Smart Denture Conversions

Immediate Full-Arch Provisionalization

Technique Guide

SMART DENTURE CONVERSIONS
Work Smarter.

ZimVie

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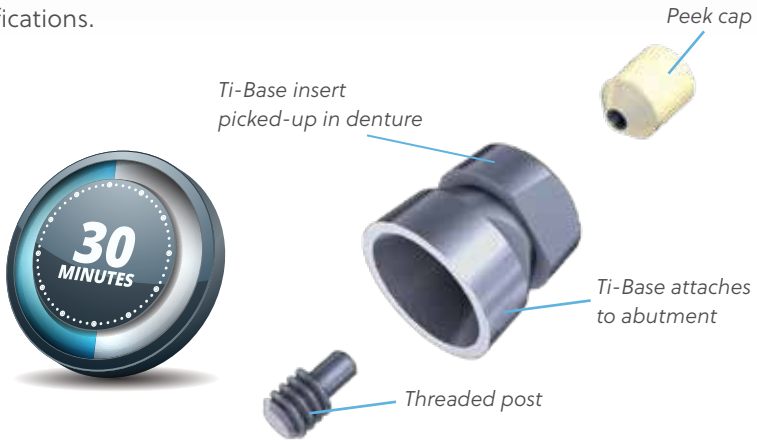
Smart Denture Conversions

Immediate full-arch provisionalization

Convert a stronger provisional in less time

Smart Denture Conversions eliminates the need for large holes in the denture by allowing a closed-tray pickup. This is possible by fastening the Ti-Base to a Multi-Unit Abutment with a unique prosthetic screw, the Separable Fastener.

The Separable Fastener divides into two pieces for the pickup and the denture can be easily removed from the mouth prior to major modifications.

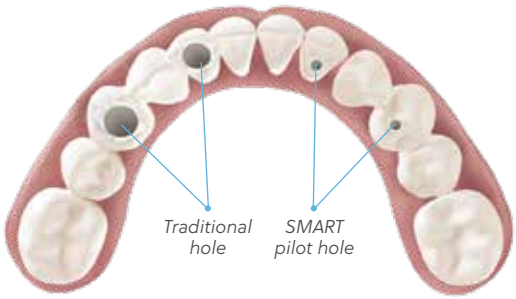


Faster

Process dentures in 30 minutes vs. the traditional two hours, significantly reducing the overall treatment time.

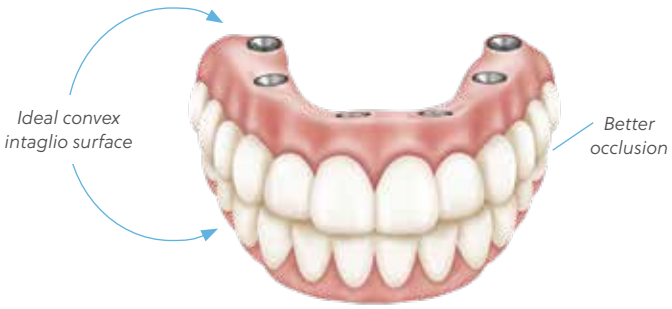
Stronger

Smaller pilot holes help reduce fractures by preserving the structural integrity of the prosthesis. Large holes remove more material which can weaken the prosthesis leading to a higher rate of fracture.



Better

Create better contours without the need to unnecessarily bulk the prosthesis. Improve occlusion by utilizing a fully occluded pickup technique, reducing the need for major occlusal adjustments.



Overview

General information

The technical manual for the Smart Denture Conversions Procedure provides a detailed overview of the immediate provisional procedure applicable to the following ZimVie Systems. Place implants according to the ZimVie surgical manual for your implant system of choice:

- TSX® Implant System Surgical Manual: ZVINST0015
- T3®, T3® PRO, Osseotite® Implant System Surgical Manual: ZVINST0012
- Trabecular Metal® and Tapered Screw-Vent® Implant Systems Surgical Manual: ZBINST0007
- Eztetic® 3.1 mmD Implant System Surgical Technique: ZBINST0058

Please refer to the Instructions for Use (IFU) accompanying individual components for indications, contraindications, warnings, precautions, and detailed technique information.

