Postural assessment

Jane Johnson provides an introduction to postural assessment

When used in the context of therapy – physiotherapy, massage therapy, osteopathy or chiropractic, for example – the term posture is used to describe the relationships among various parts of the body, their anatomical arrangement and how well they do or do not fit together.

Bodyworkers have become familiar with postural terms such as scoliosis and genu valgum, which are used to describe a congenital, inherited position, plus used to describe a position assumed through habit, such as increased thoracic kyphosis resulting from prolonged sitting in a hunched position.

Of course, the postures we assume provide clues to not only the condition of our bodies – traumas and injuries old and new, mild or more serious pathologies – but also how we feel about ourselves, our confidence (or lack of it), how much energy we have (or are lacking), how enthusiastic (or unenthusiastic) we feel, or whether we feel certain and relaxed (or anxious and tense). Intriguingly, we all almost always adopt the same postures in response to the same emotions.

Why should I perform a postural assessment?

The main reasons for carrying out a postural assessment are to acquire information, save time, establish a baseline, and treat holistically.

i) Acquire information

First, and most importantly, performing a postural assessment gives you more information about your client. Here are two examples to illustrate this point:

Example 1

Working with the general population, you have your fair share of clients suffering from back and neck pain. Many clients believe that their 'terrible posture' is due to the sedentary nature of their work, the long hours they spend slumped at a desk or driving. It would be helpful to know whether a client's pain does indeed stem from the adoption of habitual postures, or whether it might be due to something else. By distinguishing among various causes, you are more likely to be able to determine whether a change in working posture might be beneficial.

Example 2

Assessing a 49-year-old woman for worsening shoulder pain, you notice a decrease in shoulder muscle bulk during the postural assessment. One possible explanation for atrophy of the shoulder muscles (accompanied by a progressive decrease in range of movement) in a client with no history of trauma is adhesive capsulitis. The information you have gained from your observation has contributed to the formulation of your diagnosis, which may later be substantiated or refuted with the appropriate tests.

It is important to remember that postural assessment is only one component of the assessment procedure, and that to make a diagnosis of any condition, all components of the assessment procedure need to be considered, along with current guidelines. For example, to support a diagnosis of adhesive capsulitis, you may follow guidelines such as those set out by Hanchard and colleagues (2011).

The postural assessment is also an opportunity to clarify observations about marks on the skin, such as scars from significant operations (for example, appendectomies or treatment for fractures in childhood) that clients may have forgotten to mention.

ii) Save time

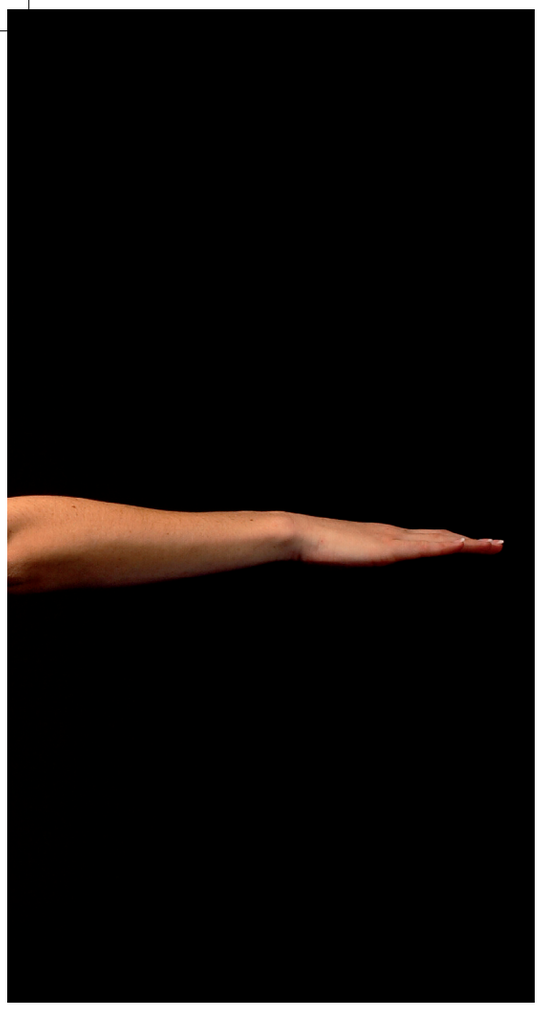
A postural assessment may save time in the long run by revealing facts pertinent to the client's problem that might otherwise have taken longer to establish. The relationships among body parts are more difficult to assess when someone is lying down to receive a treatment, but suddenly become obvious when they stand.

