The only way for back problems to be minimised in the profession is by ongoing research and educating the dental team, says Dr RJJ Pilkington

Biomechanical research over the last few years has started to shed light on what happens to backs when they fail and then you the sufferer can end up as a chronic back pain sufferer. Chronic back pain sufferers usually have poor body/spinal awareness and have let their backs take the brunt of everyday living. The body’s tissues have viscoelastic properties, tissue creep and muscle memory. So if you can no longer put your hands behind your head, it is likely because the muscles have shortened too much and their muscle memory is therefore set to move only at that range of movement.

Some interesting results

I initiated at the Biomechanical Engineering Department, University of Newcastle a pilot study into the poor working posture of dental students. A college, who works on my back care courses, refers to it as the “static golfer’s posture”. However, that’s before you ever factor in the strains of day-to-day living. So if spending all that time in your surgery bent over the patient, followed by 18 holes of golf, two hours weeding the garden and continuously poor lifting of the children in the wrong way hasn’t already taken its toll, then it’s only a matter of time before your back starts to tell you a different story.

Biomechanical research

In the picture above (Fig. 1), the operator is performing the dental task by direct vision as a means to perform the dental procedure more easily. Unfortunately, this is placing considerable stresses on the spinal tissues. How many procedures will it take for the practitioner to work like this before musculoskeletal symptoms are experienced?

Therefore the pilot study is basically a computer motion analysis. The computer motion analysis of the posture can be recreated throughout the time it takes for the practitioner to perform the dental task. This can be compared to postures where ergonomic interventions are integrated so that the practitioner performs the same task but this time in a better posture and sparing the delicate spinal tissues.

To give an idea of the posture the students typically adopted in the study pre ergonomically trained is in Fig 2.

For the students performing the same task with ergonomically designed equipment and teaching their posture is shown in Fig 3.

The study showed how the vulnerable areas of the spinal tissues in the lower cervical region and lumbar spine are spared and hopefully may prolong your career without having to prematurely retire due to musculoskeletal symptoms.

Back care courses for the dental team

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“Not just the patient in pain?”

Let’s face it, after a day in surgery, who wants an aching back, neck and shoulders. It doesn’t stop there either. Pain can stop you working. It is also the most common cause of premature retirement amongst practising dental professionals.

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Fig. 1

Fig. 2

Fig. 3

Fig. 4