



**Juni clinical guidelines &  
user trials**

a new posture support chair

# juni

the clever & dynamic chair with posture support at its foundation

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# principles underlying the design of juni

Highly adjustable clever chair

## AIMS OF JUNI CHAIR

- 1) To provide a postural support when seated
- 2) To promote higher level of comfort
- 3) To promote social inclusion

## PRINCIPLES OF DESIGN

- 1) The pelvis is the 'keystone' of the body structure and determines the posture above and below it.
- 2) The pelvis in sitting is unstable and relies on muscular activity to control position. External control must be provided where internal control is inadequate.
- 3) Extension of the upper trunk, shoulder girdle and head is dependent upon pelvic stability, orientation and the existence of a lumbar curve, the latter itself being dependent upon the position of the pelvis (Pope 1985; Zacharkow 1988).
- 4) Stability of posture is essential for functional efficiency.

### ► Unique contoured seating

A central design principle of the Juni is the innovative contoured seat and backrest, which work together to promote better posture through the correct positioning and support of the pelvis and thighs. The contours give discreet support along the lateral side of the trunk and thigh. Featuring an anti-thrust andommel elements, the seat cushion encourages slight abduction at the hips and alignment of the lower limbs to maintain a stable pelvic position.

### ► Hermetically sealed upholstery

The Juni Dartex upholstery takes a further step forward in seating technology, through the use of sealed components which provide an impenetrable barrier to fluids, virus and bacteria whilst remaining comfortable and simple to keep clean.

### ► Strength and stability through design

The Juni has been designed to be a durable and tough little chair, providing a long service life with low maintenance burden. The chair is manufactured using quality woods with microbial property and fixings, and features splayed front and rear legs to provide stability and security, key to building confidence.

### ► Total adjustability

The Juni builds on the key strengths and features of our established Heathfield products, and offers multiple levels of adjustment to cater for your client's developmental needs. Standard features include adjustment for seat height, depth, armrest height, and armrest angle. Armrests can be dropped to seat cushion height to facilitate easy transfer in/out of the chair.

### ► Back recline and lumbar prompt

The design of the Juni includes a back recline feature (95° to 105°) in simple terms, easy to adjust steps. Unique to the Juni, an adjustable lumbar support is incorporated into the seat back, which reduces sacral sitting and places the client's pelvis into a neutral position.

### ► Juni accessories

With a wide range accessories it is easy to customise the Juni chair to meet client's needs.

## guidelines for the prescription of the juni chair

These are general guidelines and must not be rigidly applied. Conditions and circumstances may alter cases. Prescription must be considered on an individual basis, not only in relation to postural needs but also taking into account other factors such as social, environmental and psychological constraints.

### GENERAL SUITABILITY

The system is designed for the child with:

- 1) weakness of the lower limbs or trunk, for example in children with developmental delay, Downs Syndrome or Cerebral Palsy;
- 2) some postural control of the upper trunk and head;
- 3) ability to abduct at the hip joint;
- 4) where a stable, comfortable, erect posture and functional efficiency is being encouraged, for example, in the home, nursery or classroom.

### CONTRA-INDICATIONS

- 1) Marked kypho/scoliosis and/or contractures around the hip joint inhibiting positive contact and stable base of support from the chair.
- 2) Insufficient head control.
- 3) Marked subluxation/dislocation.
- 4) In some cases where hip joint location is at risk the contoured seat on the Juni may help to encourage normal alignment and development.

### FITTING AND ADJUSTING THE STRATO

- 1) There are 4 sizes of the Juni chair. It is essential that the correct size is chosen and that the adjustments are made according to the individual child's needs.
- 2) The hip width should fit within the width of the seat or reduced with side support cushions.
- 3) Abduction at the hip joint must be sufficient to accommodate the pommel.
- 4) Ensure that the feet are firmly supported on the floor or on the footplate.
- 5) Recline the back to suit individual needs with respect to midline pelvic position and stability.
- 6) Adjust work surface height to correspond with seat if necessary or adjust armrest height if used in conjunction with the quick release tray.

## user trials - case study 1

### BACKGROUND

Case 1 is an alert and lively 2 year-old. He is a petite boy and is considered small for his age. The tone in his right hand increases when he tries to play or feed himself. He uses his left hand to finger feed. Case 1 is able to walk independently but has a wobbly gait. He wears Pedro boots.