Equipment:

- Torque driver

Hand tools:

- Rubber Dam Punch

Supplies:

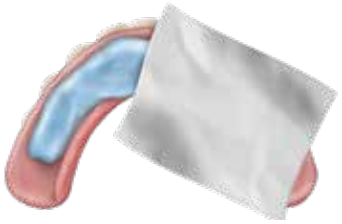
- Bite registration material
- 2" PTFE tape (Teflon tape)
- White dam template x 1
- Blue silicone dam
- Dam doughnuts
- Dispensing gun and tips
- Acrylic
- Liquid monomer
- Bur Block Kit includes:
  - Multifunction polisher
  - Carbide bur
  - Disc brush
  - Toothing cutter
  - Pointed cutter
  - Mushroom cutter
  - Polishing mushroom
  - Polishing disc

Precoat Ti-Bases and Separable Fasteners

Use the Low Torque Driver **[ZV-LTD]** to attach a Smart Denture Conversion Ti-Base **[ZV-STB10PK]** to the Coating Mandrel **[ZV-CM10PK]** with a Separable Fastener **[ZV-SF10PK]**.

Rotate the Coating Mandrel to apply a thin layer of acrylic to the Ti-Base and ensure the Separable Fastener head is covered to lock the two components together.

Identify the location of the Multi-Unit Abutments



Inject fast set bite registration material into the intaglio surface of the denture and cover bite registration with two pieces of 2" PTFE Tape (Teflon tape).

Seat the denture with bite registration and Teflon tape in patient's mouth and manipulate patient into proper maxillo-mandibular occlusion.

There is no need to wait for bite registration to set completely due to the Teflon tape.

Remove the denture from the patients' mouth with Teflon tape in place. The location of the Multi-Unit Abutments will be imprinted in Teflon tape/bite registration.

Mark the positions of each Multi-Unit Abutment

Align one white dam template with paper backing side facing the Multi-Unit Abutments.

The glossy side of the template should be facing up.

Press the white dam template firmly onto each Multi-Unit Abutment. Begin with the anterior abutment and work posteriorly until all the Multi-Unit Abutments leave a permanent indentation on the paper side of the white dam template.

Overlay the white dam template and silicone dam with the glossy side of both facing away from you. Use a rubber dam punch to perforate the template and silicone dam simultaneously at each location mark of the Multi-Unit Abutments.

Create wells in the denture for each Multi-Unit Abutment

Once bite registration sets, remove the Teflon tape and use a cutting acrylic bur to create 5.5 mm deep wells in the bite registration material and underlying denture base where the Multi-Unit Abutments left an imprint. Remove all remaining bite registration from denture.

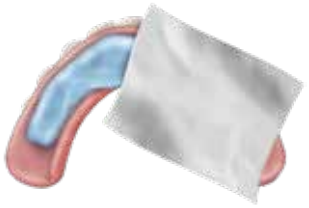
Place Precoated Ti-Bases and Separable Fasteners

Screw precoated Ti-Bases/Separable Fasteners onto the Multi-Unit Abutments using fingers until seated flush.

Note: If the Ti-Base comes loose, the Separable Fastener has come apart. To correct this, ensure the top of the threaded section of the Threaded Post is flush with the top of the Multi-Unit Abutment. This can be done by using the Retrieval Tool **[ZV-RT]** by hand or in a contra angle handpiece. With the Threaded Post at the proper height on the Multi-Unit Abutment, the Ti-Base and embedded PEEK Cap can be pressed back on and turned clockwise slightly to ensure a snug fit.

Verify passivity

To verify passivity, inject bite registration material into the intaglio surface of the denture and cover with two pieces of Teflon tape.



Seat the denture with bite registration and Teflon tape in patient's mouth and manipulate the patient into proper maxillo-mandibular position.

There is no need to wait for bite registration to set completely due to the Teflon tape.

The locations of the precoated Ti-Bases on the Multi-Unit Abutments will be imprinted in Teflon tape/bite registration.

Verify passivity of the denture over the precoated Ti-Bases and adjust any areas where the denture base is visible, which is an indication that the prosthesis is not seating passively.

If needed, repeat this step to ensure passivity,and remove additional material as needed.

Prepare for the Smart Denture Conversion pick-up

Seat the blue silicone dam (glossy side away from the gums) with custom perforations over the Ti-Bases to block out Multi-Unit Abutments and surgical site.

Place the Dam Doughnuts onto the precoated Ti-Bases to secure the silicone dam to desired height on Ti-Base/Multi-Unit Abutment interface.

Prime precoated surfaces of Ti-Bases by painting with liquid monomer.

Prime the intaglio surface of the denture by painting with liquid monomer.

Using a syringe, fill the intaglio surface of the denture with pick-up acrylic.

Inject pick-up acrylic over the precoated Ti-Bases.

Pick-Up Protocol for Smart Denture Conversions

Insert conversion denture with acrylic in the mouth and seat the denture. Manipulate patient into proper maxillo-mandibular position.

Caution: Due to the exothermic reaction of curing acrylic, it is important to prevent overheating of the tissue by irrigating with a saline solution.

