

1.

Step-by-Step

Cemented Crown

Internal Hex. Implant System



mis
Keep It Simple



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mis

is proud to present this single unit cemented crown internal hex. Implant reconstruction procedure. This manual explains step by step the procedure while using the MIS components. The scientists and engineers of MIS are committed to researching and developing new products and technologies. In collaboration with prestigious scientific laboratories and university dental schools, laboratory and field studies are conducted in the areas of tissue culture and tissue engineering. MIS Implant Technologies Ltd. is vigilant in maintaining the high quality of its products as well as developing new products in the fields of dental implants, abutments and surgical kit components. These improvements are passed on to MIS customers.



Questions, comments, or requests will be responded promptly by contacting MIS specialists directly on our e-mailing: service@mis-implants.com. MIS' Internet website can be accessed www.mis-implants.com. This on site highlights current products and reflects all new discoveries and developments.

A Cemented Crown on a Single Implant

The procedure of constructing a single cemented crown on an implant is a staged process with two impression treatment modalities - an open and a closed tray. In this brochure the open tray is illustrated. The impression and choice of materials should be considered as recommendations only. The cemented crown has advantages and disadvantages.

Advantages

A prefabricated abutment (straight or angled) can be used ■ better esthetic occlusal surface is achieved ■ better esthetic intact occlusal surface.

Disadvantages

Not suitable to a limited interocclusal dimension ■ cement excess must be totally removed ■ difficult to remove after cementing.








General Information

1. Initial planning is of utmost importance. The dentist performing the prosthetic stage of the treatment should be an active participant together with the surgeon in the decisions affecting the choice of the implant, the type of the prosthesis (cemented or screw retained) and the three dimensional positioning of the implant. It is prosthetic driven procedure.
2. The location of the implant fixture is crucial. In cases where it is necessary to use an angled abutment, a flat surface of the hex. must be parallel to the mesio-distal plane in posterior teeth and to a bucco-lingual line in anterior teeth.
3. Accuracy of fit between the abutment and the implant fixture - using a prefabricated abutment assures better fit accuracy.

Restorative components table

Indications for using MIS restorative components

* For recommendation purposes

Location ▶	Anterior Maxilla	Anterior Mandible	Canin, Premolars & Molars	Premolars and Molars			
Crown Implant inclination ratio	Crown/implant angulation between 15-25 degree	Crown axis Parallel to implant axis	Crown/implant angulation between 15-25 degree	Crown/implant angulation between 15-25 degree	Crown/implant angulation up to 7 degree	Crown/implant angulation up to 7 degree	Crown axis Parallel to implant axis
Gingival Profile	Buccal-low level Palatal-high level	Horizontal gingival level	Buccal-low level Lingual-high level	Buccal-low level Lingual-high level	Grinding the abutment shoulder to meet the gingival contour	Buccal-low level Palatal-high level	Horizontal gingival level
Gingival Height	Up to 4mm buccal Up to 6mm lingual/palatal	Very low gingival height	Up to 2 mm buccal Up to 4 mm lingual	Up to 4mm buccal Up to 6mm lingual/palatal	Grinding the abutment to meet the gingival height	Up to 4mm buccal Up to 6mm lingual/palatal	According to gingival height (up to 5mm), available in heights of 1,2,3,4mm
Catalog Number	MD-A1510 MD-A2510	MD-CTP10	MD-AN151 MD-AN251	MD-P1530 MD-P2530	MD-MAC10 MD-WMAC1	MD-A0010 MD-P0030	MD-TAD10 MD-TAD20 MD-TAD30 MD-TAD40
Abutment description ▶	Esthetic angulated abutment 	Direct conical titanium post 	Angulated abutment 	Esthetic angulated abutment 	Cementing abutment 	Esthetic abutment 	Anatomic transgingival abutment 

step 1.

Components:



Implant
MF7-13375

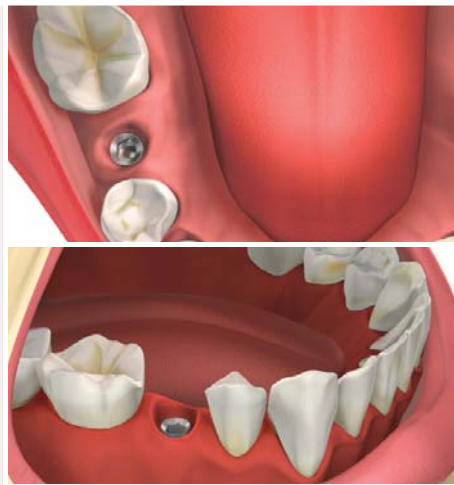


Healing Cap
MH-03375



Tools
MT-HHR13

A. Implant exposure



Implant exposure

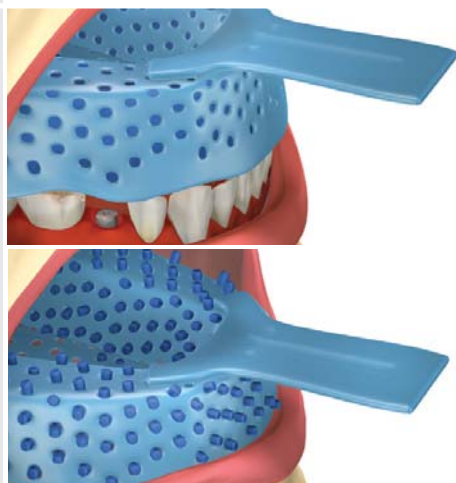
B. Connecting the healing cap



Connecting the healing cap

After osseointegration and exposure, a healing cap of height and diameter consistent with tissue thickness is placed on the implant according to tissue thickness. The healing cap can be removed approximately three weeks after exposure, using an MT-HHR13 hex driver. All healing caps are made of titanium. The healing caps are available in 3 to 6 mm heights (standard and anatomic cap), 4 mm diameter (standard) and 5.5mm (anatomic cap).

C.
**Custom open tray
preparations**



Custom open tray preparations

For making a primary model , it is necessary to make a duplicate model of the mandible and maxilla.

step 2.

A. Integrated implant with mature gingiva



Stone model

After implant integration, the healing cap is removed and the process of impressions can begin.

B. Preparation of the impression open tray



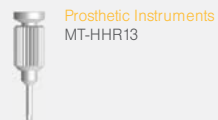
Custom open tray

A prefabricated metal or rigid plastic impression tray or individual impression tray should be prepared by making a hole in the area approximate to the implant so that the guide pin protrudes through the impression tray.

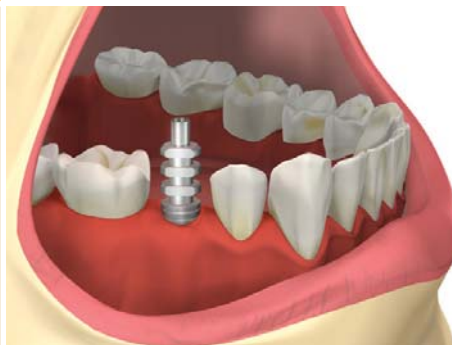
step 2

step 3.

Components:



A. Placing impression coping (transfer coping)

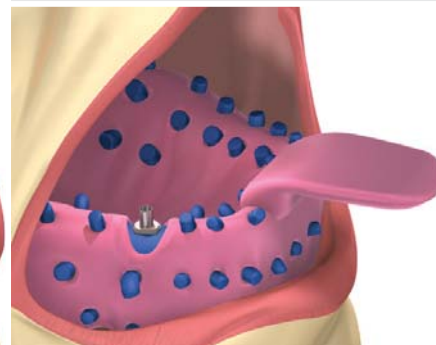


Placing impression coping

For a cemented single crown an open tray can be used. The impression coping should be placed on the implant so that the hex. is fully engaged (seated). The MD-I0375 impression coping is attached by screwing a MD-G0213 guide pin with help of the MT-HHR13 hex driver. It is very important to use a probe to check that there is no gap between the impression coping and the implant.

A periapical or bitewing x-ray of the area of the impression can be taken to confirm that the impression coping is seated. In the case of limited jaw opening and proximal interference, the impression coping and guide pin can be grounded.

B. Impression open tray with impression material in the mouth



Impression open tray with impression material in the mouth

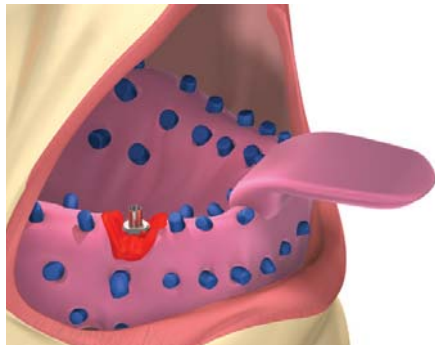
In order to achieve an optimal impression, the coping must be completely covered by impression material and the tray fully seated.

It is very important that the guide pin protrudes through the impression tray in order to open it with the MT-HHR13 hex driver.

Remark:

After the impression tray is prepared, it should be checked to see that it fits and fully covers the area of the impression. The hole in the tray needs to be aligned with the guide pin.

