

# CEMENT RETAINED RESTORATION

**TRAINING MANUAL**

**02**



*Superior Implant Technology*

# A.B. DENTAL

**A.B. Dental is proud to present this cemented restorations internal hex implant reconstruction procedure.**

This manual explains, step by step, the procedure while using A.B. Dental components.

A.B. Dental scientists and R&D department are committed to the continued innovative approach in both products and advanced technologies.

Our commitment extends beyond providing safe and high precision dental products & services to passing on procedural information through training and instruction.



# CEMENT RETAINED RESTORATION

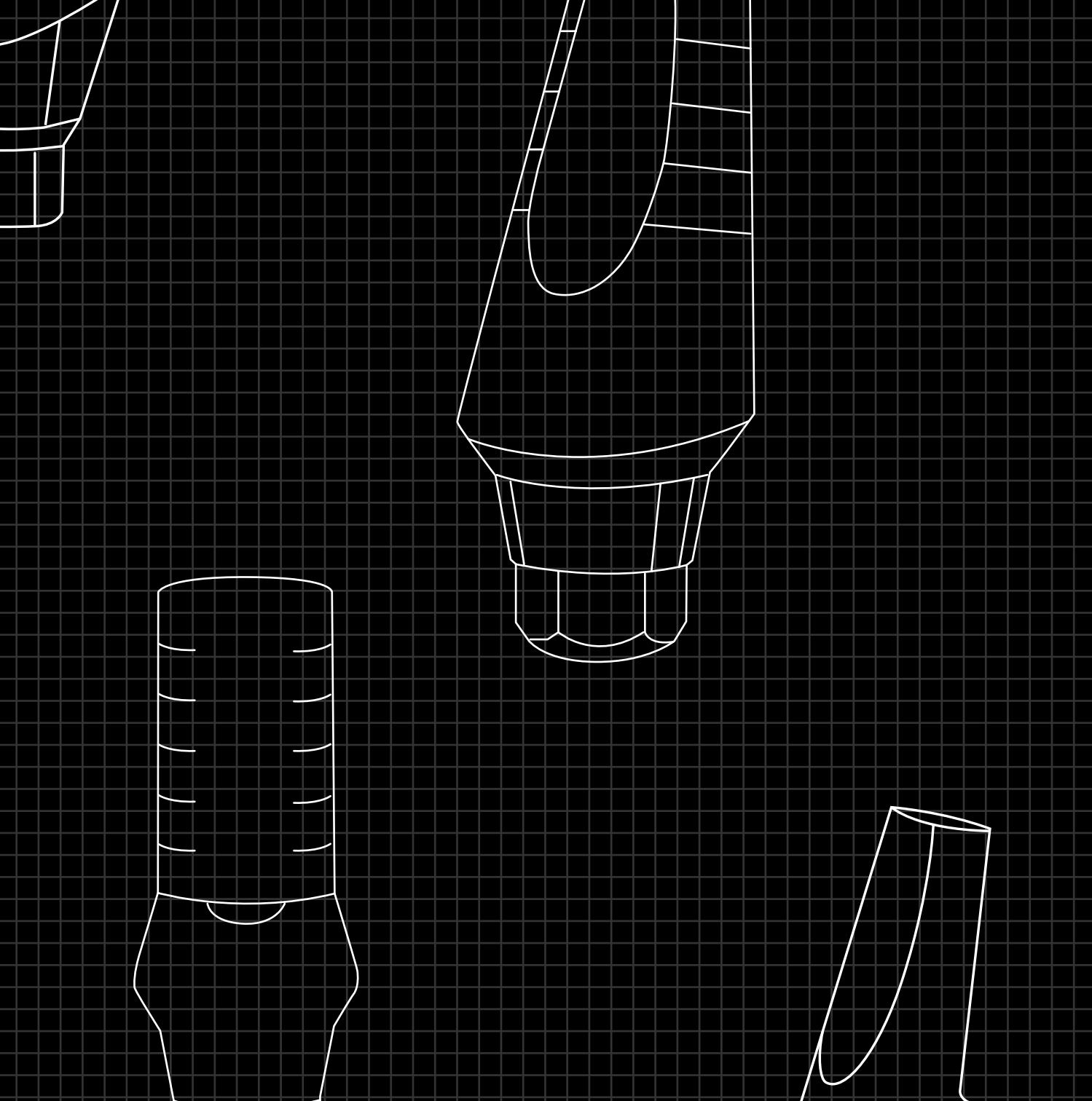
Cementation of an implant-retained restoration is a staged process. The restoration is cemented to the abutment using temporary or permanent dental cement. The cemented restoration method has advantages and disadvantages:

