

## Peer-To-Peer

By Thomas S. Peterson, MDT, CDT

CAM StructSURE™ Precision Milled Bars reduce workload in the laboratory, eliminate the risk of investing and casting errors and result in excellent-fitting restorations. Laboratories can expect predictable results by outsourcing these frameworks to **3i**. This will allow them to devote the time that they have saved to take on additional work and better utilize their labor dollars.

Attention to a few key points can enhance the likelihood of having a satisfying experience with **3i**'s CAM StructSURE Precision Milled Bar fabrication process.

### Pretreatment Planning

For predictable results with hybrid prostheses, implants should be placed so that the access holes are 1 to 3mm lingual to the incisal edge of anterior teeth and within the occlusal table of posterior teeth. For removable overdentures, implant placement should fall within the borders of the overdenture. It is recommended that the aesthetic and functional set-up and try-in of the denture be completed prior to implant placement to ascertain the above information.

A surgical guide can be fabricated by processing a clear acrylic resin duplicate of an approved denture set-up or a well-designed complete denture with proper occlusal plane, arch form and vertical dimension of occlusion. To eliminate the need for transmucosal abutments, the gingival depth to the implant platform should not exceed 4mm.

### Fabrication

Four things are necessary to begin fabrication of a CAM StructSURE Precision Milled Bar:

- 1) An accurate cast with removable soft tissue
- 2) A verification index
- 3) An approved denture set-up
- 4) A completed CAM StructSURE Work Order Form

### Modelwork

To fabricate the soft-tissue cast, a separating medium is first applied to the impression. Light-body polyvinylsiloxane impression material is then injected around the impression copings to 2mm beyond the interface to engage the machined undercut on the analogs.

Quality die stone with a low expansion percentage should be mixed with distilled water in measured ratios. The accuracy of the cast can be checked with a verification index.

### Verification Index

The verification index is fabricated using Non-Hexed Temporary Cylinders when angulation correction is not required. The Temporary Cylinders are secured to the cast with lab screws. Light-cured acrylic is wrapped around the Temporary Cylinders to form a connected bar. After curing, the assembly is cut at each joint and reconnected with low-shrinkage auto-polymerizing pattern resin. The finished index is checked for accuracy intraorally.

Should the verification index not fit, it must be sectioned and reassembled intraorally. An index model is then fabricated by connecting analogs to the Temporary Cylinders and seating the index into a patty of low-expansion mounting stone. The original implant cast should then be corrected by removing and replacing analogs according to the index. The corrected cast must again be verified using the index.

### Denture Set-Up

A jaw relationship record is taken at the same appointment as the model verification. After mounting, a set-up is made and tried in the patient. For hybrid cases, the length of distal cantilevers should be considered based on the A/P spread. When the set-up is acceptable, the soft-tissue cast, set-up and verification index are sent to **3i** along with the completed and signed **3i** CAM StructSURE Work Order Form.

The CAM StructSURE Precision Milled Bar will be returned within a few days—fitting the master cast and the patient perfectly.



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Mr. Peterson became a Master of Dental Technology in 1995. He has lectured extensively on ceramics and abutments, overdenture applications, methods of refining screw-seats and laboratory communication. He currently holds a position on the Editorial Review Board for Quintessence of Dental Technology and is president of NorthShore Dental Laboratories, Inc. in Lynn, MA.