C.
**Impression open tray
with Duralay**



Impression tray with Duralay

It is recommended to attach the impression coping firmly to the tray with Duralay in order to reduce its movement within the impression tray.

D.
**Inverted impression open
tray with emphasized hex**



The hexagon of the impression coping

After releasing the guide pin, remove the impression tray from the patient's mouth. The hexagon of the impression coping can be seen, it is vrey important to check that the position of the impression coping has been accurately recorded, furthermore, the hex. needs to be clear of any impression material.

step 3

step 4.

Components:



Impression Coping
MD-I0375
MD-G0213



Analog
MD-RSM10



Prosthetic Instruments
MT-HHR13

A. Inverted impression: gingival being syringed around analog



The analog attached to the impression coping



Injecting impression material between analog and impression coping

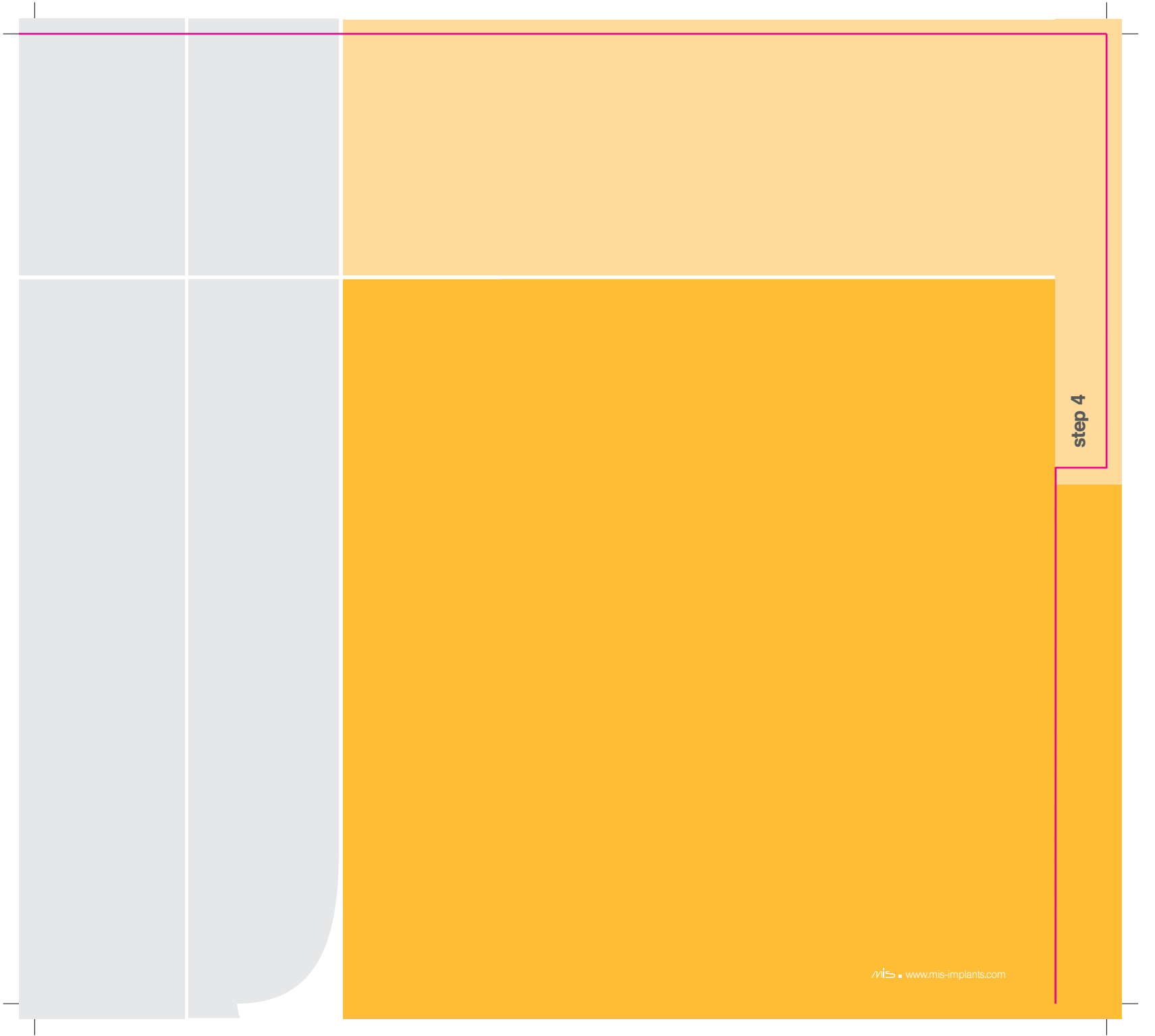
The analog MD-RSM10 can now be attached to the impression coping MD-I0375 by screwing in the guide pin MD-G0213. It should be confirmed that the coping is attached to the analog with proper alignment with no misalignment and free of gaps. At this stage, injecting impression material around the neck of the analog and impression coping can simulate the gingiva.

