

QINEMATIC

DYNAMIC POSTURE SCANNING

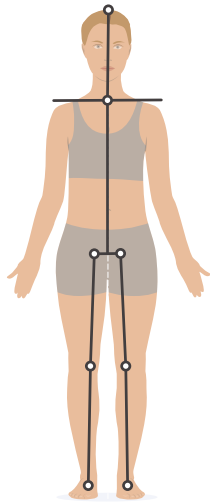
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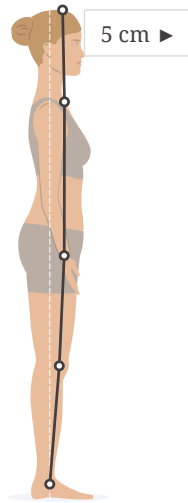
Scan report

example.person@gmail.com
DD/MM/YYYY · 1:23 PM

Posture alignment

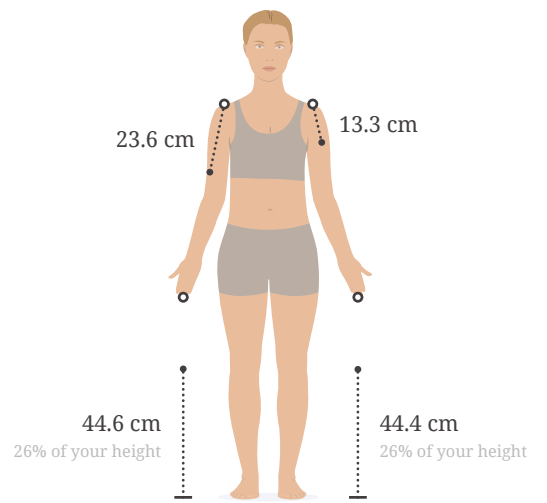


Posture alignment

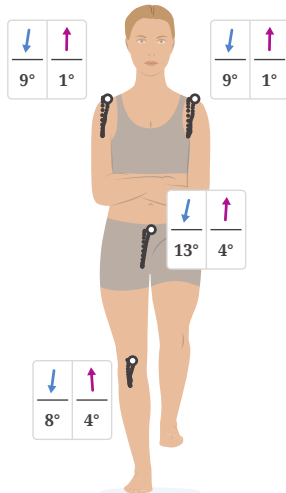


Height loss: 0.2 cm

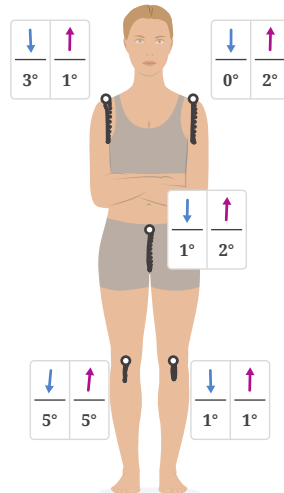
Side bending



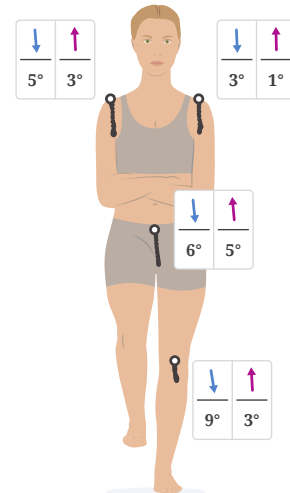
Squat on right leg



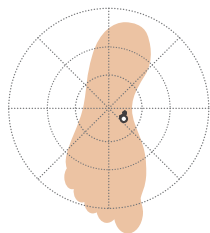
Squat



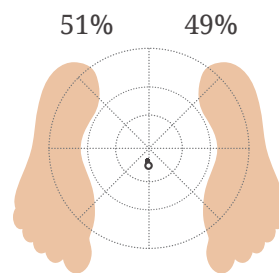
Squat on left leg



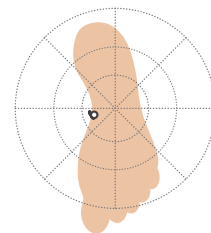
Balance on right leg



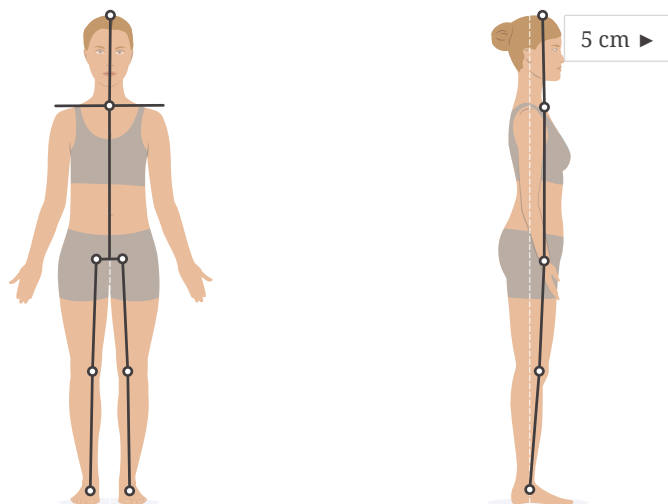
Balance



Balance on left leg



Postural Alignment (10 sec)



Why test it?

Correct posture refers to the alignment of body parts for the purpose of minimising energy expenditure, optimising internal mechanical forces in the body and avoiding unnecessary stress on the body.

What is normal?

The traditional way to look at alignment from the side is called the 'plumbline' — an imaginary line that travels vertically down through the ear, the shoulder, the hip, the knee and the front of the ankle. With this static alignment, the body is considered balanced. From the front, the body should be symmetrical, with the centre of the head over the middle of the feet, and the hips and shoulder horizontal.

There are many combinations of static and dynamic posture. The scientific literature and our own experience suggest there are several common postural types:

Normal

All of the above mentioned body parts are aligned with the plumbline, and the balance point is in the middle of the feet.

Military

A straight body that is leaning forward, as though leaning into the wind. The balance point is often forward of the ankles.

Sway back

The hips are forward of the knees and the shoulders.

Flat back

The upper body is upright, and the knees may be slightly flexed. The balance point is often backwards toward the heels.

Forward head

The body is upright, but the neck is flexed forward. Often the balance point is forward of the ankles.

Sway back + forward head

The hips and the head are forward of the shoulders and knees. The balance point is often centred or forward.

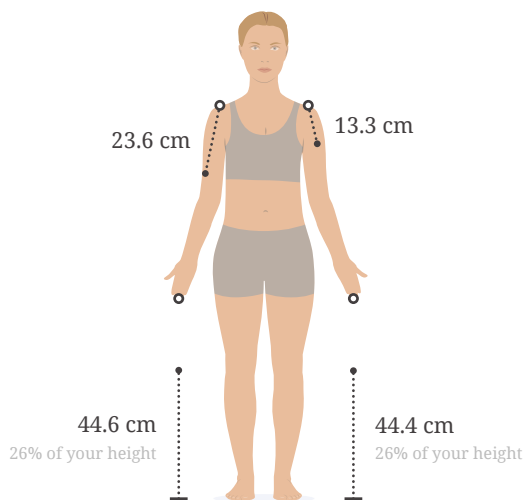
Side leaning

The body is leaning to one side, sometimes with the whole body, and sometimes just in the trunk. The balance point (body weight) tends to be to one side.

Lateral curvature

The hips lean to one side and the shoulders/head lean to the other side.

Side Bending (×1)



Why test it?

Side bending is considered a good test for existing or potential back problems. It mostly challenges the muscles, nerves and joints in the lumbar and thoracic spine. It also involve shifting body weight towards one side, so avoiding one side can also be a sign of an underlying problem in the leg, hip or spine.

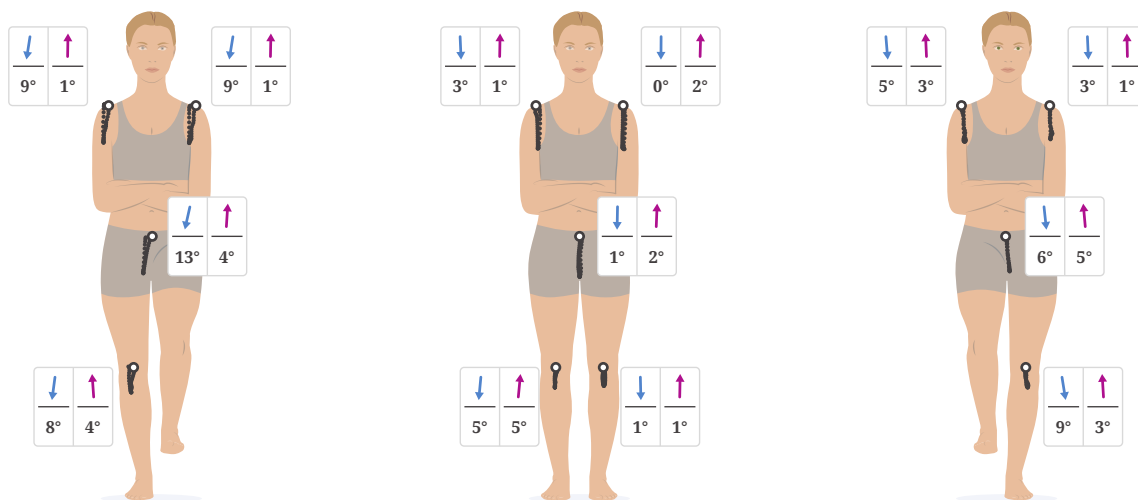
What is normal?

