



# Zimmer® Guided Surgery Technique Guide



Tapered Screw-Vent® Implant System



**zimmer** | dental



# TABLE OF CONTENTS

## **Zimmer Guided Surgery Overview:**

Initial procedural steps, from pre-operative planning to guide fabrication .....1-4

## **Implant Site Preparation:**

Step-by-step guided procedure using *Zimmer* Guided Surgery Instrumentation and the surgical guide .....4-6

## **Protocol Legend:**

Explanation of the surgical protocol provided by the guide manufacturer and instrument location in the kits .....7-8

## **Ordering Information:**

Listing of instrumentation included in the *Zimmer* Drill Module and *Zimmer* Tube Adapter Kit .....9-10



# TABLE OF CONTENTS

## **Zimmer Guided Surgery Overview:**

Initial procedural steps, from pre-operative planning to guide fabrication .....1-4

## **Implant Site Preparation:**

Step-by-step guided procedure using *Zimmer* Guided Surgery Instrumentation and the surgical guide .....4-6

## **Protocol Legend:**

Explanation of the surgical protocol provided by the guide manufacturer and instrument location in the kits .....7-8

## **Ordering Information:**

Listing of instrumentation included in the *Zimmer* Drill Module and *Zimmer* Tube Adapter Kit .....9-10



# 1 Guided Surgery Overview



1 Clinician performs the clinical exam and takes patient records and diagnostics. Overall restorative treatment plan for the desired restorative outcome is developed in conjunction with the implant team. If required, patient is referred to the surgical specialist for further evaluation.



2 Dental laboratory or clinician fabricates a scan prosthesis — generally a radiopaque duplicate of the provisional teeth set-up or patient's existing denture — for visibility of the desired tooth location in CT images and selected case planning software.

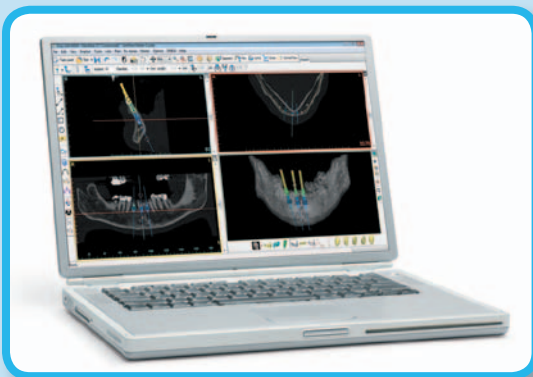


3 Patient undergoes CT scan (wearing the scan prosthesis), according to the software supplier's general scanning instructions — including patient preparation, positioning, image reconstruction, and scanning parameters.

# Stay in step with Zimmer Guided Surgery.

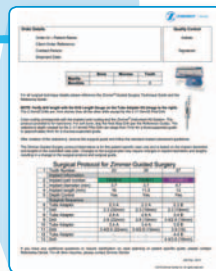
## Guided Surgery Overview

2



- 4 The CT scan data is converted into a format that allows it to be utilized by the selected case planning software, or is imported directly. The case is then planned in the treatment planning software.

**Shown:** SimPlant® Software by Materialise Dental NV.



- 5 The software supplier or dental laboratory fabricates the case-specific surgical guide compatible with Zimmer Guided Surgery Instrumentation. The guide manufacturer delivers the surgical guide, along with the surgical protocol for each *Tapered Screw-Vent*®, *Zimmer One-Piece* or *AdVent*® Implant site preparation.

For all surgical technique details please reference the Zimmer® Guided Surgery Technique Guide and the Reference Guide.

**NOTE:** Verify drill length with the Drill Length Gauge on the Tube Adapter KIT (image to the right). The 2.3mmD Drills are 1mm shorter than all the other drills except for the 2.1/1.6mmD Pilot Drill.

Color-coding corresponds with the implant color-coding and the Zimmer® Instrumentation Kit System. The protocol provided is for hard bone. For soft bone, skip the first Step Drill (per the Reference Guide). The osteotomy depth created by the 2.1/1.6mmD Pilot Drill can range from 7mm for a bone-supported guide to approximately 4mm for a mucosa-supported guide.

After creation of the osteotomy, remove the surgical guide and follow the standard implant placement guidelines.