B. Stone model prepared with simulated gingiva & analog



Stone model with simulated gingiva

The final impression is poured in stone. After the stone has hardened, the impression coping MD-I0357 can be released by removing the guide pin MD-G0213.



step 4

step 5.

Components:



Analog
MD-RSM10

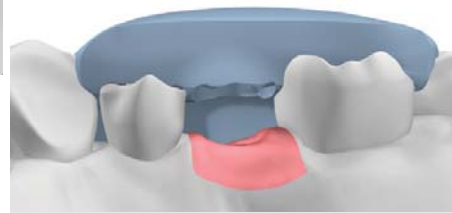
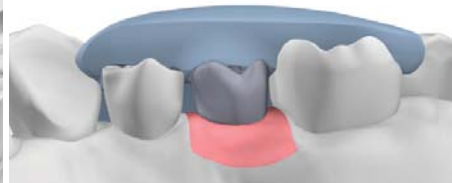
A.
**Diagnostic wax-up to
prepare silicone index**



A wax-up on the stone model duplicate

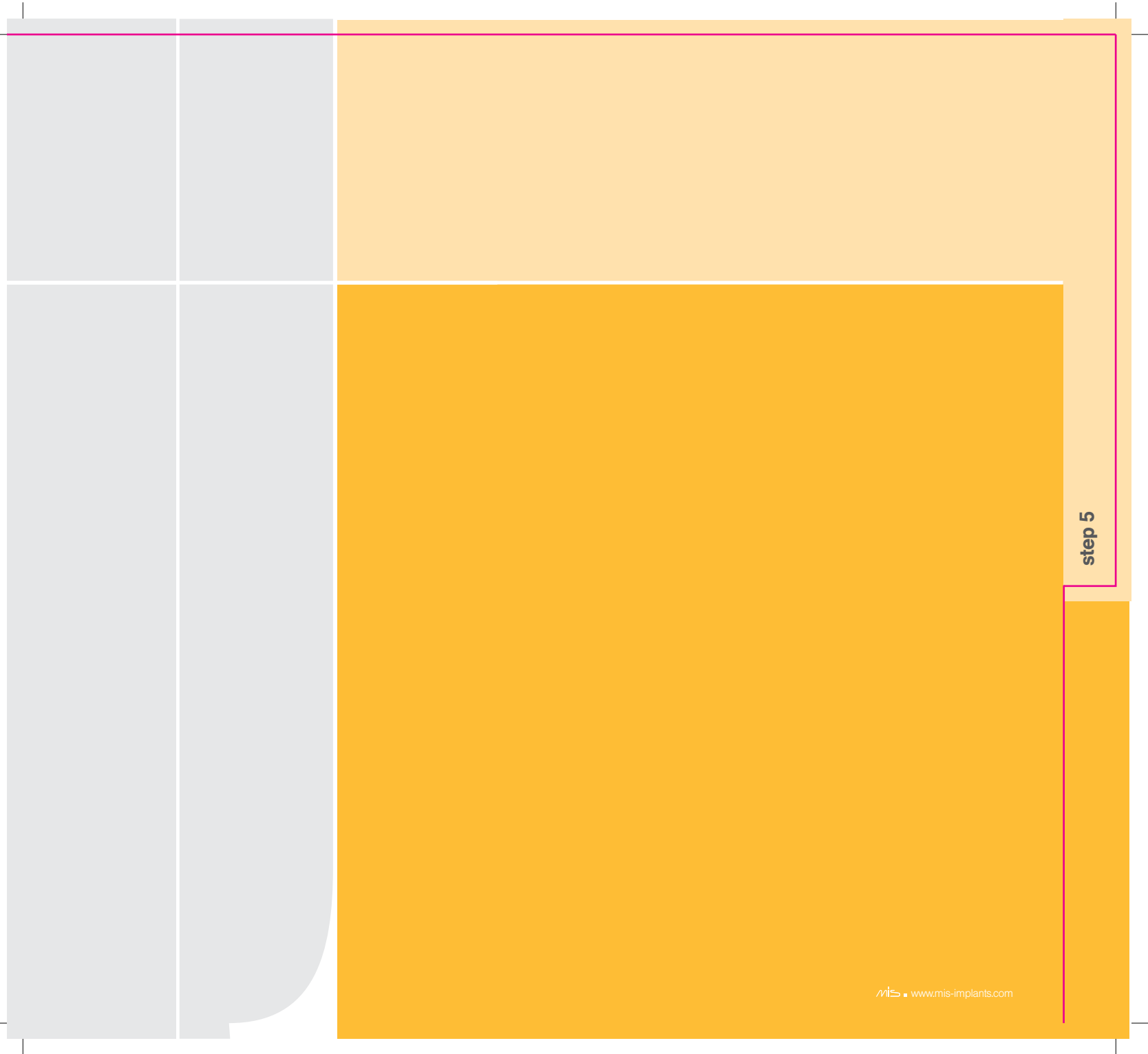
On the stone model, a wax duplicate of the missing tooth is prepared so that it will sit freely on the analog and fit the space between the adjacent teeth.