### MEASUREMENTS

Upper leg length: 24cm

Lower leg length: 21cm

Seat to shoulder: 27cm

Hip width: 20cm

### BEFORE THE JUNI CHAIR

Prior to the Juni, Case 1 had a standard child size canvas folding garden/picnic chair to use with his ELC red plastic table. Although the chair fitted his size, the seat was not level with the floor; lower at the back with a slight back recline.

This meant that once he sits into the chair, he tends to sit on the base of his spine with a rounded back; his feet are off the floor (unsupported) and he finds it difficult to get off the chair independently. The plastic table is also too high in relation to the chair and his size; therefore his elbows were unsupported and he could not really see what he was doing.

### Lateral view

Fig. 1



## user trials - case study 1

### PLANNED USE AND GOALS

Case 1 receives Portage. He requires a chair with minimal and discreet elbow and trunk support to encourage bilateral involvement of his upper limbs, for example: to use cutlery, messy play, cooking and baking with Mum.

The goal is for his right arm to cross mid-line, as well as to encourage him to get on and off his chair independently.

### ASSESSMENT AND RECOMMENDATION

#### Chailey levels of Sitting Ability: 7

Case 1 was initially offered a Brookfield chair size 1 from the OT Stores. This was far too big for him; as a result his feet were unsupported. He was then seated on a Juni size 1. It was adjusted to almost maximum height and depth. In the long term, this would not offer sufficient room for growth; therefore, a Juni size 2 was recommended.

Mum liked the Juni and her immediate comment was 'big improvement to the garden chair. He was "drowned" in the Brookfield so the chair appeared scary. I like the Juni for its size, style and simplicity, it looks cute and fits into our home, I also like the table cut-out.'

### OUTCOME AFTER 5 MONTHS

Case 1 is sitting with an erect spine with weight evenly distributed over his pelvis, his lower legs are slightly abducted and his feet are firmly supported on the floor. Mum reports that the chair has been very successful with Case 1. He is able to get on and off the Juni chair independently and he is able to pull the chair close to the table by himself.

Case 1 has been able to thread, play with play-doh and use the rolling pin with both hands when baking with Mum. He is able to draw with his left hand using palmar grasp whilst propping with the right hand on the table. The cut out on the table has enabled Case 1 to sit up close and benefit from the discreet support he needs.

#### View from above

Fig. 2



Fig. 3



Case 1 is very mobile and independent and would have resented having any thoracic supports attached to the chair, pelvic belt or the quick release tray. Mum has remarked that she found it easy to adjust the height and seat depth of the chair.

## user trials - case study 2

### BACKGROUND

Case 2 is a 3 year-old boy with Cerebral Palsy. He is a very motivated boy and can get frustrated when he is unable to achieve a task. He is able to stand, weight bear and commando crawl. He is able to roll over onto his stomach and return to sitting position by pushing up with his left arm. He is also able to do long sitting without being supported.

### MEASUREMENTS

Upper leg length: 25cm

Lower leg length: 21cm

Seat to shoulder: 32cm

Hip width: 21cm

### BEFORE THE JUNI CHAIR

Prior to the Juni, Case 2 had a Heathfield chair size 2 with footboard and tray. He likes his Heathfield chair and is keen to sit in it for functional and play activities. Mum says 'Heathfield was a hit from the beginning', it provided good support but he was unable to develop independent transfer.

Case 2 kneels on the footplate to climb onto the chair but 'gets stuck', unable to turn himself around, because the footplate is in the way.

### PLANNED USE AND GOALS

Case 2 requires a chair with minimal support to be used at home for functional and play activities and to enable Case 2 to learn to climb onto the chair independently.

## user trials - case study 2

### ASSESSMENT AND RECOMMENDATION

#### Chailey levels of Sitting Ability: 6

The Juni chair was used in the assessment and found to meet Case 2 needs.

Case 2 required a Juni chair size 2 with quick release tray and two 25mm side support cushions. The latter provided additional hip and thigh support.

The Juni at its lowest setting meant Case 2 feet could touch the floor and he was adequately supported. As a result, he does not require a footplate. This appropriate seat to floor height also meant that Case 2 could sit to stand independently by pushing on the armrests and enabled him to learn to climb onto the chair independently. Aesthetically, the chair looked less cumbersome without the footplate, Mum said 'I certainly won't miss the footplate'.