The Zimmer Guided Surgery protocol listed below is for this patient specific case only and is based on the implant diameters and lengths in the submitted case plan. Changes to the surgical plan may require changes in implant diameters and lengths resulting in a change to the surgical protocol and surgical guide.

**Surgical Protocol for Zimmer Guided Surgery**

	Bone	Mucosa	Tooth
Maxilla			X
Mandible			

	23	25	27
1 Tooth Number	23	25	27
2 Implant part number	TSVB1R	TSVB11	TSVV13
3 Implant diameter (mm)	3.7	3.7	4.7
4 Implant length (mm)	16	11.5	13
5 Depth Control	Yes	Yes	Yes
6 Tube Adapter	2.3 A	2.3 A	2.3 B

- 6 Surgical protocol for Zimmer Guided Surgery Instrumentation provides detailed information regarding proper Drill sequence and Tube Adapter selection for the surgical preparation of each implant site.

**Disclaimer:** For detailed surgical guide instructions for use please contact your software and/or surgical guide manufacturer.

**Example below:** Surgical protocol example for a tooth-supported guide: three *Zimmer Dental* Implants in mandible (tooth #23, #25, #27).

## SURGICAL PROTOCOL FOR ZIMMER GUIDED SURGERY INSTRUMENTATION

1	Tooth Number	23	25	27
	<b>Implant Information</b>			
2	Implant part number	TSVB16	TSVB11	TSVWB13
3	Implant diameter (mm)	3.7	3.7	4.7
4	Implant length (mm)	16	11.5	13
5	Depth control	Yes	Yes	Yes
	<b>Surgical Sequence</b>			
6	Tube Adapter	2.3 A	2.3 A	2.3 B
7	Drill	2.3 (22mm)	2.3 (19mm)	2.3 (19mm)
8	Tube Adapter	2.8 A	2.8 A	3.4 B
9	Drill	2.8 (22mm)	2.8 (19mm)	3.4/2.8 (19mm)
10	Tube Adapter	3.4 A	3.4 A	3.8 B
11	Drill	3.4/2.8 (22mm)	3.4/2.8 (19mm)	3.8 (19mm)
12	Tube Adapter	•	•	4.4 B
13	Drill	•	•	4.4/3.8 (19mm)

**Note:** The instrument selection protocol and appearance may differ depending on the case planning software. A surgical protocol and drill location overview is included on the last page. For detailed information about location of the instruments in the surgical kits, please reference the *Zimmer Guided Surgery Reference Guide*, P/N 1392, Rev. 1/10.

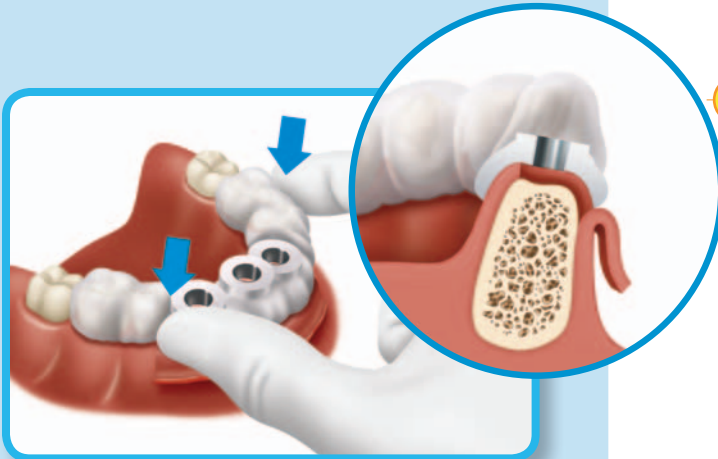


*Zimmer Drill Module* can be easily inserted into an existing *Tapered Screw-Vent Surgical Kit*

 *Tapered Screw-Vent Surgical Kit*



\* *Zimmer Guided Surgery Instrumentation* includes the *Tapered Screw-Vent Surgical Kit*, *Zimmer Tube Adapter Kit* and *Zimmer Drill Module* with additional length *Driva* EG Drills (designed to interface with selected surgical guides). All products sold separately.



- 7 The tooth-, mucosa-, or bone-supported surgical guide is fixed to the surgical site. The guide manufacturer's fixation pins might be utilized for a mucosa-supported guide.