B.
**Silicone index and wax
model of tooth**



Silicon index

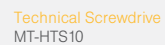
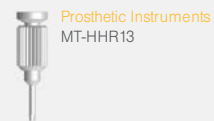
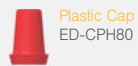
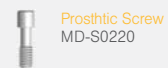
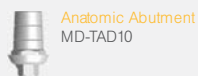
When the wax model of the tooth is appropriately positioned, a silicon key (index) that will serve as a guide replica (MD-RSM10) of the missing tooth can be prepared.



step 5

step 6.

Components:



A. Placing the anatomic abutment on the stone model



Placing the anatomic abutment on the stone model

Following the construction of the silicone index, an anatomic abutment with appropriate gingival height can be selected.

These abutments are available in transgingival heights of 1,2,3 and 4mm.

B. Measuring the abutment and the plastic cap with the silicone index



The plastic cap on the anatomic abutment



Measuring the abutment with silicone index

The plastic cap ED-CPH80 (hexed for a single tooth) can now be positioned on the anatomic abutment. The silicone index can be used to measure and check if there is a need to shorten the height of the abutment.

Remark:
The buccal side of the abutment should be marked for signing its oriented location when seated in the patient's mouth.

C.
Grinding the abutment with micromotor with MIS abutment holder



Grinding the abutment with MIS abutment holder

Grinding the abutment is done with MIS abutment holder. Using this tool, shortening or grinding the abutment to the desired length can be accomplished easily.

Thus preventing damage of the stone model and patient discomfort if is done intraorally.

D.
Abutment with plastic cap



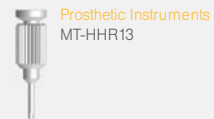
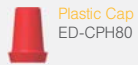
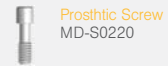
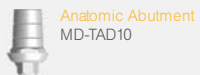
The grinding abutment with the plastic cap

The plastic cap can be similarly shortened. The purpose of the plastic cap is to achieve maximum accuracy between the wax carving and the titanium abutment.

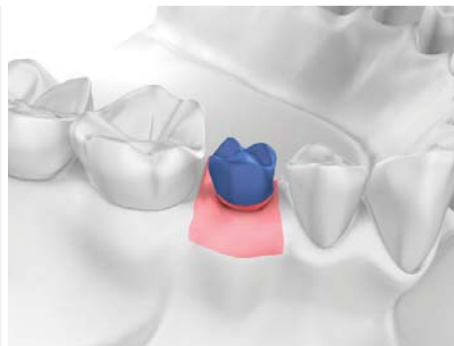
step 6

step 7.

Components:



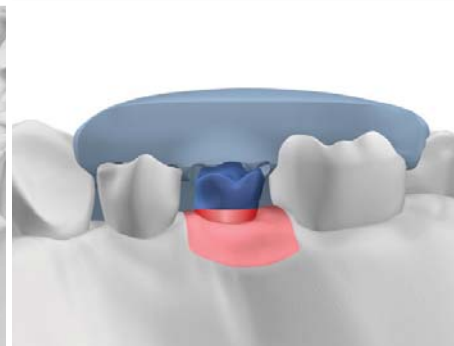
A. Wax carving



Wax carving

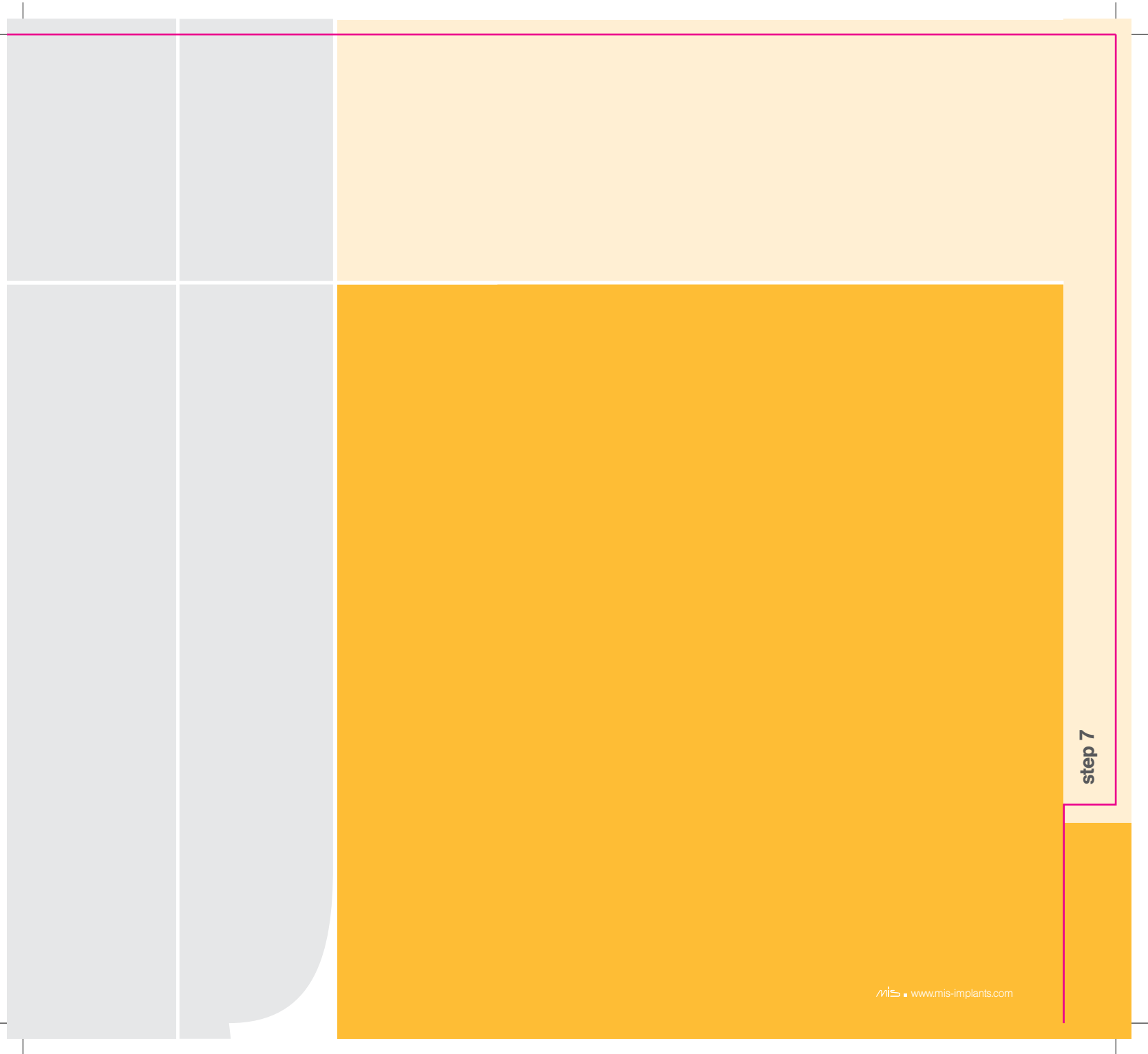
When the abutment and the plastic cap have been prepared, it is possible to carve the wax to the desired shape and make the metal casting.

B. Silicon index with wax-up



Silicon index with wax-up

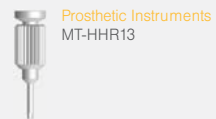
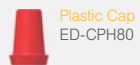
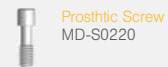
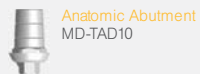
The silicone index will be used to check that the dimensions of the wax-carving appropriate the adjacent and opposing teeth.



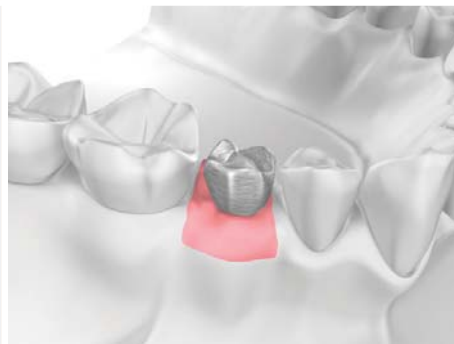
step 7

step 8.