#### Front and side views

Fig. 4



Fig. 5



Fig. 6



Fig. 7



## user trials - case study 2

### OUTCOME AFTER 6 WEEKS

Case 2 is able to push to stand from the Juni. His mother reported that his posture was not so good to start with; Case 2 was leaning to the right. She raised the armrests and this has significantly improved.

Case 2 prefers the quick release tray because it gives him a snug fit around the front of his trunk. He uses the tray for some meals and snacks, watching TV, drawing and colouring and is working on propping with his right hand.

Mum says that 'the Juni chair design looks less medical. It gives Case 2 more freedom of movements; he can rotate over to the right to reach and lift the lid off the toy box.' Mum is very happy with the Juni chair especially that it can easily be taken apart which makes it easy to clean.



## user trials - case study 3

### BACKGROUND

Case 3 is a 3 year-old boy with Cerebral Palsy. He has low tone in the trunk and high tone in his limbs. He is able to crawl but not walk. He is able to stand and cruise holding onto furniture.

### MEASUREMENTS

Upper leg length: 25cm

Lower leg length: 25cm

Hip width: 26cm

### BEFORE THE JUNI CHAIR

Prior to the Juni chair, Case 3 was struggling with mainstream seating in the nursery environment to maintain his sitting position; falling to the side or sliding down and pushing the chair backwards away from the nursery table. The chair was a standard plastic stacking nursery chair and Case 3 tended to sit on the base of his spine with a rounded back and unbalanced head over the trunk.

Although Case 3 can sit independently, his feet were not in contact with the floor; therefore he was not adequately supported. Due to his low tone in the trunk, Case 3 can be 'wobbly' (does not have good sitting balance). As a result, he needed someone beside him otherwise he would fall sideways.

### Lateral view

Fig. 9



## user trials - case study 3

### PLANNED USE AND GOALS

Case 3 needs a chair that would provide him with some support, offering better hip and trunk stability. This would allow him to access activities and feed at tables of different heights. It would also help to enable inclusion with his peers in nursery and ultimately improve his hand function.

### ASSESSMENT AND RECOMMENDATION

#### Chailey levels of Sitting Ability: 6

The Juni, Heathfield and a Brookfield chair with skis or mobile dolly base were considered for the assessment.

The Juni size 2 fitted Case 3 well and his feet were firmly in contact with the floor. However, skis were required to stop the chair from creeping backwards as he tends to push back with his feet.

The Juni size 3, with skis, lap straps, tray were then prescribed to Case 3. The thinking was that the size 3 would give Case 3 more room for adjustments as he grows, but because his feet were just off the ground, he also required a footplate fitted onto the skis to give support underfoot. The footboard is shallow and does not interfere with his standing transfer.

The Juni size 3 is slightly wide for Case 3. Therefore, additional 2 x 25mm side support cushions will help to reduce the width as well as provide a snug fit to the hip and lateral side of his thighs. These cushions can be removed as he grows.

### Side views

Fig. 10



Fig. 11



## user trials - case study 3

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Activity and lunch table heights at the nursery are 500mm high but have either a 30mm or 75mm rail underneath. This reduces the clearance available under the table for the chair to slide under to enable Case 3 to access the table up close. The tables were in fact too high for Case 3. If the Juni had mobile skis attached, it would resolve the height issue and make moving and handling of the chair easier between the rooms.

A quick release tray can be used when additional trunk and elbow support is required to help with hand function and when Case 3 receives 'one to one' therapy.

### Angle view

Fig. 12



### OUTCOME AFTER 6 WEEKS

Case 3 has only been able to use his Juni chair for 3 sessions since it was delivered; due to holidays and illness. A nursery staff member reported 'Case 3 knows it is his chair, goes to it and is very happy to sit in it with or without the tray. He can now be left to sit independently with the quick release tray in place whilst using a double handled cup to drink as and when he wishes.' It was also observed by the OT that Case 3 had 'improved hand function and much better at hand feeding himself. There were also visible improvements in attention and participation in nursery.'

## summary

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For these three children it would appear that the Juni was beneficial and helped to achieve a better posture throughout the duration of the trial.

## acknowledgements

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Thank you to therapists, staff and parents of the children for their assistance and kind permissions.

Correct posture has a myriad of benefits for children and young people; it allows them to be included in group activities, it helps with concentration and focus, aids digestion and prevents unnecessary stress on their bodies. Excellent posture is at the heart of our seating range.



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the answers

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