes will move apart, so your fingers will move apart also. Note whether this is the case.

- From the front
  - **Look** for normal and symmetrical shoulder and quadriceps muscle bulk, no knee swellings, no deformity of mid or fore foot.

Now ask the patient to do the following noting any painful, restricted or asymmetrical movements (work down the patient):

Spine

- "Open your jaw and move it from side to side" to test for pain free normal temporo-mandibular joint movement.
- "Bend your left ear down towards your left shoulder and then your right ear down towards your right shoulder" to test for pain free cervical spine lateral flexion.
- Now test for stiffness or pain flexing or extending the cervical spine: "bend your neck forwards to try to touch your chin against your chest." "Bend your neck back to lift your chin."
- Test lateral flexion of the thoracic and lumbar spine: "Stand up straight and then slide the palm of your right hand down your thigh towards your knee, bending your shoulder down to the side." "Now do the same with your left hand down your left leg."
- Test rotation of the thoracic and lumbar spine. Gently hold the patient's hips still and ask them to: "Turn your shoulders round as far as you can to the left, then do the same to the right."
Arms (it can help to demonstrate the movements you want of the patient)

- "Put your hands behind your head with your elbows as far back as they can go. Now try to touch the small of your back" to test for normal sterno-clavicular, gleno-humeral and acromio-clavicular joint movement.
- "Put your hands by your sides with your elbows straight" - looking for full elbow extension.
- "Put your hands out in front of you with your palms down and fingers out straight" looking for ability to extend fingers, and inspecting for any swelling or deformity of the fingers or wrists.
- "Now turn your hands over" making sure that supination is normal (watch for external rotation of the shoulder to compensate for poor supination). Inspect the palms for any signs or swellings.
- "Now make a fist with both hands around my fingers and squeeze tightly" test the grip for normal and symmetrical power.
- "Place the tip of each finger onto the thumb" to test for fine precision pinch. You may also do a metacarpal squeeze at this point to test for metacarpal phalangeal tenderness.

Now ask the patient to lie on the couch

Legs

- For both legs compare true (anterior superior iliac spine to medial malleolus) and apparent (umbilicus to medial malleolus) leg length using a tape measure.

Ask the patient to:

- "Bend your knee to bring your heel up to your bottom" to test knee flexion. Place your hand on the knee and then the hip joints feeling for crepitus as the patient moves these joints.
- Now test internal rotation of the hip with the knee joint flexed to 90 degrees (moving the foot laterally with the knee flexed causes internal rotation of the hip joint - early OA causes pain and limitation of this movement).
- Test for an effusion on the knees.
- Inspect the soles of the feet for any calluses, or skin changes. Squeeze the metatarsal joints to test for any tenderness.

Thank the patient
Summarise your findings