## ADVANTAGES:

- A prefabricated abutment (straight or angled) or individualized CAD-CAM abutment can be used
- A perfect esthetic occlusal surface by eliminating the access hole for the abutment screw
- The laboratory process is simplified and costs reduced.
- A passive fit between the bridge and the abutments is more easily achieved.

## DISADVANTAGES:

- The method is more restricted in its retaining capabilities in the limited interocclusal cases
- Excess cement must be totally removed subgingivally
- Retrieval of the cemented restoration is difficult in some cases.
- The use of pre-fabricated abutments is not suitable for all clinical cases, particularly those requiring custom-made abutments for an added retention and resistance and for aesthetic reasons



# STEP 01

## IMPRESSION TAKING

**A.**



Remove healing cap from the implant(s) and by using a probe measure the gingival height surrounding every implant. Choose the proper abutment gingival height according to these measures.

Take an impression of the selected implants using the open or closed tray technique. Take an impression of the opposite jaw and a bite registration and send to the laboratory (see instructions in "Impression procedures, training manual #1").

**B.**



In the laboratory the dental technician pours the impression and creates a stone model. Next, the proper prefabricated abutments are chosen according the specified gingival height of every implant or, (preferred), an individual abutments are created by milling the "individual titanium block for milling" (PI). The fabrication of the framework over the prepared abutments is carried out according to standard laboratory techniques.

## OPTIONAL ABUTMENTS



**P3S-PEEK**

Temporary anatomic anti-rotation abutment



**P4S-PEEK**

Temporary anatomic angular abutment



**P15**

Temporary abutment



**P3**

Anti-rotation abutment



**P3S**

Anatomic anti-rotation abutment



**P4**

Angular abutment



**P4S**

Anatomic angular abutment



**P4L**

Long angular abutment



**P3SZ**

Anatomic angular abutment



**P4SZ**

Zirconium anatomic angular abutment



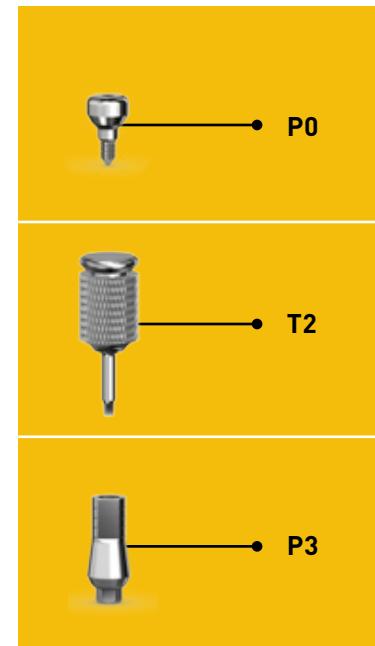
**PI**

Individual titanium block for milling

# STEP 02

## EXPOSE & TEMPORARY RESTORATION

### COMPONENTS:

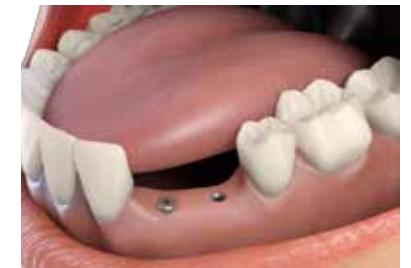


### A.



Remove the metallic framework and abutment from the lab's model.

### B.



### C.



Place abutment over the implant and tighten the screw.

