

CASE STUDY

Nº 6

Name: David Boyle
Age: 19
Occupation: Student; part time radio presenter (rock music)
Location: Collaroy Beach, NSW, Australia

Symptoms

Cerebral Palsy with increased tone, more marked on the right side.

David has tight hip adductors, which necessitates the use of a wheelchair because walking is so difficult. David sits sacrally when in his wheelchair or on a conventional seat, with shoulders hunched, shoulder blades 'winged', chin protruding and cervical spine in excessive lordosis. David's pelvis tends to pull obliquely to the right. David is not able to walk any distance.

Introduction to the Saddle Seat

David saw the Bambach Saddle Seat while it was in use as a drummer's stool and thought it might work well for him. He tried the seat and was shown how to sit on it correctly to maximise the benefits as well as how to use the adjustments to maintain good position at his computer. He also used the Bambach Saddle Seat at the dining table.

Result

David found the position comfortable at once, and his posture improved visibly. When seated, his body is now symmetrical, his spine is in a correct posture and his chin and neck in their neutral position. On the Bambach Saddle Seat David assumes a posture that inhibits abnormal tone, with the hips abducted and extended to 45 degrees, weight being taken through the legs and feet which are now actively being used not only to take weight but to push and pull in all directions to move David around the room. David found that he was now also using his back muscles:

My back is a lot straighter and it has helped my walking, as I can now walk straighter and have more strength in my back.

David says he is walking greater distances now, shopping and outings are more enjoyable, and he looks and feels more 'normal' as he does not need his wheelchair. ♿



David on a flat seat at his computer. His pelvis is rocked back, his spine collapsed, his chin protruding; he is bending forward from the waist to see the screen. This is a very poor position, abnormal spinal curves exacerbating abnormal muscle tone, out of balance, poor functional position of head, eyes, arms and hands.

David from behind on his flat seat, showing the effect this seat has on the increased tone on his right side. His head and neck are asymmetrical, his body twisted to the right, with sacral sitting. Long term this seating results in postural deformities, e.g. scoliosis, thoracic kyphosis and flexion contractures.

David on a Bambach Saddle Seat. The postural abnormalities are corrected, reducing postural stress and allowing better function overall.

David on his Bambach Saddle Seat, now symmetrical His abnormal tone is minimised, allowing him to attain and maintain a correct posture.

The Award-winning Bambach Saddle Seat



Mary Gale

The idea for the Bambach Saddle Seat came to occupational therapist and horsewoman Mary Gale in treating patients who could not sit unsupported on an ordinary seat or wheelchair. Mary found that the same patients could balance quite independently on horseback and assume a symmetrical posture.

It occurred to Mary that if she could replicate the 'saddle position', where the spine is able to assume its natural curves, she would create an ideal seat for therapy as well as for task seating.

A review of literature showed work of Dr A.C. Mandel, who noted that the ideal sitting posture for the human spine is achieved on horseback. Other researchers also concluded that ordinary furniture removes the natural curves from the spine and places great stress on the spinal discs. Anecdotal reports from horse riders who suffered severe back pain on the ground, yet who gained marked relief when mounted in the saddle, were also noted.

Several years of experimentation resulted in the Bambach Saddle Seat, deceptively simple in design but incorporating refinements and features that permit sitting for extended periods without loss of a healthy spinal curve. The proof is that the Bambach Saddle Seat is enabling many people who suffer disabling back pain to return to work. The seat also offers the opportunity for normal adults and children to sit to work independently in correct posture and maintaining mobility, but it is especially valuable for many who are physically impaired.



NeoCon Silver Award
Design Excellence for
Desk/Workstation Task Chairs



Winner ADEX Award
for Ergonomic Task Seating

Published papers on the Bambach Saddle Seat

T. Verkindere, C. Lacombe, and J. P. Lodter, 'Electromyographic study of the dynamic sitting position suitable for dentists', *L'information Dentaire*, Vol. 80 No. 12 (March 1998)

M. Gale, S. Feather, S. Jensen, G. Coster., 'A Multi Disciplinary Approach to the Design of a Work Seat to Preserve Lumbar Lordosis'. *Australian Occupational Therapy Journal*, Vol. 36 No. 2 (June 1989)

Publication

Mary Gale, *The Seated Spine & The Bambach Saddle Seat*, Brookvale, NSW, 1997.

Research papers on the Bambach Saddle Seat have been presented at:

International Conference on Ergonomics Occupational Safety & Health & the Environment, Beijing, October 1988.

Third International Physiotherapy Congress, Hong Kong June, 1990.

The National Safety Council of Australia's Congress, 'Futuresafe', Adelaide, South Australia, May 1992.

'Tadsem', Cumberland College of Health Sciences, University of Sydney Campus, Australia, October 1992.

World Federation of Occupational Therapists Conference – The Scientific Programme Technology Seating Sessions, Imperial College, London, April 1994.

Research on the Bambach Saddle Seat has been exhibited via poster presentation at:

The World Federation of Occupational Therapists, Melbourne, Victoria, Australia, April 1990.

World Physiotherapy Congress, London, UK, September, 1990.

Unpublished papers on the Bambach Saddle Seat

A. Nicholls, Doctor of Chiropractic: 'Report; Physiological Evaluation of the Intact Column-Pelvis-Meningeal System Radiographic Outcome Findings'.

Prof. G. Schumpe, Graduate Physicist/Medical Practitioner: 'Biomechanical Study of Sitting on the 'Saddle Seat'.

M. Gale, S. Aldrich, S. Jensen, W. Gale, 'Comparison Study of a Saddle Seat with Conventional Office Work Seat'.



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