**Shown:** A tooth-supported surgical guide with elevated flap.



- 8 Referencing the case-specific surgical protocol provided with the surgical guide, follow the sequence of Tube Adapters and Surgical Drills to prepare the implant osteotomy.

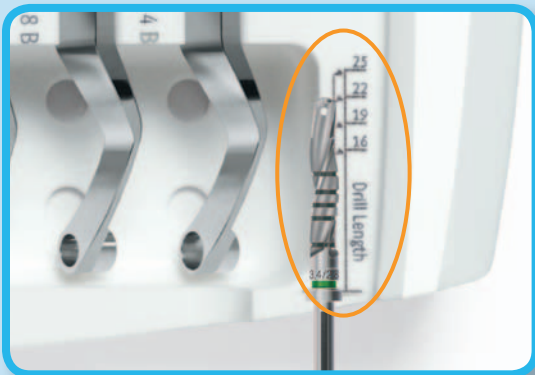
The Tube Adapter fits inside the titanium tube insert in the surgical guide. Tube Adapters — used in conjunction with the Drills and length-specific surgical guides — provide positional, angulation and depth control, and are labeled for easy identification. Tube Adapters can be used on the patient's left- or right-hand side as the holes on both sides are identical in diameter.

Steps 9-14 detail the surgical sequence for the example case shown in the surgical protocol to the left: an osteotomy for a 3.7mmD x 16mmL *Tapered Screw-Vent* in tooth location #23, in dense bone (a dense bone protocol should be followed).

**Note:** The protocol provided is for dense bone. For soft bone, skip the final Step Drill.



- 9 Following the surgical guide protocol, select the initial Tube Adapter 2.3 A (2.3mmD; size A) from the Tube Adapter Kit. Place the Tube Adapter into the guide tube on the most convenient side.



- 10 Select the initial Drill from the protocol – 2.3 (22mm), (2.3mmD; 22mmL). Verify Drill length of 22mm with the Drill Length Gauge on the Tube Adapter Kit

**Shown:** 3.4/2.8mmD; 22mmL Drill.

**Note:** 2.3mmD Pilot Drills are 1mm shorter than other Drills.



- 11 Drill to initiate an osteotomy through the Tube Adapter until the Drill flange stops on top of the Tube Adapter. The predetermined drilling depth is achieved by the combination of custom guide height and appropriate Drill selection, indicated in the guide manufacturer's protocol.





- 12 Remove the Tube Adapter 2.3 A and place the next Tube Adapter 2.8 A into the guide tube opening. Use the next Drill in the sequence, 2.8 (22mm), to expand the osteotomy through the Tube Adapter until the Drill flange stops on top. Verify Drill length of 22mm with the Drill Length Gauge on the Tube Adapter Kit.



- 13 Remove the Tube Adapter 2.8 A and place the next Tube Adapter 3.4 A into the guide tube opening. Select the next Drill in the sequence, 3.4/2.8 (22mm). Following Drill length verification with the Drill Length Gauge, expand the osteotomy through the Tube Adapter until the Drill flange stops on top.



- 14 Remove the surgical guide and follow standard implant placement guidelines.

**Optional:** Use of the 3.7mmD Cortical Bone Tap may be required in dense bone.

## STEPS

- ① Denotes tooth number 23
- ② Denotes implant part number TSVB16
- ③ Denotes 3.7mm implant diameter
- ④ Denotes 16mm implant length
- ⑤ Denotes if depth control will be achieved
- ⑥ 2.3 A – Denotes 2.3mm diameter Tube Adapter, size A
- ⑦ 2.3 (22mm) – Denotes 2.3mm diameter drill, 22mm length
- ⑧ 2.8 A – Denotes 2.8mm diameter Tube Adapter, size A
- ⑨ 2.8 (22mm) – Denotes 2.8mm diameter drill, 22mm length
- ⑩ 3.4 A – Denotes 3.4mm diameter Tube Adapter, size A
- ⑪ 3.4/2.8 (22mm) – Denotes 3.4/2.8mm diameter drill, 22mm length