### USEFUL TIP:



The best adaptation of the abutment to the surrounding tissue and the prosthesis in the patient mouth achieved by using an individual abutment (CAD-CAM individual abutment). This individual abutment affords the best adaptation to the surrounding tissue as well as achieving the optimal emergence profile, retention and stability for the restoration. If however a prefabricated abutment is used attention must be paid to the location of the finish line of the abutment and the restoration. In order to afford proper removal of access cement the finish line should be located 0.5mm to 1mm subgingival in the esthetic zone and at the level of the gingiva in non-esthetic areas.

# STEP 03

## METAL-COPING FRAMEWORK

### SEND TO THE LAB:

- framework
- Correct Shade for porcelain
- Working model
- Bite registration over metal coping



Try in the metal-coping framework. Verify fit, margins adaptation and intra-occlusal space.

Adjust as necessary. Take an X-Ray to verify that abutment and metal coping are matched.

### USEFUL TIP:



If a multiple unit framework does not fit perfectly to all the supporting abutments the dentist will have to section the framework and try each part individually in the patient's mouth. The parts are then cold-soldered intraorally by the dentist's procedure of choice (using pattern resin, composite or plaster of paris). After the framework has been re-soldered in the laboratory it is being checked again in the patient's mouth for an accurate fit.



# STEP 04

## VENEERED RESTORATION

### COMPONENTS:



P0



P3



**A.**

Replace the healing cap or temporary restoration in the patient mouth.



**B.**

After receiving the veneered restoration back from the lab: Remove the temporary restoration or the healing cap from the implant. Try the finished restoration in the patient's mouth.

# STEP 05

## TIGHTENING THE ABUTMENT

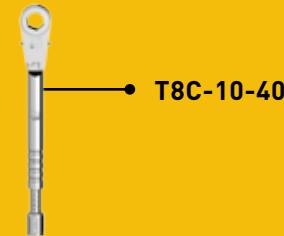
### COMPONENTS:



P3



T1



T8C-10-40



Take x-ray radiography to verify that the abutment sits completely over the implant. Use the torque wrench, applying 30Ncm of torque to finish tightening the abutment screw.

Check the proximal contacts, margin integrity and occlusion.

# STEP 06

## ABCEN

**A.**



Make sure the access hole in the top of the abutment is filled out to avoid cement to flow into it.

**B.**



Cement the restoration to the abutment

**C.**



It is recommended to temporarily cement the restoration for a short period of time in order to be able to retrieve it easily if needed.

### COMPONENTS:



### USEFUL TIP:



Avoid modifying the abutment at this stage. Any modifications could result in a poor fit between the restoration and the abutmen

# INDIVIDUAL ABUTMENT

## INTRODUCTION

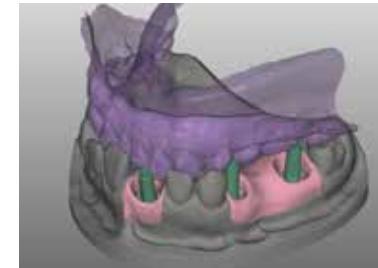
The individual (custom) abutment is a unique patient-specific abutment, designed for cement retained restoration(s).

The custom abutment engineered for each specific implant and restoration using the CAD/CAM technology affording to create an optimal biological as well as aesthetic results of the restoration.

**RESTORATIONS CREATED FROM THE DIGITAL PROCESS ARE DELIVERED FASTER WITH A MORE PRECISE FIT AND FEWER ADJUSTMENTS. THERE IS CLEARLY A TIME SAVINGS.**

## PROCEDURE STEPS

**A.**



A conventional Implant impression is made in the patient's mouth or (alternatively) the implant location and position is scanned using an intraoral scanner. The data is transferred to the computer to be used by the abutment design software.

**B.**



Using the design software the restoration is designed at first, according to the specific anatomical occlusal and aesthetic Requirements. The abutment is subsequently designed as a cut-back of the pre-designed restoration and in accordance to the specific mechanical, biological and aesthetic demands.

**C.**



After the design confirmation by the dental practitioner, the abutment is manufactured using engraving process of a titanium block using the CAD/CAM technology (The A.B Dental PI-Individual titanium block for milling).

**D.**

Intraorally the dental practitioner check and screw the abutment to its respective place over the implant and the designed restoration is cemented over the abutment.

