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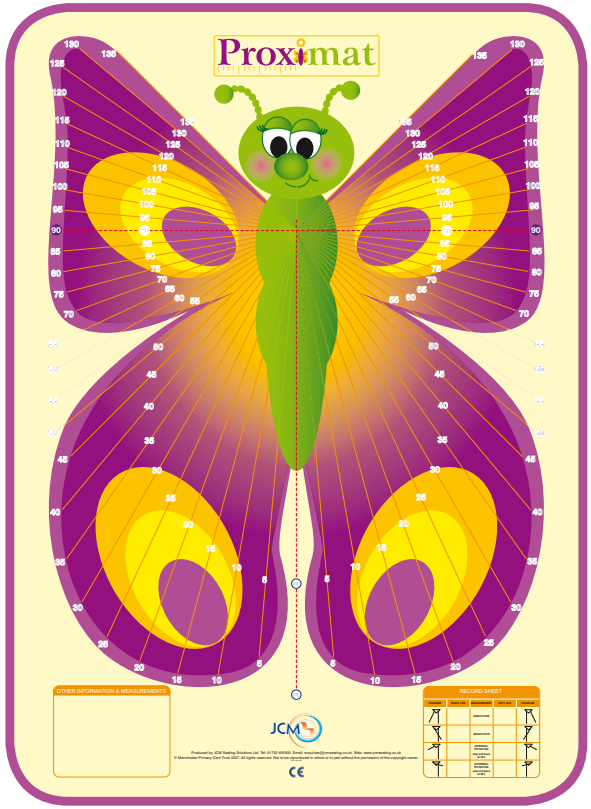
Proximat®

User Manual



A simple, child friendly method of measuring hip range movement in children.

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Proximat®

Background of the Proximat

The Proximat was developed by physiotherapists in clinical practice. It is a simple child friendly tool for measuring the hip range of movement in children. It is aimed at overcoming pragmatic difficulties with goniometry.

A service development introduced new postural management programmes aimed at preventing deformity pain and functional difficulties [1-6]. As a part of monitoring this programme physiotherapists were regularly measuring hip range of movement. However this was difficult with conventional goniometry and the results appeared inaccurate. Subsequent searching of the literature revealed goniometry for children with cerebral palsy has limited reliability [7-12].

Reliability of the Proximat

Following successful trial use within the service a study was carried out to assess the reliability of the proximat. Passive hip abduction, adduction, external and internal rotation were measured using the Proximat on 26 children with cerebral palsy. Testing was performed by two physiotherapists to assess inter-rater reliability and then repeated the following day to assess test-retest reliability. The Proximat was quick and easy to use and acceptable to the children. High reliability was found for all movements (ICCs = 0.83-0.93) [13].

The components of the Proximat are:

- Flexible mat
- Dry wipe pen
- Tape measure
- Recording sheet
- Poster
- CD containing all of the Proximat literature and record sheet.
- Protective case

How is the Proximat Used?

The mat is placed on the treatment bed or floor. The child is placed on the mat (hoisted if necessary) so that the hip joint lies over the centre point + of the mat and the leg lies along the vertical 0° axis with pelvis level.

Before measuring, any excess muscle tone should be inhibited as much as possible and the child's head positioned in mid line.

The pelvis is stabilised by giving comfortable downward pressure over the iliac crests while the leg is being moved.

Note - Before Use:

The Proximat is intended for use by a qualified clinician. Assistance may be given by anyone acting under their direction.

Additional Measuring Facility

Any bony protrusions or the child's entire height can be measured by marking points on the mat with dry wipe pen and measuring with the tape measure.

This pen can also be used to temporarily record the measurements on the mat before transferring them to case notes.

Proximat Safety Notice ⚠

Please note that due to the design of the Proximat it has a very smooth surface. Users are to be aware that the surface could be slippery, especially if walked on in socks. It is the users responsibility to ensure that all parties are aware of this and take due care and attention to avoid accidents.

How is the hip joint aligned?

The anterior aspect of the hip joint lies approximately 1.5 cms below the mid point of an imaginary line between the Anterior Superior Iliac Spine and the Pubic Symphysis.

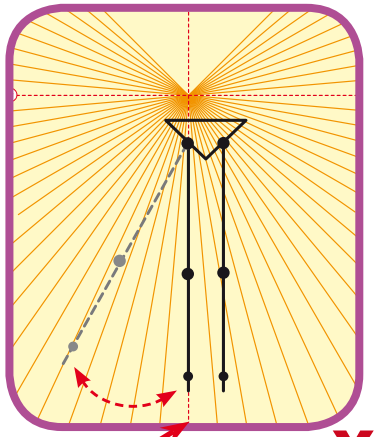
To check the alignment / starting position of the hip

(Refer to diagrams opposite, diagrams show example of right leg positioning)

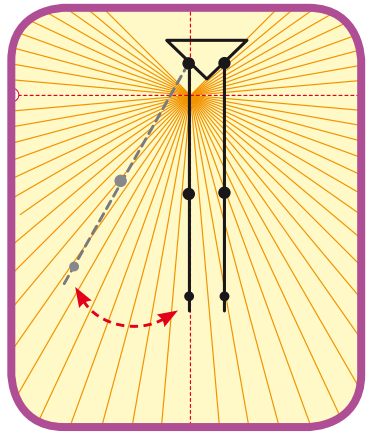
When the leg is aligned with the vertical axis 0° on the mat, the accuracy of the hip location can be confirmed by moving the leg out to the side and checking that it remains aligned to the centre point + of the Proximat.

