POSTURAL ANALYSIS

A Postural Analysis should be undertaken on a client prior to each occasion a treatment is performed. It can vary from an extensive total body analysis to just a specific problem area. The reason this should be done is to correctly identify the condition of the body before and after the treatment. It can also be used to compare to previous occasions.

If a therapist just relied on the clients description of their condition, many intricate details can be missed due to the lesser knowledge of Anatomy & Physiology (in general). It is the duty of a therapist to read a clients posture and body language to provide more subjective information about the client so that the treatment will have more benefits.

Posture is the attitude of the body

Good Posture = maximum efficiency with minimum effort

What can influence our posture?
- Occupation
- Injuries/diseases
- Personality/Emotions
- Heredity/genetic factors
- Height & Weight
- Lifestyle & Diet
- Muscle Imbalances

There are many methods that can be used to analyse a person’s posture. These include:
- Static Observation (Anterior, Lateral, Posterior)
- Static Observation using a Posture grid
- Specific Tests for a region (E.g Adams Test, Trendelenburg Test, Thomas Test)
- Dynamic observation (Overhead Squat)
- Resisted movements
Static Observation

Anterior Observation

What is ideal?
- Slightly dropped shoulder on the dominant hand side is quite normal
- There should be no marked hollows above or below clavicles
- Marked head tilt may indicate tight neck muscles
- Hands should lie with palms facing thighs
- The abdomen should not appear to be sagging
- A vertical line drawn through the middle of the patella should drop down and end between the first and second toe
- Turnout of the feet less than 30 degrees is the norm

Common Imbalances
- Head tilt- Tightness in neck muscles or Lev. Scapulae/Upper Trapezius
- Dropped Shoulder- Stretched ligaments in associated joints (e.g. Acromioclavicular Joint)
- Palms in front of thighs & facing posteriorly- Tightness in Pecs & internal rotators of the shoulders
- Uneven hip height- Tightness in muscles of the hip or 1 leg shorter
- Feet rolling inwards (pronate)- Flat footed- may need treatment to relieve tension
- Feet turned outwards- Tightness in external rotators of hip

Head tilt
Do the muscles around the neck/ clavicle look tight?
Shoulder Height- is it different?
Do the shoulders turn outwards or inwards?
Are there hollows above/below clavicle?

Height at the top of hips even?

Are the palms facing backwards?

Which way do the Patella point?
Are the knees close together or really far apart?

Which way are the feet facing? Are they the same direction as the patella?
Posterior Observation

What is ideal?

- Symmetry and balance should exist between the right and left sides of the body, excepting the effects of handedness patterns
- Heights of the shoulders, hips, buttock etc should be relatively even
- Hands should lie with palms facing thighs

Common Imbalances

- Head tilt - Tightness in neck muscles or Lev. Scapulae/Upper Trapezius
- Dropped Shoulder - Stretched ligaments in associated joints (e.g. Acromioclavicular Joint)
- A winged Scapula - imbalance in muscles of the shoulder girdle. Weak Lower Trapezius & Serratus Anterior, tightness in Rhomboids.
- Palms in front of thighs & facing posteriorly - Tightness in Pecs & internal rotators of the shoulders
- Uneven hip height - Tightness in muscles of the hip or 1 leg shorter
- Feet rolling inwards (pronate) - Flat footed - may need treatment to relieve tension
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<table>
<thead>
<tr>
<th>Head tilt</th>
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<tbody>
<tr>
<td>Shoulder Height - is it different?</td>
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<td>Winged Scapula indicates an imbalance in shoulder muscles</td>
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<td>Is there more muscle bulk on one side of the spine?</td>
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<td>A lateral curvature of the spine indicating a scoliosis</td>
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<td>Hip height uneven</td>
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<td>Uneven buttocks fold</td>
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<td>Uneven crease at back of knees</td>
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<td>Are the knees close together or really far apart?</td>
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<td>Can you see too much of the front of the foot? This may indicate mid or forefoot abduction</td>
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<td>Are the heels broad &amp; square or pointed where the body weight is?</td>
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<td>If pointed the weight is generally on the front of the feet</td>
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Lateral Observation

