

A difficult impression case – but with an innovative solution

Described by Tony Beale

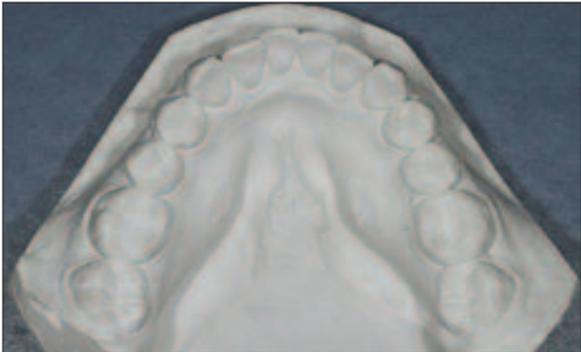


Figure 1: Preliminary cast for tray size determination



Figure 2: Mouldable Borderlock tray prior to adaptation. Note placement and impinging of tray sides into soft tissue areas



Figure 3: Pronounced bony mandibular ridges (Torus Lingualis)

Last year saw the introduction to the dental market of an innovative impression tray system in the form of the new Clan 'Borderlock Mouldable' trays, now distributed by Optident Ltd.

These trays are designed to be disposable, but are completely rigid and do not flex when used.

Borderlock impression trays have been around for many years, and have evolved from the original Schrienemaker's anatomical metal tray system that originated in the Netherlands some 40 years ago.

Over time, the original Schrienemaker's tray patterns have undergone several reincarnations, with disposable, autoclaveable and clear implant tray versions being introduced under the

'Borderlock' label.

But the latest advance certainly offers solutions for those impressions that are difficult to take due to 'out of the ordinary' intra-oral anatomical features.

Many patients have intra-oral areas that can prove hard to reproduce in the form of an accurate impression. These can present themselves as wide tuberosities, or retro-molar pad areas, irregular arch shapes, shallow or deep sulcus areas and awkward tooth configurations that cannot be successfully captured by use of a conventional stock tray.

A recent example of a 'hard to take' impression was documented by Dutch clinician Dr Are van't Spijker, who is in private practice and is also affiliated to the University of Nijmegen, in the

Netherlands.

Details of this case were kindly forwarded to me from there by Mercadent and Clan Dental, as they felt this would be of particular interest to UK-based dental practitioners.

The case

The patient presented with pronounced bony mandibular ridges (Torus Lingualis). An example of this can be seen in Figure 3.

When trying to select a suitable impression tray, it was seen that it was not possible to achieve an accurate fit, as standard stock trays would impinge on the patient's soft-tissue areas, causing discomfort (Figure 2).

The Clan Mouldable Borderlock trays were therefore a very appropriate choice as they offer clinicians a

quick and easy way to adapt a regular stock tray to suit individual case requirements, and in many instances negating the need for a laboratory fabricated special tray.

The Borderlock Mouldable trays are made from a light green coloured resin material that is rigid, but that can be softened by their immersion in hot water. The tray walls can then be adapted to a new shape, and upon cooling will assume their former rigidity.

A preliminary cast (Figure 1) was therefore taken initially in a conventional tray, purely for the purposes of creating a guide for approximating tray size.

This enabled the appropriate Borderlock Mouldable mandibular dentate tray to be selected from the tray kit.

It will be noted that,

although the tray is of the correct size and arch shape, it makes contact with the bony ridges, and is too narrow lingually (Figure 4).

The tray is then immersed in hot water (ideally in a temperature-controlled water bath) at 70 degrees C for approximately 20-30 seconds, and is then adapted by hand (Figure 5), and by carefully widening the tray walls it can be modified, thus creating better overall tray width and fit (Figure 6).

A comparison of the before and after adaptation can be seen in Figure 7.

As will be seen, the difference in the tray profile enables a better placement of both tray and impression material (Figure 8), which in turn allows the optimum dynamic pressure, and compressability to be achieved, which resulted in an acceptable and highly accurate impression (Figure 9).

These trays are supplied in maxillary and mandibular dentate, and edentulous patterns, with trial start-up kits and more extensive kit selections available (Figure 10). ■

All kit selections are available from Optident Ltd, International Development Centre, Valley Drive, Ilkley, LS29 8AL. Tel (01943) 605050 or email sales@optident.co.uk.

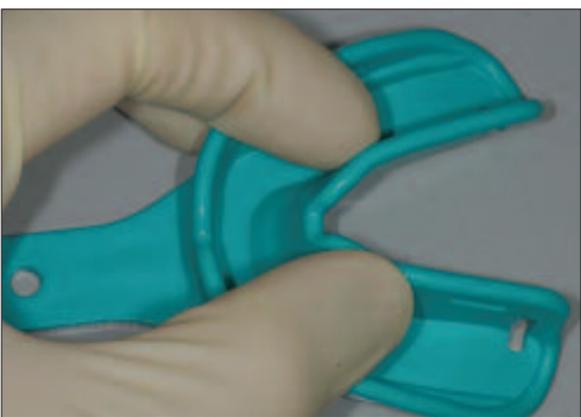


Figure 4: Adaptation of the Borderlock Mouldable tray by hand

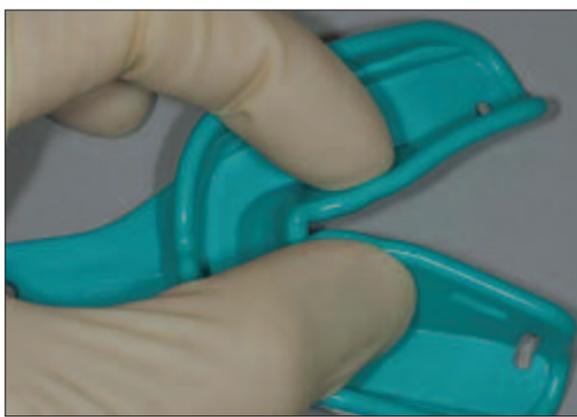


Figure 5: Further adaptation of the softened Borderlock Mouldable tray



Figure 6: Adapted tray showing increased width



Figure 7: Comparison of adapted and unadapted mouldable tray



Figure 8: Overall view of completed impression

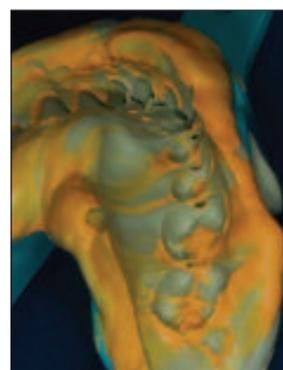


Figure 9: Detailed close-up of detail on completed impression

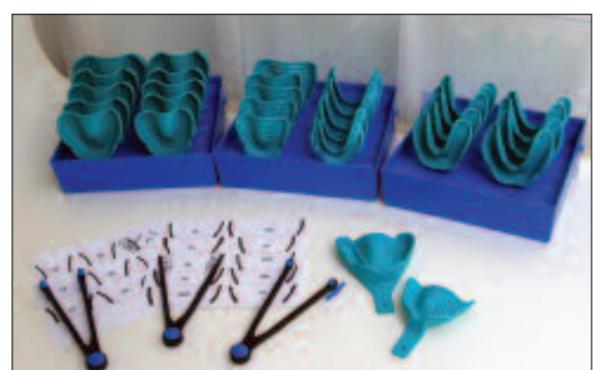


Figure 10: Borderlock Mouldable tray kit selection