Once pick-up acrylic has set, remove the denture from the Multi-Unit Abutments using the back end of cotton forceps at the distal-most portion of the denture. This will disengage the Separable Fastener head (PEEK Cap) from the Threaded Post. The Ti-Bases are now embedded into the denture with the PEEK Cap while the threaded posts remain in the abutments.

Using finger pressure, place the Press-On Caps **[ZV-POCxxx]** over each Multi-Unit Abutment until they engage the exposed end of the Threaded Post. Suture loosely around the Press-On Caps.

If the Press-On Caps will not engage the Threaded Posts, the posts have been driven too deep into the abutments. They can be backed out using the Retrieval Tool and contra angle, until the threads are even with the top of the abutment. Once the Threaded Post is at the proper height, the Caps should engage the Post properly.

Create the Screw Channel for Smart Denture Conversions

Remove the Dam Doughnuts from the denture.

Using a Pointed Cutter bur, cut off excessive cantilevers and flanges on the denture. Using a mushroom cutter, perform a gross reduction of the excess acrylic on the denture.

Finish the Smart Denture Conversion *(continued)*

Using finger pressure, press the Protective Plug **[ZV-PP10PK]** into each of the Ti-Bases. The tip of the Protective Plugs will snap into the PEEK Cap that is embedded in the Ti-Base and will help prevent acrylic flowing into the Ti-Base when filling the voids.

Open any voids around each Ti-Base using a fine tip round bur with caution to not to damage the Ti-Base.

Add acrylic to the intaglio surface of the denture as needed to fill voids and to idealize contours.

With a handpiece, use an acrylic polisher and Robinsons brush to polish the surfaces. Then finish the intaglio surface of the denture and cameo surfaces on a laboratory lathe with pumice and high shine.

Set handpiece to 10,000RPM and drill from the open end of the Ti-Base to the occlusal/cameo surface of the denture using the Pilot Drill **[ZV-PD1PK]**. Use a pumping action while drilling to help clear acrylic from the drill bit and prevent overheating.

Caution: *Generating excess heat can dislodge the Ti-Base from the pickup material.*

The pilot holes indicate the trajectory of the screw channels.

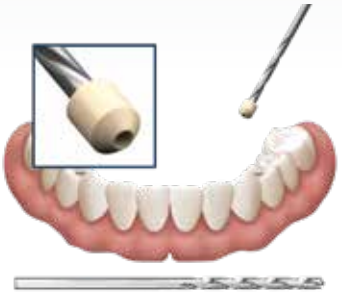
OPTIONAL:
Place provisional prosthesis into pressure pot at 15 PSI for 5 minutes to set.

OPTIONAL:
If desired, fabricate thermoplastic night guard with vacuform or biostar machine.

Finish the Smart Denture Conversion *(continued)*

The turned down (narrower) tip of the Access Drill **[ZV-AD]** is properly sized to follow the pilot hole, and the shoulder of the drill bit will bottom out on top of the Ti-Base. Use a pumping action while drilling to help clear acrylic from the drill bit and prevent overheating.

Caution: *Always counter the pressure against the drill bit by pushing against the bottom of the Ti-Base with the thumb on your opposite hand. Generating excess heat can dislodge the Ti-Base from the pickup material.*



Use the Pin Vise **[ZV-PV]** with the Cleanout Drill **[ZV-COD]** installed to remove the remaining PEEK Cap and any other debris from the screw channel using the 5x5 rule, (below). If the PEEK cap does not come out, it can be pushed out by taking the Pilot Drill **[ZV-PD1PK]** in your hand and poking through from the open end of the Ti-Base.

Caution: *Always counter the pressure against the drill bit by pushing against the bottom of the Ti-Base with the thumb on your opposite hand.*

5x5 Cleanout Drill Rule:

- 5 turns clockwise with light pressure on pin vise
- 5 turns clockwise while wobbling bit in screw channel
- 5 turns clockwise with firm pressure on pin vise
- 5 turns clockwise with light pressure on pin vise
- 5 turns clockwise while retracting cleanout drill from screw channel

Creating a model

Secure Lab Analogs **[ZV-LA10PK]** to the Ti-Bases in the provisional prosthesis with Prosthetic Screws supplied. Place prosthesis with attached Lab Analogs into quick set stone to produce a jig/repair model. Unscrew the prosthesis from the analogs after the stone has set completely.

If Prosthetic Screw doesn't fully seat in the Ti-Base or does not engage in the Lab Analog, you need to confirm the PEEK cap has been fully removed. Do this by returning to the 5x5 rule above until the PEEK Cap has been fully removed.

Deliver the prosthesis

When the prothesis is ready for delivery, unscrew the Press-On Caps **[ZV-POC10PK]** which now have the Threaded Posts lodged into them. Ensure all Threaded Posts are removed from the Multi-Unit Abutment before moving onto the next step.