Example

You are a sports massage therapist treating a typist who is normally fit and healthy. She is complaining of right-side anterior shoulder pain. Performing both the standing and sitting postural assessments, you observe that your client has a considerably protracted right scapula, something you had not noticed when your client was in the prone position, a position in which both scapulae naturally protract.

iii) Establish a baseline

A postural assessment helps you to establish a baseline – a marker by which you might judge the effectiveness of your treatment. If your client has muscular pain in the



PICTURE: ISTOCKPHOTO; HUMAN KINETICS

low back resulting from the position of the pelvis, and you prescribe exercises and stretches to correct this posture, you will need to reassess the client at some stage to determine whether there has been any change in the pain and whether this can be attributed to an alteration in the position of the pelvis. If we suspect a problem is the result of poor posture, we need to identify whether we have made any impact (directly with massage and movement, or indirectly with prescribed exercises and stretches) on the client's upper body posture.

iv) Treat holistically

Finally, it could be argued that by including an analysis of posture as part of our assessment, we are offering a more complete service, in keeping with the idea of treating people holistically, not compartmentalising them as a bad knee, a frozen shoulder, or whiplash. We keep records of clients' states of health and physical activities, so it seems logical that we also keep a record of their postures.

Who should have a postural assessment?

Ideally, you should perform a postural assessment on all clients presenting for sports or remedial massage, physiotherapy or osteopathy treatments. If you are working as a fitness professional with one of your aims being to strengthen weak muscles, or as a teacher of yoga aiming perhaps to lengthen muscles, you too will find postural assessment beneficial because it will help you identify muscle imbalances and you can therefore design the most effective exercises and postures for your clients. However, with some clients, a postural assessment may not be appropriate, such as the following:

- an anxious client;
- a client unable to stand because of pain or illness;
- a client who is unstable when standing or when getting to or from the standing position;
- a client who does not understand the purpose of the assessment or who does not give consent to having one performed; or
- a client with a condition that would benefit from a different form of assessment.

When working with an anxious client, you may want to postpone a postural assessment while you develop a rapport. Once that is established, you can carry out a more thorough assessment, including posture. It would be inappropriate to assess the posture of a client who is unable to stand because of pain or illness. Remember, you can still assess a client in a seated position.

In some cases a postural assessment is warranted but must be performed with care. For example, you may want to assess an elderly person who has suddenly become unbalanced when using a regular walking aid. In this case you need to assess the patient standing with the aid, yet you must also ensure safety. Similar caution needs to be taken when assessing a client with a recent injury. With such patients – particularly those with injury in the lumbar spine, pelvis or lower limbs – weight bearing or a change in posture may aggravate discomfort.

Some clients may be unsettled by how close you are to them during a postural assessment; with such clients, you should clearly explain your intention and the purpose behind the assessment.

Examples of postural assessment

Please note that these examples form just two parts of a full body assessment and are for illustrative purposes only.

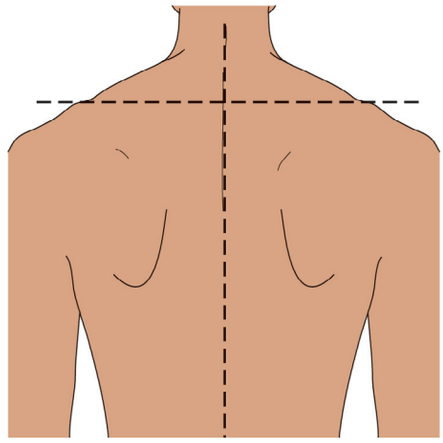
1) Shoulder height

When looking at your client's shoulders, note whether they are level, or if one appears higher than the other.

What your findings mean

Shortening in levator scapulae and the upper fibres of the trapezius may contribute to one shoulder appearing higher than the other. If a scapula is elevated, you would expect the inferior angle of that scapula to be superior to the inferior angle of the scapula on the opposite side.

Here is an interesting question. How do you know whether one shoulder is truly higher or the other is lower? Ask the client



to try this simple exercise: shrug their shoulders, elevating their scapulae; then relax. Now depress their shoulders; then relax. Which movement did they find easier, elevation or depression? Most people find that shrugging the shoulders is easier than depressing them. It seems reasonable to assume that if your client's right shoulder appears higher, muscles on the right are shorter and tighter than the corresponding muscles on the left. An exception to this might be if you were assessing someone with a neurological condition (for example, having suffered a stroke) and they had a dropped shoulder as a result of low tone on one side of their body.

