Compensating Curves, not as we know it

Jonathan Bill

I feel that, and would like to state at the very beginning of this article, 'Since Spee & Wilson's time & later Monsoons, the compensating curves that they described as being present, actually do not exist.

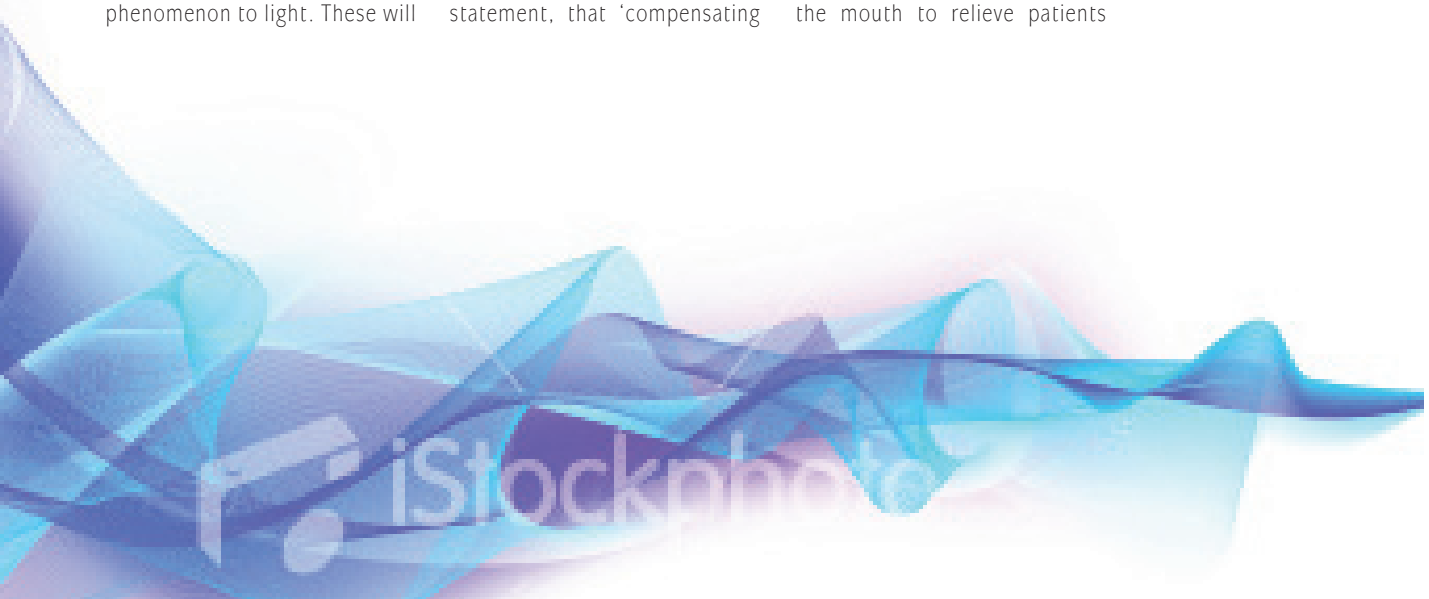
Now that is a big statement! So therefore, if we are correct (and evidence is beginning to support this), then it has to have wide ranging consequences within our industry. Especially when you consider that most articulators are built around the principles of Spee & Wilson; denture teeth are manufactured to replicate the curves of Spee & Wilson and that we have introduced Spee & Wilson into our CAD CAM Technology.

Now, once the above statement has sunk in, then the arguments will begin. How come we have got it wrong for over a hundred years? Why only now has it been discovered? And why have I had no problems in the past? Over the coming issues of the DentalLab Journal, we will publish a series of articles from the group of people who have helped to bring this new phenomenon to light. These will start to give you all an insight into a completely new way of approaching the occlusal side of dentistry. One of the above questions asked is, 'Why only now has it been discovered?' Well actually the clues have been there for many years, certainly since we introduced acrylic teeth into denture making. Even now, how many of you have noticed that the compensating curves after a few years of occlusal wear is different to how you have set the teeth up to? You had put in nice sweeping curves of Spee & Wilson but after five years the curves are flatter, especially on the patient's left. If the curves of Spee & Wilson are the correct curves at the beginning, why then are they so different after a couple of millimetres of closure?

This leads me to another big statement, that 'compensating curves are dynamic'. They alter their form to whatever the vertical dimension is! The more the bite closes or even opens, the more the shape and form of the curves alter. In fact, there are many different compensating curves. An example would be a patient who has a very over closed denture and the curves have reversed themselves.

How all this came about is an interesting one. I was invited by one of my surgeons, Dr Andrew Toy, to a study group to meet a very highly respected professor of dentistry from Houston, Texas, a Dr Ron Presswood. He wanted me to know and understand some different occlusal principles of occlusion for his crown work. Here I was introduced to Ron's work on posterior guided occlusal splints, where he believes in powering up the muscles of the mouth to relieve patients with occlusal problems. These theories were then transferred to how crown and bridgework should be done. It was after a few visits that it became obvious to us all that my work on the occlusal curves of full/full dentures were linked, especially when Ron presented his work on the anthropological studies that he had performed.

From there we have moved on to undertaking research through Loughborough University and embarking on a journey of discovery and change. Over this period of time it has become obvious to me that, in my opinion, this group of people are some of the brightest and most forward thinking in dentistry.



Ronald G. Presswood graduated from the University of Texas, Houston, in 1965 and has since enjoyed an extensive carrier. He is now an Adjunct Professor of Clinical Dentistry at the University he graduated from.

The Academy of General Dentistry acknowledged Ronald as a Fellow in 1979 and in 1992 the Houston District Dental Society named Ronald as President. The honours carried on and Ronald is a Fellow of the International College of Dentists and the American College of Dentists.

An accomplished writer Ronald has been published in many state and local and his reputation as a speaker has also taken him across the globe to lecture at major meetings in Europe, the Caribbean, Australia and across North America.

Andy Toy is a partner at Gorse Covert Dental Practice, Loughborough. Qualifying with BDS from the University of Bristol in 1980, he started studying occlusion in 1982, attending Roy Higson's first ever course. As well as his many visits to the Pankey Institute, he has also attended the University of Florida Centre for Orofacial Pain in 2002 and regularly lectures on Occlusion and Orofacial Pain to dentists, hygienists, osteopaths & chiropractors. He is a member of the British Society of Occlusal Studies, Vice Chair of FGDP Research Committee and Divisional Research Coordinator for Trent.

Larry Browne has been working in technical dentistry for over 40 years and is currently owner of LS Browne Technical Services Dental Laboratory, specialising in Crown and Bridge restorations and technical support of implant constructions. He is involved with technical planning and occlusal schemes and believes in working closely with his clinical colleagues in a committed team approach to restorative dentistry.

Larry is Technical Consultant for the ITI Dental Implant to Straumann UK Ltd, responsible for education courses for technicians and clinicians and in the day to day solution of technical problems. He has lectured widely on various aspects of technical dentistry, is a visiting lecturer at the University of Texas Post Graduate Program and invented the Accu-Trac and Snap Lock Model Tray Systems.