

posture

Parents' guide to seated postural management,
intended use and safe transportation



www.chunc.com

WHAT DOES POSTURE MANAGEMENT MEAN?

Posture management considers the control of an individual's body posture and recognises that postural stability is a fundamental necessity for effective functional performance. The emphasis of this approach is on advising, training and supporting the disabled person and their care providers.

This Management approach has two aims:

- 1 To maximise and facilitate remaining functional ability.
- 2 To minimize and reduce secondary complications associated with the impairment.

In order to achieve these aims, the whole lifestyle of the individual, including the needs of the care provider(s) must be taken into account ¹. Therefore, consideration must be given not only to sitting postures but also, standing, lying and sleeping positions over the 24 hour period.

WHAT IS SEATING POSTURE?

Seating Posture is concerned with balance and stability. It is the ability to organise the "segments" of the body against the forces of gravity in such a way as to allow and facilitate function. "Good" posture can then be defined as the body attitude (position) that helps create maximum performance for minimal energy consumption and does so without causing damage to the body ².

HOW CAN WE MAXIMISE FUNCTION?

Postural control is learned and is dependant on intact sensory and motor mechanisms (which are present from birth in healthy children). Organisation of the body segments develop one after another, starting with the ability to control the trunk, which acts as a stable base about which movement can occur ³.

The development of purposeful movement is a result of trial and error ⁴. Efficiency of movement develops as the individual learns to move within

their own ability and within what the environment will allow. The same mechanism for learning is applicable to the disabled child, however, the sensory and motor mechanisms are often impaired. Due to these neurological impairments, the ability to develop control of the trunk can be limited and so any learnt movements are from an unstable base. As a result of this threatened balance, all body segments are required to maintain equilibrium. Learned movements are less effective and more energy intensive. Imagine walking across a frozen lake in slippery shoes, the result will require all limbs to help maintain balance and movement in the correct direction will be very difficult to achieve.

The Chunc seating system has the ability to stabilise this "inadequate" base and allow a remoulding of the strategies adopted and so help to create more efficient and effective mechanisms of movement.

HOW CAN WE PREVENT/REDUCE SECONDARY COMPLICATIONS?

It is increasingly recognized that in people with ongoing disability, the focus should be on minimizing associated /secondary complications ⁵. Secondary complications can be defined as a result of the motor or neurological impairment and are not a direct result of the impairment itself. They are largely the result of the inability to move effectively, the inability to stabilize posture, and the inability to change position ¹.

POSTURAL DEFICITS IN SITTING

The inability to organise the body segments in the seated position may present in the following way:

- Slumped or arched body position.
- Trunk falling forward to one side, often with the pelvis rotated.
- Rotation of the spine.
- The head falling forward or sideways or backwards.

- Other body segments buckling or bending and finding their own level of support e.g. deviation of the lower limbs.

As a result of the above, "habitual" postures are created in the above mentioned patterns. These habitual postures have been strongly linked to the effect of gravity on the individual rather than to the disability.

These "preferred" and sustained postures can result in:

- Tissue adaptation such as contractures and eventually deformity.
- Tissue breakdown (especially with shear forces). This is due to lack of circulation and mechanical damage.
- Reduced efficiency of performance.
- Respiratory distress or difficulty.
- Respiratory infections - due to decreased respiratory efficiency or aspiration when feeding.
- Urinary tract infections.
- General discomfort.
- More specifically, a correlation has also been noted between the adducted leg and dislocation of the hip joint. (This observation has been endorsed in recent works by Porter, 2004 and Young et al, 1998 ⁶).

Careful contouring, shaping and positioning of the cushions and supports available in the Chunc 45 help to create forces on the body that reverse the above mentioned postural deficits and help to facilitate a balanced and stable position of the Pelvis, Mid thoracic Spine, Cervical spine and feet. Damaging forces on the body tissues can be reduced and the progression of deformity arrested. General comfort can also be enhanced and sitting tolerance may increase, which could allow for increased periods of functioning.

SUMMARY

The purpose of special seating is:

- To arrest the progression of deformity through support and control of postural segments (on occasion some correction can be achieved).
- To stabilise the trunk and thereby free the limbs for more efficient and effective movement.
- To distribute pressure over the maximum area possible to prevent damage and enhance comfort.

A management approach to postural control ensures the therapeutic aims of the seating system are met while still ensuring proper consideration of the occupant's carers and family within his/her specific environment and circumstances. The Chunc seating system has been designed through consultation and in partnership with carers, parents, disabled individuals, and therapists from across the world to ensure the creation of a system that fulfils the requirements and expectations of not only the clinician and therapist, but the disabled user and their carers and parents.