What is ideal?
- Assess from both sides. A plumb line should go through: the middle of the ear > middle of the shoulder > middle of the femur > slightly anterior to the lateral malleolus

Common Imbalances
- Forward head-Can be tight neck extensors or flexors or caused by increased thoracic curvature
- Rounded/forward shoulders- Tight Pectorals & weak rhomboids/lower traps. Can be caused by increased thoracic curvature
- Increased thoracic curvature (or upper cross syndrome)- Poor postural habits (e.g. at computer)
- Increased Lumbar curvature (or lower cross syndrome)- Excessive hip flexion. Tight hip flexors/hamstrings, weak abdominals/gluteus maximus
- Knees locked out-Gluteus maximus deactivate & Spinal extensors engage

Which postural type?

Is the neck curved inwards indicating tight neck extensors?
How far is the chin forward?

Is the upper part of the spine hunched?

Are the abdominals protruding & sagging downwards indicating weak lower abdominals?
Is the lumbar curve excessive or flat?
Are the muscles of the buttocks strong and built?

Are the knees locked out or slightly flexed?
**Posture Grid**

The use of a posture grid can make the task of performing a postural analysis a lot more effective and efficient. It provides the assessor with a valuable tool that will assist with the accuracy during the assessment of the subjects’ posture. The posture grid can be used for all types of postural assessment. During both static and dynamic observations, the differences to the norm or to previous assessments can easily be identified by comparing the two.

![Posture Grid Diagram](image-url)
**Dynamic Observation**

The types of movements that a therapist will put their clients through depends on the purpose for performing the assessment. It could be to address a complaint/symptom the client presented with, to determine how much range the person has at a specific joint or to test if there are any weaknesses. There is no set routine of specific movements that should be performed. The therapist will need to make the judgement at the time of the assessment. Some common movements that are used include:

- Neck- Rotation/ Lateral Flexion/ Flexion/ Extension
- Shoulder- Abduction/ Flexion/ Extension/ Internal & External Rotation
- Scapulo-thoracic- Scapulohumeral rhythm/ Protraction/ Retraction
- Spine- Lateral Flexion/ Flexion/ Hyperextension/ Rotation
- Hip- Flexion/ Abduction

The key indicators to look for will be imbalances from one side of the body to the other and ROM compared to the norms.

*Any joint in the body can be tested if required

As a massage therapist, prescribing strengthening exercises to clients may not seem like a priority but it can definitely make a difference. This will be discussed further in Integration of corrective exercises.

Some more functional movements that can be tested are:

- Overhead Squat (Muscle imbalances/weaknesses/tightness for entire body)
- Squat (Weakness in legs and core)
- Lunge (Weakness in legs and core, Stability through ankles/knees)
**Resisted movements**

Resisted movements are just the actions being performed by the subject against resistance supplied by the therapist/assessor. They are performed to test the strength of a specific muscle during a specific movement. There are various reasons why a muscle can be weak including muscle damage & tightness, nerve issues & general pain.
If there is damage to a specific muscle, there will most likely be pain when it is contracting against some form of resistance.

![Diagram of resisted movement](image)

**Observation on Table**

There are many issues that can be identified just by observing a person lying on the treatment table. This method of analysis shows the favoured position of the joints while they are in a relaxed state. It can assist the person being assessed ‘let go’ of any muscles that they may be contracting to make them correct an imbalance while standing.
There are various observations that can be made while the body is in the prone or supine positions.
Prone- Raised hips, short leg, winged Scapula, rotated vertebrae etc.
Supine- Tilted head, raised shoulders, Excessive rotation of hips & shoulders etc.
Forms

As a part of the assessment process, a record of the results obtained during the postural analysis needs to be kept in some form. This is essential for future reference and for insurance purposes. All tests should be recorded. It is up to each clinic or therapist to decide on the method they will adopt.

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<th>ACTION</th>
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