The GALS Screen

Tim Coughlin

The GALS screen was developed as a quick and sensitive test in identifying significant abnormalities of the musculoskeletal system. It is often used as an initial inquiry, before focussing attention on a particular joint or disability.

The screen derives its name from the four systems it seeks to examine. These are the gait, arms, legs and spine.

To begin, ask the patient three screening questions:

1. Do you have any pain or stiffness in your muscles, joints, neck or back?

2. Are you able to dress yourself completely without any difficulty?

3. Can you walk up and down stairs without any difficulty?

These simple questions can immediately highlight any pathology and focus the rest of the examination towards a single joint or one of the joint systems.

Ask the patient to walk to the end of the room, turn around, and walk back again.

There are four phases to a single step. These are; heel strike, stance phase, toe off and swing through. Look for any asymmetry in the movements and the ability of the patient to complete all of the four phases. Also note any deficits in the patient's ability to turn at the end of the room, which may reveal poor balance or agility.

Ask the patient to turn and face the wall standing in the anatomical position. They should be looking away from you. Inspect the patient, starting with the upper body and moving to the lower body.

In the upper body check for shoulder symmetry and loss of muscle mass at the shoulder and back. Inspect the spine for any abnormal curvature, which presents itself as scoliosis in this plane. Then in the lower body look for gluteal muscle bulk, popliteal swelling and any deformity of the legs and feet.

At this point it is appropriate to perform a brief screen for fibromyalgia. Press over the midpoint of each supraspinatus and then roll the skin overlying the same point.

If the patient exhibits a hyperalgesic response then this may prompt a full screen for fibromyalgia.

Next ask the patient to turn through 90 degrees to face the wall to your side. Again inspect the upper body first then the lower body.

Look for deformity in the three regions of the spine. The normal patient will exhibit a cervical lordosis, a thoracic kyphosis and a lumbar lordosis. Abnormal patients may exhibit loss of the these normal characteristics or an exaggeration of them. Look for the position of the hip, knee and ankle joints. There may be a flexion deformity at the knee. The ankle may be swollen or again exhibit a deformity. In this position it is also possible to see abnormalities of the foot arches.

Ask the patient to bend forward towards their toes. Palpate two lumbar vertebrae one spinous process apart and ask the patient to stand up, while observing for appropriate movement of the spinous processes.

Observe the patient from the front. Look for the carrying angle of the elbows and bulk and symmetry at the shoulder girdle in the upper body. In the lower body look for knee swelling and deformity and abnormalities of the ankle and feet.

This concludes the general inspection of the patient and examination of the spine. Next the patient is asked to perform a number of movements in the upper limb evaluating their functional potential.

Ask the patient to move their head from side to side, trying to touch their ear to their shoulder.

Look for the range of lateral cervical flexion.

Ask the patient to put their hands behind their head.

This compound movement gives an indication of shoulder abduction and external rotation, and elbow flexion and extension. It gives an important indication of the functional ability of the upper limb.

Next ask the patient to put their hands out in front of them with their palms facing down, keeping their elbows tucked into their sides.

Observe the hands for any swelling and deformity which may be an indication of rheumatologcial disease.

Then ask the patient to turn their hands over and back again.

Completion of this movement shows that supination and pronation of the forearm is intact. Look at the palms for muscle bulk and deformity.

Ask the patient to make a fist in both hands. Look at power of grip, range of movement and hand and wrist function. Place a single finger into each of the patient's palms and ask them to squeeze your finger by making a fist.

This simple action indicates any deficit in movement at the wrist and finger joints and the functional ability of the patient's grip.

Ask the patient to oppose the tip of their index finger against the pulp of their thumb and then repeat the movement across the other fingers.

This indicates fine precision grip, an important functional movement in tasks such as picking up a knife and fork and dressing in clothes with buttons.

Finally gently squeeze across the metacarpophalangeal joints of each hand trying to elicit any tenderness. Watch the patient's face for signs of discomfort.

Tenderness elicited is a sign of inflammatory disease.

Ask the patient to lie down on an examination couch.

Begin by testing hip and knee flexion and extension under passive movement. Take one leg at a time placing one hand around the ankle and the other over the knee joint. Then move the leg into flexion feeling for crepitus at the knee joint. Watch the patient's face for any signs of discomfort or pain.

Next test for internal rotation at the hip joint with the knee and hip held in 90 degrees of flexion. Check for range of motion and again watch the patient's face for any sign of discomfort. Normal range of motion is 45 degrees.

Internal rotation is the first movement to be impaired by osteoarthritic degeneration of the hip and so is a sensitive test for the development of this disease.

Move the patient's leg back into the anatomical position. Now feel for the presence of a knee effusion with a patellar tap. Slide your hands down the patient's thigh compressing the suprapatellar pouch. This forces any effusion to lie behind the patella. Then press down on the patella with the other hand palpating around the lateral aspect for a tap, indicating the presence of a knee effusion.

Next gently squeeze across the metatarsophalangeal joints of the foot and note any tenderness. Watch the patient's face for signs of discomfort. Inspect the soles of the feet for any swelling, callus formation or bursae.