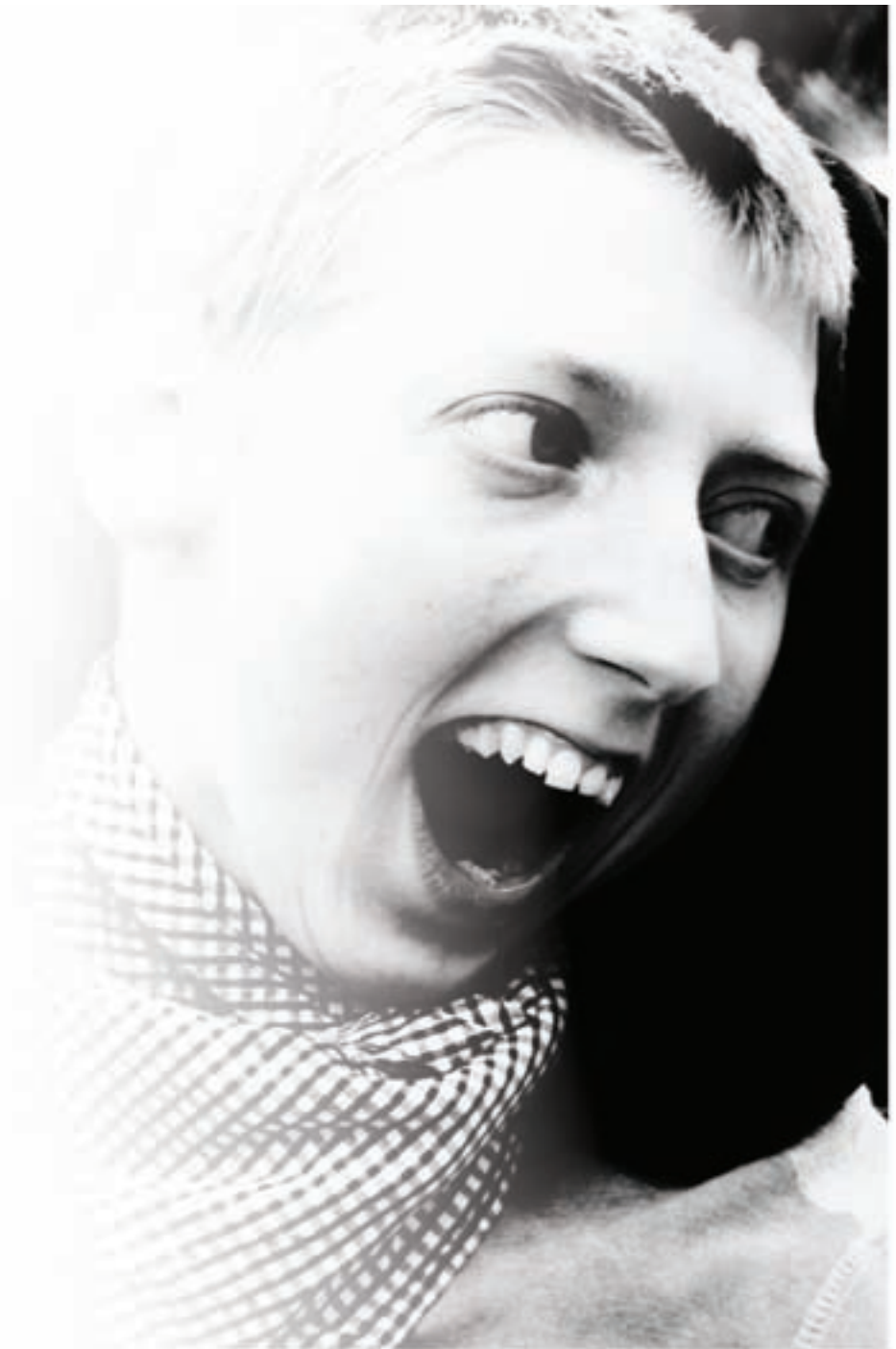
References:

Severe and Complex Neurological Disability, Management of the Physical Condition, Pauline M Pope, Butterworth Heinemann, 2007.

Neurological Physiotherapy: A problem solving approach, Elsevier Health Sciences, 2002

Posture Management of Children and Adults with Complex Disabilities, Wendy Murphy, Course Work, 2008

- 1 Pope, 2007
- 2 Pope, 1996
- 3 Poulney et al, 1993
- 4 Edelman, 1993
- 5 Rimmer, 1999 and Edwards, 2004
- 6 Porter, 2004 and Young et al, 1998



INTENDED USE

The Chunc 45 and Chunc Spica are manual attendant controlled seating and mobility systems. The Chunc Adapt is a manual attendant controlled wheel base for use with a surrogate seating system.

Chunc products and our range of options are intended to provide mobility, postural management and adjustable seating solutions for a single occupant including children and young adults with moderate to specialist needs such as cerebral palsy. The maximum user weight and maximum load capacity is stated in each individual product specification table.

All our seating and mobility systems are designed for indoor and outdoor use; however they are not intended for use on rough terrain.

SAFE TRANSPORTATION

The Chunc 45, Chunc Spica and Chunc Adapt 45* are suitable for use as a forward facing seat in a suitably adapted motor vehicle (crash tested to ISO 7176-19 and ANSI/RESNA WC/vol. 1 section 19). They should be used in conjunction with a four point tie down system with integrated lap belt and vehicle-mounted shoulder belt (WTORS). For full guidance please see Chunc user manual; www.chunc.com

**Check suitability with your seating provider.*

GENERAL SAFETY

Chunc seating and mobility systems are Class 1 medical devices and must not be used to seat any person without prior consultation of a qualified health care professional.

We believe in continuous improvement so if you have any questions or comments about our level of customer service, product literature or products we would be pleased to receive them.

For more information about Chunc and our products visit www.chunc.com



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