If the hip comes out of alignment, it should be repositioned on the centre point +.

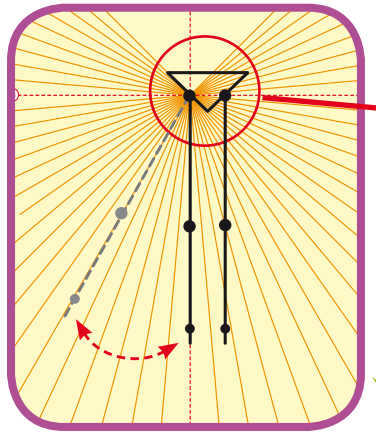
When the hip is not aligned the leg crosses the radial lines when moved:

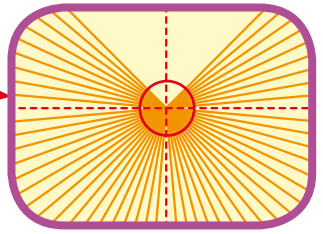


Vertical axis 0° Line



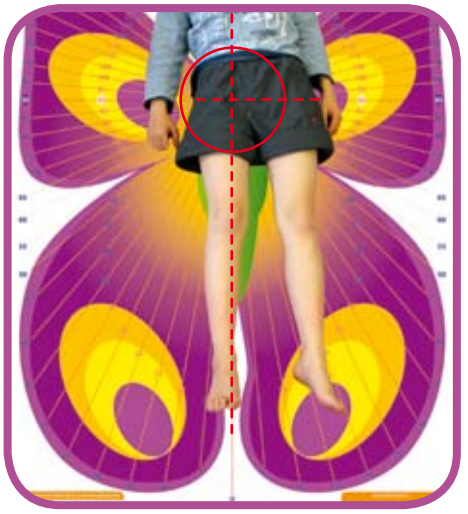
If this happens, re-align the hip to the centre point:





Centre (+) Point

Example of hip joint aligned to the centre point:



To Measure Abduction

- Stabilise the pelvis.
- Move the leg out to the side, away from the body.
- Stop when end of range is reached.
- Read and note the angle achieved from the mat.

To Measure Adduction

- Stabilise the pelvis.
- Raise the opposite leg.
- Move the leg to be measured under the raised leg.
- Stop when end of range is reached.
- Read and note the angle achieved from the mat.

To Measure Internal Rotation

- Stabilise the pelvis.
- Bend the leg to be measured to 90° at the hip and knee.
- Keep the long axis of the femur directly over the hip joint (and centre point + of the Proximat)
- Rotate the leg so the foot moves away from the other leg.
- Stop when end of range is reached.

Take the reading from the Proximat

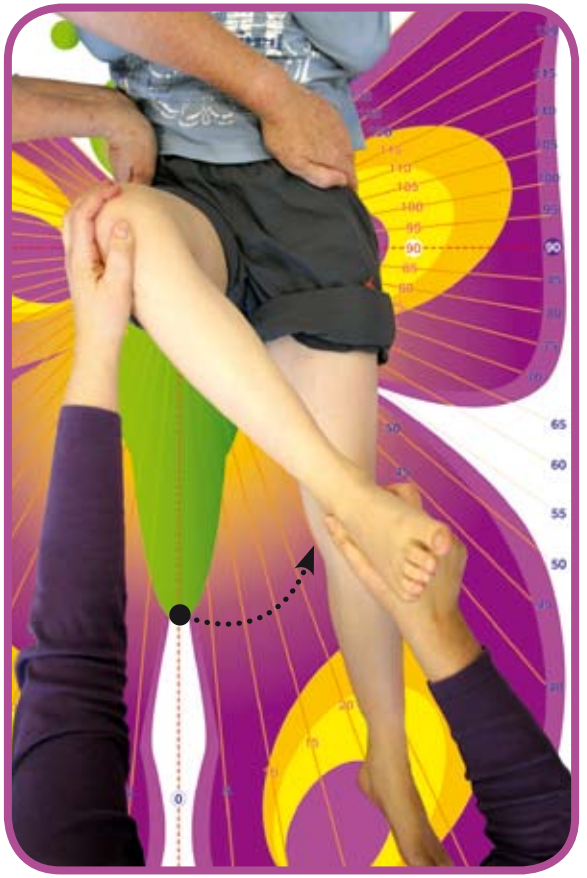
The degree of internal rotation is read from the bent leg's alignment with the markings on the mat as viewed from directly above.

To Measure External Rotation

- Stabilise the pelvis.
- Bend the leg to be measured to 90° at the hip and knee.
- Keep the long axis of the femur directly over the hip joint (and centre point + of the Proximat))
- Rotate the leg so that the foot moves over the other leg
- Stop when end of range is reached.

Take the reading from the Proximat

The degree of external rotation is read from the bent leg's alignment with the markings on the mat as viewed from directly above.



Example of Use for Younger Children

The example below shows measurement of right hip abduction in a young child. The pelvis has been stabilised by the clinician doing the measurement.

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