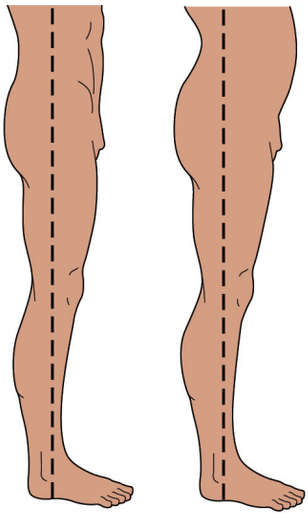
Therapists have observed that, for many people, the dominant shoulder is naturally depressed and slightly protracted. If right-handed, the right shoulder may be slightly lower and more protracted than the left. Clients with neck pain may subconsciously elevate their shoulder protectively in an attempt to reduce their discomfort.

This woman (above) is standing 'relaxed'. Observe how she holds her right arm. She has suffered neck pain in the past, but at the time this photograph was taken, and for many months previous to that, she was pain-free. Would you agree that her right shoulder is elevated? Can you see also how her neck is also laterally flexed and slightly rotated to the right?

2) Abdomen

An area that sometimes gets overlooked in postural assessment is the abdomen. How does the abdomen of your client appear – is it flat or protruding? In a normal, healthy person, the abdomen should be flat.

The photographs on this page demonstrate the variety in the shape and position of the abdomen when a person is viewed laterally. Does an abdomen protrude because the person is overweight or pregnant, or is it the result of the person's overall standing posture and an anteriorly tilted pelvis? Is there increased tension in the abdomen perhaps corresponding to a posteriorly tilted pelvis and a decreased curve in the lumbar spine?



What your findings mean

Protrusion of the abdomen could be a natural consequence of pregnancy or the result of increased lumbar lordosis, or it could simply be excess adipose tissue because the client is overweight. Clients with restrictions in the muscles and fascia of the chest sometimes appear to have a protruding abdomen, quite a distinct change in shape from the chest area, which is tight and depressed.

Reference

Hanchard N, Goodchild L, Thompson J, O'Brien T, Richardson C, Davison D, Watson H, Wragg M, Mtopo S and Scott M (2011). Evidence-based clinical guidelines for the diagnosis, assessment and physiotherapy management of contracted (frozen) shoulder, *Standard Physiotherapy* **1**:3. Endorsed by the Chartered Society of Physiotherapy.

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Factors affecting posture

Structural or anatomical	● Scoliosis in all or part of the spine. ● Discrepancy in the length of the long bones in the upper or lower limbs. ● Extra ribs. ● Extra vertebrae. ● Increased elastin in tissues (decreasing the rigidity of ligaments).
Age	● Posture changes considerably as we grow into our adult forms, with postures in children being markedly different at different ages.
Physiological	● Posture changes temporarily in a minor way when we feel alert and energised compared to when we feel subdued and tired. ● Pain or discomfort may affect posture as we adopt positions to minimise discomfort. This may be temporary or could result in long-term postural change if the position is maintained. ● Physiological changes that accompany pregnancy are temporary (for example, low backache before or after childbirth), but sometimes result in more permanent, compensatory postural change.
Pathological	● Illness and disease affect our postures, especially when bones and joints are involved. Osteomalacia may show up as genu varum; arthritic changes are often revealed when joints in the limbs are observed. ● Pain can lead to altered postures as we attempt to minimise discomfort (for example, following a whiplash injury a client may hunch the shoulders protectively; abdominal pain may lead to spinal flexion). ● Malalignment in the healing of fractures may sometimes be observed as a change in bone contour. ● Certain conditions may lead to an increase or a decrease in muscle tone. For example, someone who has suffered a stroke may have increased tone in some limbs but decreased tone in others. ● As elderly adults, we tend to lose height as a result of osteoporotic changes and so develop stooped postures; postmenopausal women may develop a dowager's hump.
Occupational	● Consider the postural differences between a manual worker and an office worker, and between someone active and someone sedentary.
Recreational	● Consider the postural differences between someone who plays regular racket sports and someone who is a committed cyclist.
Environmental	● When people feel cold they adopt a different posture to when they are feeling warm.
Social and cultural	● People who grow up sitting cross-legged or squatting develop postures that are different from those of people who grow up sitting on chairs.
Emotional	● Usually, the posture we subconsciously adopt to match certain moods is temporary, but in some cases it persists if the emotional state is habitual. Consider the posture of a person who is grieving, or the muscle tone of a person who is angry. ● Clients who fear pain may adopt protective postures.