Why learn occlusion?

Dr Lawrence Murray presents a compelling case for finding out more about occlusion and its relationship with patient care

Occlusion touches on every aspect of dentistry and it is one of the most important factors in determining the longevity of our restorations, it is amazing how long any crown will last if it is not in occlusion with a tooth on the opposite arch.

Pressure

There is a pressure today for everyone to have perfect teeth and as dentists we frequently place crowns or veneers to achieve the aesthetic improvements the patients desire, it is well documented that patients are less willing to accept problems from elective treatment than treatment necessitated by pain.

Patients arrive with worn or chipped teeth and many practitioners are encouraged by the patients desire to quickly restore the lost tooth substance without always looking at what caused the tooth loss in the first place.

Case Study

This 52 year old lady was referred to me by a local practitioner, she had been to see a “cosmetic dentist” but was unhappy with the treatment that was offered, she was also given no explanation as to how or why her tooth loss had occurred. She was advised that she needed full coverage metal ceramic crowns to provide the necessary strength to prevent the restorations fracturing.

A full history was taken and the patient stated that she was aware of grinding her teeth, had headaches and neck aches and had a disturbed sleep pattern. A full occlusal examination was taken, study casts mounted on a Denar mark 11 articulator using a stellidont facebow transfer and centric relation record. A large deflective contact was identified on a molar and there was a large Maximum InterCuspal Position (MICP) Centric Relation (CR) discrepancy.

A hard acrylic splint was constructed and adjusted so there were even simultaneous posterior contact and no anterior contact in CR, immediate anterior contact on excursive movement allowing posterior discclusion. This is called mutually protected occlusion and after two weeks she reported that she was free from headaches and neck aches for the first time in many years.

Stabilised joint position

She wore the splint for three months until there was no further adjustment needed as her joint position had stabilised. I then equilibrated her teeth to establish even posterior contacts and smooth anterior guidance within the limitations caused by the loss of the canine cusps on the left side. A diagnostic wax up of the proposed new anterior occlusion was then copied and composite temporaries placed on the teeth.

These were placed to ascertain if the new occlusal pattern was acceptable to the patient, they are also useful in that if they fracture or fall off it indicates that some aspect of planned prescription is incorrect. These were adjusted on two occasions and were in place for three weeks; impressions were taken and mounted in (MICP) which was now coincident with (CR). Then a custom incisal table was constructed for the articulator based on the guidance established on the temporaries, thus enabling us to recreate this in the final restorations. Five teeth (11,21,22,25,24) were prepared for feldspathic veneers. Care was taken to keep the preparations in enamel and it was not necessary to involved the unaffected incisors as we felt we could achieve a good result with the minimum of tooth loss.

Five veneers were cemented using standard protocol and final excursive movements adjusted to ensure smooth and immediate discclusion.

Delighted patient

The patient was delighted with the result both aesthetically and that she had lost her headaches, neck aches and had an uninter rupted sleep pattern.

I would like to thank Naomi Greaves for the beautiful porcelain work.

There are many courses that can teach the preparation and cementation of veneers but few that can teach the manual skills needed to be able to fabricate and adjust splints, there are even fewer that teach practitioners how to equilibrate on actual patients as it is very different to doing a model exercise. The International Partnership for the Study of Occlusion (IPSO) is one of these and it was with them that I learned my occlusal training, they have been teaching in the United Kingdom since 1986 alongside and after a one year hiatus they are back with their three-day introductory course in Mansfield in November.

Further details for this course are available from Crystal Walsh at The Academy of Clinical Excellence. Tel: 0815 201 1515