Side bending is typically measured by the distance reached to the floor with the fingers. Many body parts are involved in the side bend. In addition to the hands, we also measure the distances travelled by the shoulders and the chest.

The distance reached can be affected by how the shoulders, the trunk, and the hips contribute to the overall movement. More detailed measures of how we use each body part, as well as how the balance point behaves, can be seen in the Biomechanics report created in the Qinematic Movement Lab.

A normal result is symmetrical measures between left and right.

Squat (×1)



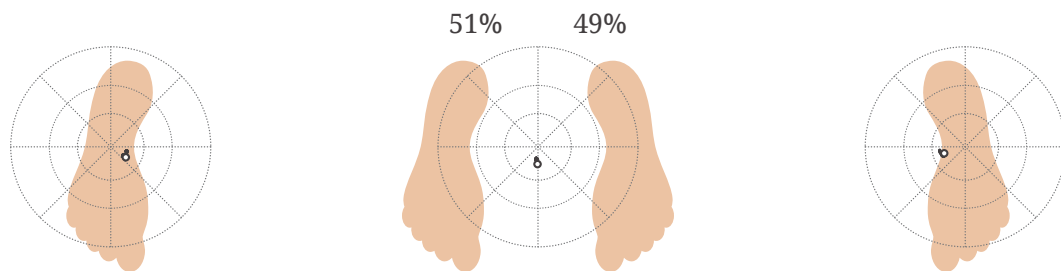
Why test it?

One and two leg squatting is one of the most basic dynamic postural tasks that we perform in activities of daily living and recreation. We need to squat to get on and off the toilet, to jump in basketball, to walk and to take the stairs. Squatting involves mostly the legs and lower back. Poor knee alignment during a squat not only makes us weaker in squatting and lifting, but can lead to early degenerative changes in the knees and compromise the hips and lower back. Many have had an injury long ago, and although the pain is gone, our compensation strategies and poor movement patterns can persist. This predisposes us to re-injury. Good knee control is very important for sports people, especially teenage girls, who have a higher risk of knee ligament damage in sports.

What is normal?

There is always some variation in what is considered normal movement. In this very easy and controlled task, with the feet at hip width and feet pointing forward, the knees should go straight down towards the toes without falling inwards (genu valgus) or outwards (genu varus) excessively. Studies suggest that 0—10 degrees is normal for males and 0—12 degrees for females. Excessive sideways movement, unsteadiness or a curved rather than vertical knee trajectory can be a sign of problems with the feet, the hips or the knees.

Balance (2 leg × 10 sec, 1 leg × 5 sec)



Why test it?

We all need balance to control our bodies and adjust to our environment. When people lose their balance, they can put their joints at risk, lose energy and even fall over. Good balance depends on our ability to keep our balance point (centre of mass) over our feet (base of support). This is dependent on postural alignment, control of lots of muscles and joints from the feet up to the head, and the function of our eyesight and balance mechanisms in the inner ear.

What is normal?

For activities of daily living, we should all be able to stand still on 2 legs or 1 leg for at least 30 seconds without falling. You have tested for 10 seconds on 2 legs and 5 seconds on 1 leg. Sometimes pain or weakness in certain body parts can let us down, like the feet or the hip muscles, and cause us to lose balance. We do our best to compensate for this, often over-taxing otherwise healthy body parts.

The sway pattern is something that shows how still you are. Ideally, your balance point is slightly forward of the ankle, and positioned in the centre of the circles on the report. A small to modest sway pattern is normal, but some people have larger sway patterns. This is considered OK, as long as the change in direction is not too erratic. A sway pattern that is located in the second or third circle could mean that you tend to balance near the edge of your base of support. This could mean that you have less room for error in situations where you are pushed off balance (eg. on a train), or cannot rely on other control mechanisms such as your eyesight (eg. in the dark). Studies show that a more erratic sway pattern is a sign of poor balance.