

CASE STUDY

Nº 1

Name: Sandra Douglas
Age: 35
Occupation: Cellar attendant
Location: Fern Bay, NSW, Australia.

Symptoms

Sandra has had severe back pain and nerve damage since manually handling heavy objects at work caused her to rupture four of her lumbar vertebrae. In the cellar in which she worked the attendants would catch cases of liquor as they were thrown from a truck. In October 1992, after lifting a half-full keg of beer, Sandra experienced serious symptoms, including loss of bowel and bladder control and loss of the use of her legs.

After five surgical operations to fuse the discs, which included the insertion of rods, Sandra attempted to resume her family life; she was quite unable to return to her former work. As well as the damage to her lumbar spine, she suffered damage to her sacroiliac joints.

She is left with constant severe back pain and is so limited in strength and stability in her legs that attempting to stand and walk results in a trembling, unstable stance, with knees in shaky half extension, unable to fully extend. She also has a distressing shortness of breath. Attempting to stand brings her dangerously close to

collapse. Sandra is, therefore, dependent on her wheelchair in which, however, she is not symmetrical, and she falls to the right and forward.

Introduction to the Bambach Saddle Seat

Sandra's occupational therapist recommended the Bambach Saddle Seat early 1993, and as soon as she tried it, she felt comfortable, stable and mobile in an upright position. It took several days to get used to the new posture and in the absence of proper instruction, Sandra worked out for herself how to adjust the back, the tilt, and the ability the gas lift adjustment gives her to work at varying heights.

Result

To Quote Sandra: *[The Bambach Saddle Seat] gave me strength and independence and, above all, it gave me back my kitchen. Until I could do things by myself for my family, I was in constant conflict with my husband and two children; the frustration was overwhelming. The Saddle Seat is the most comfortable chair I have got. In an ordinary chair I need cushions to prop my leg and back; this seat seems to support me well with my legs each side of me. I can sit longer in this seat as it has better support than my wheelchair, and I feel supported*



From her wheelchair Sandra has obvious difficulty reaching her kitchen cupboard; her legs are merely in her way. Her back is flexed at her waist. Great effort is required.

On the Bambach Saddle Seat Sandra can reach easily into her cupboard. Her feet and legs are now included in her function, supporting and in full plantar contact. The strain is relieved.

Sandra attempting to reach an above-bench cupboard. It is actually impossible from her wheelchair.

Sandra is now able to reach her above-bench cupboards easily. She raises the Saddle Seat to reach high items and puts it down to reach lower ones.

Continued from overleaf

and comfortable. In this posture there seems to be relief from the aching and the pain I was so used to, and I don't slump to one side. I do still ache, but not nearly as much, to the extent that I can sit on it to talk to people, but, most importantly, I can prepare meals myself for my family. I feel more normal [on the Bambach Saddle Seat], and I feel my upper body is stronger in it. The kitchen was out of bounds before. The freedom and independence means a lot to me.

Sandra, with the aid of her mother and

a paint roller, painted her house inside and outside (up to reaching height), using the Bambach Saddle Seat for mobility and functional reach. Sandra sits upright and in an active position, and is symmetrical with normal posture and righting reactions. Her feet and legs are mobile with some weight bearing in good plantar contact. Her breathing is easy while she is active. Psychologically the benefit is most important. ♪

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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