

CASE STUDY

Nº 2

Name: Rhonda Bates
Age: 35
Occupation: Supervisor, Safety Officer, Union Representative, wire manufacturing company.
Location: Brookvale, NSW, Australia

Symptoms

Pain developed four years ago in Rhonda's shoulder and neck, with breathing difficulty when she sat on a lounge. Symptoms were made worse by the sort of fine work that was required by her job, which is carried out in a standing position or seated on a conventional work stool. Overuse injury was diagnosed by her doctor using X-Ray; it showed a protruding disc at C5. Intensive physiotherapy was undertaken for three weeks but return to work was still too painful and Rhonda was unable to continue. By now her whole life, as well as work, was affected. Driving was difficult; walking and swimming were very uncomfortable. Further physiotherapy included stretches, which began to offer relief. Return to work was gradual and in accordance with a rehabilitation plan.

Introduction to the Saddle Seat

Rhonda consulted the company physiotherapist about her future. She was determined to continue her work and wanted to get back to all of her accustomed activities. She saw the most

important part of this as maintaining correct posture when sitting. The physiotherapist recommended the Bambach Saddle Seat as the best way of maintaining a correct posture for work. Rhonda was introduced to the Bambach Saddle Seat and then advised on how to use it with the work she was doing.

Result

At first Rhonda found the seat so different that she spent some time getting used to it. The adjustability of the seat was critical in her finally getting comfortable. The tilt, height and back adjustments were all re-adjusted time and again as she found her correct position. The seat has been successful in preventing a recurrence of her symptoms. While attending lectures to obtain her occupational health and safety diploma, Rhonda had to sit in classroom seats, and the symptoms returned. She then said she realised that the Bambach Saddle Seat had given her an understanding of correct posture, and she said that she now evaluates all seating, and her own posture, in comparison with the Bambach Saddle Seat, which is her benchmark, to avoid a return of the



Rhonda at clerical work using a conventional, flat office seat. Her pelvis is tilted back and her spinal curves lost; her head and neck are distorted from the neutral position. This is a position of postural stress resulting in neck and shoulder pain.

Rhonda on the Bambach Saddle Seat, her spinal curves restored to their neutral position, her head, neck, shoulders and back in a position of least spinal stress.

Rhonda at work wire winding in a position of postural stress due to the need to use muscular effort to counter the effect of the flat seat which is tilting her pelvis back. Her feet are in tension to balance and to use the foot pedal; her head, neck, shoulders and arms are being used in tension, as half-trunk rotation is the optimal position for this.

Rhonda's spinal curves are maintained by her position on the Saddle Seat. Her head, neck, shoulders and arms are relaxed and comfortable, as the swivel of the Saddle Seat takes half-rotation. Her feet and legs are relaxed, in comfortable contact with the floor for easy balance, movement and operation of the foot pedal, a position of minimal postural stress.

Continued from overleaf

symptoms that affect her life so seriously. She now has a Bambach Saddle Seat at home for her study, and she is more productive:

I have no back or neck problem now except when I sit on a seat other than a Bambach Saddle Seat, such as a couch or other conventional seat. 🐾



Mary Gale

The Award-winning Bambach Saddle Seat

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'.



4B 3-9 KENNETH RD, MANLY VALE 2093 NSW AUSTRALIA
PO BOX 914 BROOKVALE NSW 2100
PHONE (61 2) 8966 4800 FAX: (61 2) 9948 9834
WEBSITE www.bambach.com.au EMAIL bambach@bambach.com.au