

Smart strategies for tough economic times

Jason Smithson provides a photo essay looking at semi-direct composite onlays



Figures 1-2: Pre-operative views from occlusal and palatal



Figure 3: Rubber dam applied



Figure 4: Caries and old restorations removed showing deep class 1 cavities and very little RDT (residual dentine thickness) remaining

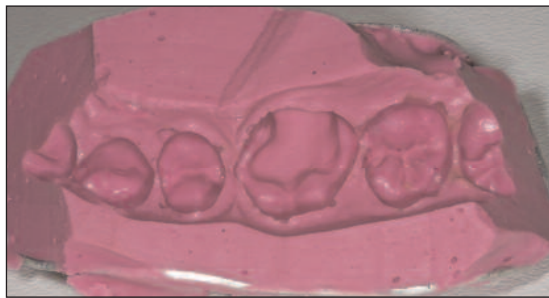
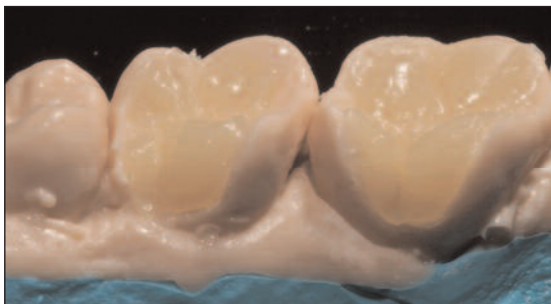


Figure 5: Alginate quadrant impression (different case)



Figure 6: Models fabricated from Mach2/BluMousse (Parkell) and die relieved with 'SuperSep'. Initial increment of flowable composite resin placed (Gradia HiFlo, GC)



Figures 7-8: Dentine build out utilising 'G-Aenial' Posterior Shade A3 from GC

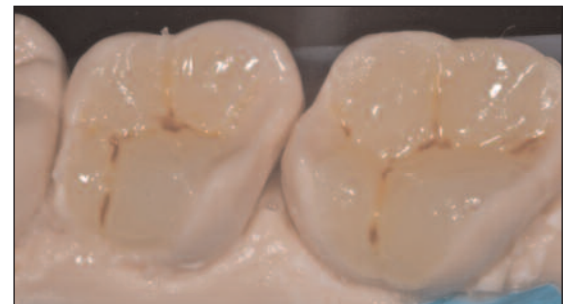


Figure 9: Ochre (Bisco) and dark brown (Ultradent) tints applied to fissure pattern

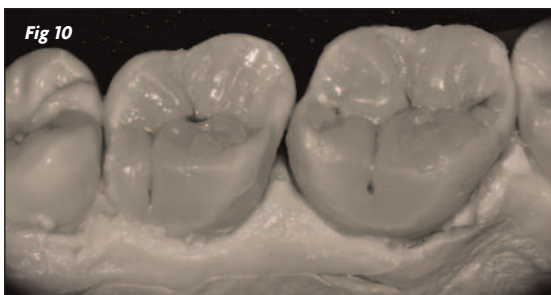


Fig 10



Fig 11

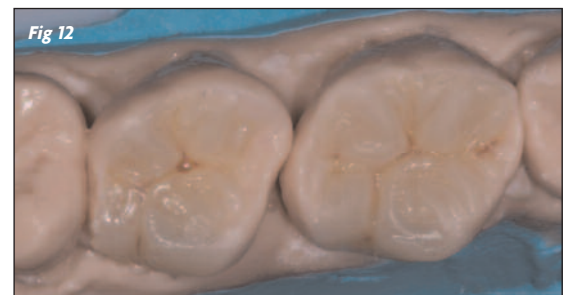


Fig 12



Fig 13

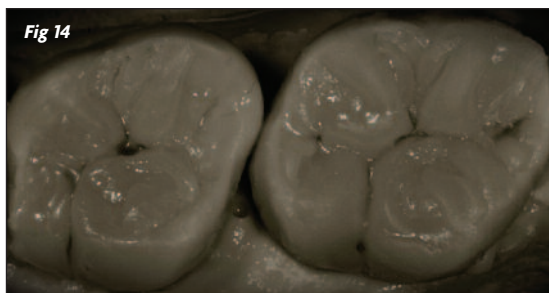


Fig 14



Fig 15

Figures 10-15: Enamel layer applied (JE, Junior Enamel, G-Aenial, GC) showing detailed fissure form and secondary anatomy

Large cavities resulting from caries, fracture or pre-existing restorations present most restorative dentists with challenges on a day-to-day basis. Indirect restorations are often costly and require two or more visits to complete. Conversely, attempting to restore large class 1 and 2 cavities directly is time consuming and technically difficult to achieve anatomically correct and functional anatomy.