Components:



A. Metal casting



Metal casting

Check the casting on the stone model to ensure that the internal hex of the casting (what was previously the internal hex of the plastic cap ED-CPH80) and the external hex. of the anatomic abutment fit correctly.

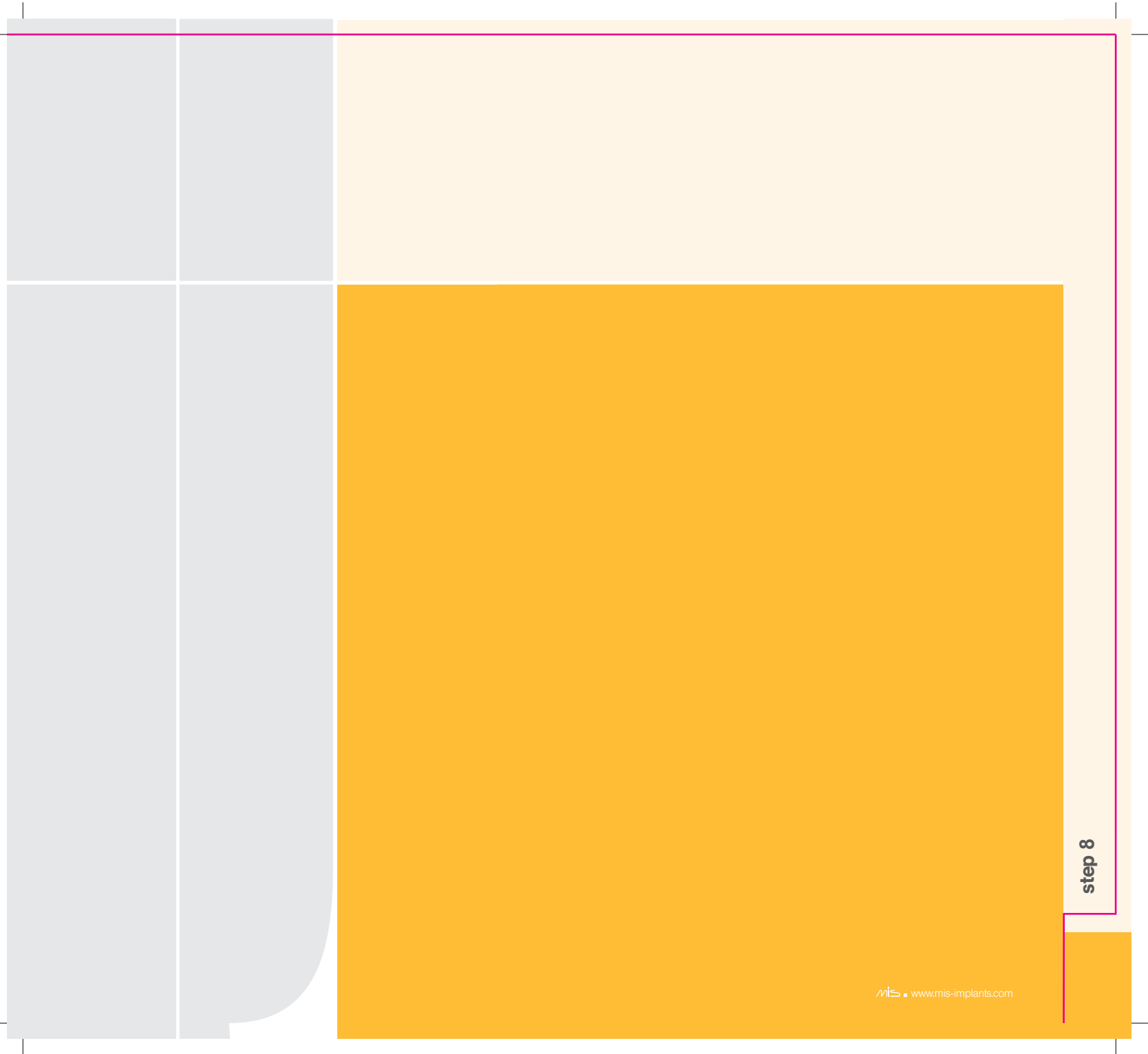
B. Check the casting in the mouth



Check the casting in the mouth

After the completion of the casting, a check must be made in the patient's mouth using the ground abutment.

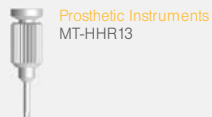
The casting is checked interiorly.



