

The Plantar reflex

1. What it is.

A movement of the great toe when the lateral part of the sole of the foot is scratched

2. What it tests.

The presence of an upper motorneurone lesion in the spinal cord or above.

3. The stimulus

A scratch over the lateral border of the sole of the foot

4. How to elicit it

- Select a neurotip, 'orange stick' or other blunt but pointed instrument.
- Say "I am going to scratch the sole of your foot with this small stick"
- Draw the stick firmly up the lateral border of the sole of the foot starting near the heel and stopping near the base of the



movement of the great toe.

little toe. (Some neurologists will continue scratching round in an arc across the metatarsal heads ending up at the base of the great toe).

- Observe any

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5. Grade and interpret the response



- Under normal circumstances the toe will go down. In patients with upper motorneurone lesions it will go up and the toes will tend to fan out.

This is called 'an extensor plantar response' or a 'positive Babinski sign'. Sometimes the toe will go up and down - it is the initial movement that counts.

6. Confirm the finding

- Only do this if you are really not sure what happened. Eliciting the plantar response is unpleasant.

7. Test the other side.

8. What can go wrong

- The toe did not move at all. The patient may have sensory loss over the sole of the foot or your stimulus was not strong enough.
- The patient jerks their foot away as soon as you start to scratch it. You did not warn them what you were going to do or the stimulus was too strong. For some people quite small stimulus is enough, just a scratch with the back of your thumbnail will do.