



Bracket design and grades of service

The theme chosen for a recent meeting of the Australian Begg Orthodontic Society (ABOS) was "Appliance Design". The decision to choose this theme implies that there is a need to improve orthodontic appliances and also that the Society has the wherewithal to tackle the problem.

The aim of bracket design is to control tooth movement in the most efficient way possible. Control of tooth movement involves consideration of, first, the type of tooth movement: tipping, uprighting or bodily (some say that bodily movement is a combination of tipping and uprighting) and, second, the effect of force (the "drug" prescribed and administered by the clinician) on the dento-alveolar configuration.

The Begg Technique uses all three movements, with emphasis on the free tipping of teeth, requiring, as closely as possible, a one-point contact to allow this free tipping, and a two-point contact to achieve uprighting and bodily movement. By contrast, in the Edgewise and associated techniques, bodily movement is emphasised.

The variations that occur in bracket design boil down to which, and how many, sides of the archwire are covered. The Ribbon Arch systems leave the gingival or occlusal sides free; the Edgewise system leaves the labial or buccal side free. Most molar attachments are tubes, totally enclosing the archwire on all four sides. Vertical slots allow more rigid control of arch form and tooth rotation and, if required, the freedom to allow unrestricted tipping of the tooth. Horizontal slots can only offer this freedom if the archwire is narrower than the slot, or if the slot is modified (as in the Tip-Edge bracket). Horizontal slots, of course, limit tipping movement and offer more rigid control of axial inclination.

What are the motivations to improve bracket design? The primary motivation is that there could be some difficulty or problem in treatment. The second is whether or not there is a need for greater efficiency such as shorter treatment times, less chairside time, and better control of tooth movement.

Having identified a clinical problem, a further requirement is a knowledge of the history of bracket development (as detailed in the literature) and the effects of the application of force. This knowledge is best acquired through a university education, which provides the disciplines of learning and research, combined with the supervision of patients throughout a complete course of treatment. These necessary elements exist within the expertise of members of The Australian Society of Orthodontists (ASO), of which the ABOS is an affiliated body.

The ASO has five categories of active membership: ranging from student membership for post-graduate students in training; corresponding and associate membership for registered dentists; provisional membership for graduates of less than two years standing who have a Masters degree or equivalent qualification; and full membership, which is for those who have a higher qualification and have had at least two years full-time clinical experience.

With the spate of overseas lecturers in Orthodontics giving weekend courses (advertised as a means of increasing incomes), there is now a range of training being offered to registered dentists, which varies in duration from one to twenty-two weekends. Five of these particular courses come to mind. This means that the Australian public is now being offered approximately ten grades of service: comprising the five from the combined stages of formal university training and status accepted the ASO, and at least another five stemming from the courses being offered to general practitioners by overseas lecturers.

What level of standards of treatment and contribution to the advancement of Orthodontics can be expected from those who, having attended these weekend courses, commence treating patients? On the assumption that quality of service is directly proportional to the amount and quality of training, the public deserves to know what type and quality of service it can expect from the range being offered by the profession, at least in order that the poor and the uninformed will not be at the mercy of the under-trained.

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