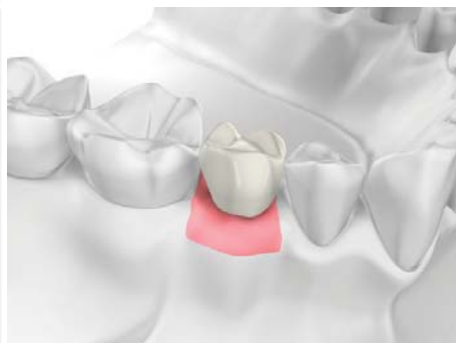
step 8

step 9.

Components:



A. Porcelain on plaster model



Porcelain on plaster model

Following the selection of the appropriate color, the porcelain is fired onto the metal casting and the porcelain crown is tried on the plaster model.

B. Porcelain in mouth


























Porcelain in mouth
























Prior to placing the crown, the screw of the titanium abutment should be tightened to 30-35 Ncm with a titanium screw or 20-25 Ncm with the gold screw. This can be accomplished utilizing the torque wrench which will minimize the chance of the screw loosening.

After the screw has been tightened, the crown may be cemented by using a cement made especially for titanium abutments.

Restorative procedure
Standard Platform

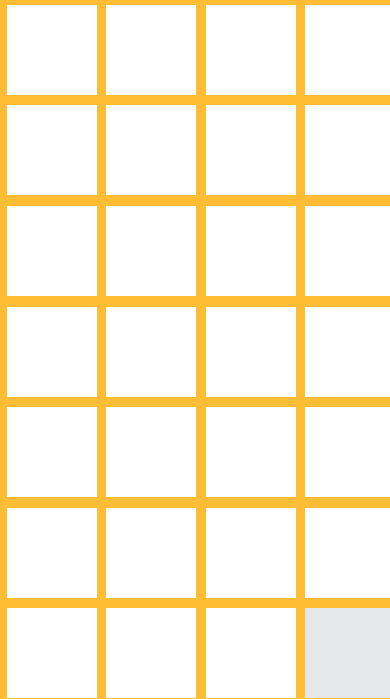
	Healing caps		Impression coping	Analog	Prosthetic options				
	Standard	Anatomic			Anatomic transgingival abutment	Angulated abutment	Esthetic angulated abutment	Cementing post	Esthetic abutment
	∅ 4mm H-12,3,4	∅ 5.5mm H-3,4,5,6							
 BioCom ∅ 3.30mm ∅ 3.75mm ∅ 4.20mm	 MH-03375 MH-04375 MH-05375 MH-06375	 MH-53375 MH-54375 MH-55375 MH-56375	 MD-I0375	 MD-RSM10	 MD-TAD10 MD-TAD20 MD-TAD30 MD-TAD40	 MD-AN151 MD-AN251	 MD-A1510 MD-P1530 MD-A2510 MD-P2530	 MD-CTP10 MD-MAC10 MD-WMAC1	 MD-A0010 MD-P0030
 Lance ∅ 3.75mm ∅ 4.20mm					 ED-CPH80 ED-CPO80				
 Seven ∅ 3.75mm ∅ 4.20mm					 Screws MD-S0200 MD-S0220 MD-S0222 MD-S0224	 Screws MD-S0200 MD-S0220	 Screws MD-S0200 MD-S0220	 Screws MD-S0200 MD-S0220 MD-S0222 MD-S0224	 Screws MD-S0200 MD-S0220 MD-S0222 MD-S0224
					 MD-G0220	 MD-G0220	 MD-G0220	 MD-G0220	 MD-G0220

Restorative procedure
Wide Platform

	Prosthetic options								
	Healing caps		Impression coping	Analog	Anatomic transgingival abutment	Angulated abutment	Esthetic angulated abutment	Cemeting post	Esthetic abutment
	Standard	Anatomic							
 BioCom Ø 4.70mm	 Ø 4.70mm H-3,4,5 MH-W3470 MH-W4470 MH-W5470	 Ø 6.30mm H-3,4,5 MH-W3630 MH-W4630 MH-W5630	 MW-I0470	 MW-RSM10	 MW-TAD10 MW-TAD20 MW-TAD30 MW-TAD40	 MW-AN151	 MW-P1510	 MW-CTP10 MW-MAC10	 MW-P0010
 Lance Ø 5mm					 EW-CPH80 EW-CPO80				
 Seven Ø 5mm					 Screws MD-S0200 MD-S0220 MD-S0222 MD-S0224	 Screws MD-S0200 MD-S0220	 Screws MD-S0200 MD-S0220	 Screws MD-S0200 MD-S0220 MD-S0222 MD-S0224	 Screws MD-S0200 MD-S0220 MD-S0222 MD-S0224
					 MD-G0220	 MD-G0220	 MD-G0220	 MD-G0220	 MD-G0220



Fin.



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