If the Threaded Post doesn't come out, the Press-On Cap can be pressed onto the post again and unscrewed. If you are still unable to remove the Threaded Post, the Retrieval Tool can be used in a contra angle handpiece to remove it.

If the Prosthetic Screw doesn't fully seat in the Ti-Base or does not engage the Multi-Unit Abutment, return to the *Create the Screw Channel for Smart Denture Conversions Conversion* step on the previous page and ensure the PEEK Cap has been fully removed.

Deliver the prosthesis by tightening the prosthetic screws with the implant driver, following the recommended torque specifications.

Certain® Connection for Low Profile® Abutments = 10 Ncm

Low Profile Multi-Unit Abutment Hand Drivers	Part No.
Large Hex Driver 17 mm (L)	PHD02N
Large Hex Driver 24 mm (L)	PHD02M

TSX® Implant System for Universal Multi-Unit Abutments = 15 Ncm

Multi-Unit Abutment Driver for TSV, TSX, TM Implants	Part No.
Hex Driver Short 22 mm (L)	HXGR1.25
Hex Driver Short 30 mm (L)	HXLGR1.25

Add filling material of choice to cover prosthetic screw access holes and verify occlusion of finished conversion prosthesis.

Ordering Information

Smart Denture Conversions Kits

Premium Starter Kit

Recharge Kit w/Tall Spare Parts

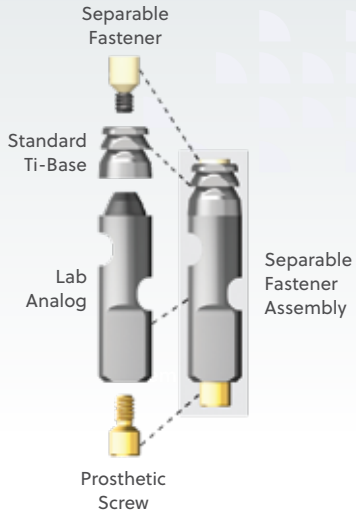
Recharge Kit w/Press-On Caps

Implant System	Description	Item No.
TSX®, TSV®, and Eztetic® Implants	Premium Starter Kit	ZVTS-PSK
	Recharge Kit w/Tall Spare Parts	ZVTS-RK
	Recharge Kit w/Press-On Caps	ZVTS-RKPOC

Implant System	Description	Item No.
T3® PRO, T3®, and Certain® Implants	Premium Starter Kit	ZVLP-PSK
	Recharge Kit w/Tall Spare Parts	ZVLP-RK
	Recharge Kit w/Press-On Caps	ZVLP-RKPOC

SMART DENTURE CONVERSIONS COMPONENTS

Product	Description	TSX®, TSV®, and Eztetic® Implants Item No.	T3® PRO, T3®, and Certain® Implants Item No.
	Separable Fastener Assembly, 10 Pack (Includes Drill Kit, ZV-DK)	ZVTS-SFA10PKDK	ZVLP-SFA10PKDK
	Standard Ti-Base, 10 Pack 4.6 mmH	ZVTS-STB10PK	ZVLP-STB10PK
	Tall Ti-Base, 10 Pack, 6.1 mmH	ZVTS-TTB10PK	ZVLP-TTB10PK
	Universal Multi-Unit Abutment Screw, 0.050 Hex	UMUA-S	–
	Gold-Tite® Retaining Screw, 0.048 Hex	–	LPCGSH



SMART DENTURE CONVERSIONS COMPONENTS

Product	Description	Item No.
	Separable Fastener, 10 Pack	ZV-SF10PK
	Tall Separable Fastener, 10 Pack	ZV-TSF10PK
	Lab Analogs, 10 Pack	ZV-LA10PK
	Press-On Cap, 6 Pack Press-On Cap, 10 Pack	ZV-POC6PK ZV-POC10PK
	Protective Plug, 6 Pack Protective Plug, 10 Pack	ZV-PP6PK ZV-PP10P
	Coating Mandrel, 10 Pack	ZV-CM10PK

SMART DENTURE CONVERSIONS TOOLS

Product	Description	Item No.
	Drill Kit	ZV-DK
	**Individually packed drills:** Pilot Drill, 1-Pack Access Drill, 1-Pack Cleanout Drill, 1-Pack	 ZV-PD1PK ZV-AD ZV-COD
	Pin Vise, 1-Pack	ZV-PV
	Low Torque Driver	ZV-LTD
	Retrieval Tool	ZV-RT
	Bur Block Kit	ZV-BBK

For more information, visit ZimVie.com

ZimVie
4555 Riverside Drive
Palm Beach Gardens, FL 33410
1-800-342-5454
Phone: +1-561-776-6700
Fax: +1-561-776-1272

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