The author would like to present 'The Third Way': a

semi-direct approach whereby the cavity is prepared for indirect onlays, yet a chairside model is fabricated utilising 'Mach2' (Parkell), a PVS model material. The onlays are then fabricated by the operator while the patient is in the chair and seated and cemented that day. The advantages are reduced cost and chair time for the patient and increased precision and reduced stress for the operator.

In the case presented here, a 36-year-old female patient

presented with symptoms of reversible pulpitis localised to the upper right first and second molar teeth. Clinical and radiographic examination revealed failing class 1 composite resin restorations. After discussion with the patient, a decision was made to restore these teeth in one visit with composite resin using a semi-direct approach.

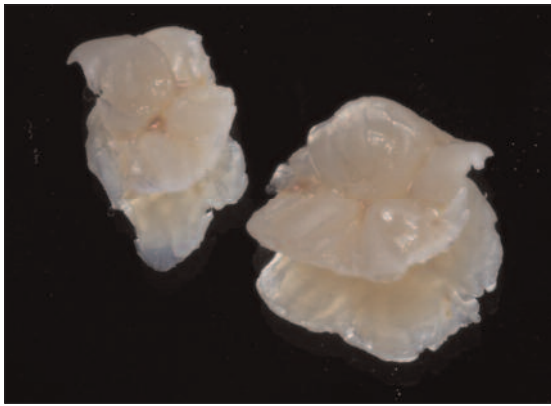


Figure 16: Onlays removed from model, air abraded with 27 micron alumina and cleaned in an alcohol ultrasonic bath



Figure 17: Preparations air abraded ready for fit of onlays



Figure 18: Dry fit and try in of onlays

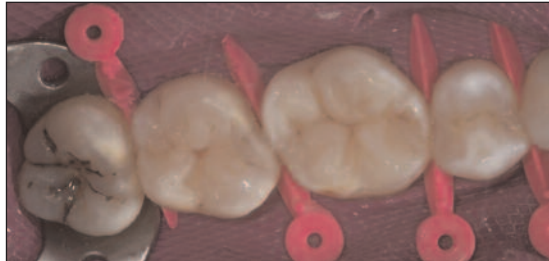


Figure 19: Onlays bonded with Optibond FL (Kerr) and heated Gradia Composite resin (GC) prior to occlusal adjustment and final finishing



Fig 20

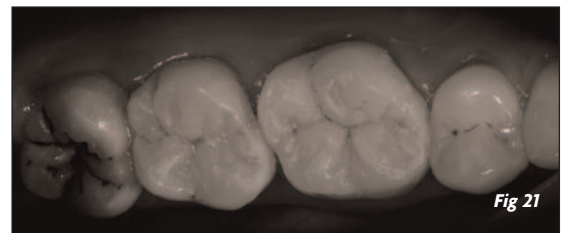


Fig 21



Fig 22

Figures 20-22: Final restorations after occlusal adjustment



Jason Smithson qualified at the Royal London Hospital in 1995. After spending three years in oral surgery residency in London, he relocated to Cornwall and is in general practice with a special interest in aesthetic and restorative dentistry. His specific interest is composite resin artistry and he has presented to dentists locally, nationally and internationally on this topic. He recently achieved Diplomat Status in Restorative Dentistry from the Royal College of Surgeons. He is a full member of the British Academy of Cosmetic Dentistry and The Society for Advancement of Anaesthesia in Dentistry. In 2009, he was awarded the Pankey Scholarship.

Attend *Create Direct Resin Masterpieces*, Dr Smithson's eagerly awaited one-day seminar with an optional hands-on session, on 28-29 January 2011. For full details or to book, call 0800 371652 or visit www.independentseminars.com.