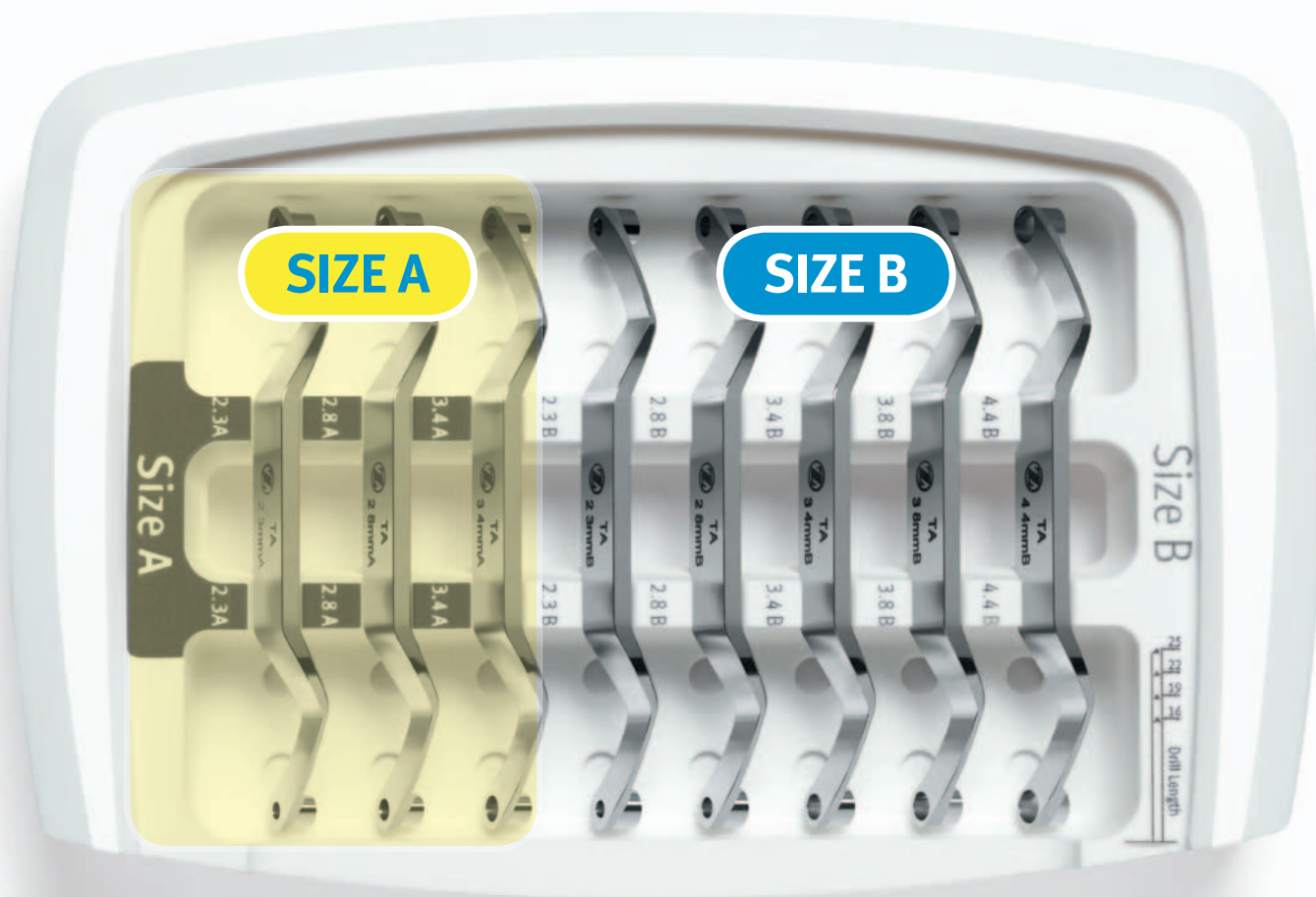
## SURGICAL PROTOCOL FOR ZIMMER GUIDED SURGERY

STEPS			
①	Tooth Number	23	27
<b>Implant Information</b>			
②	Implant part number	TSVB16	TSVWB13
③	Implant diameter (mm)	3.7	4.7
④	Implant length (mm)	16	13
⑤	Depth control	Yes	Yes
<b>Surgical Sequence</b>			
⑥	Tube Adapter	2.3 A	2.3 B
⑦	Drill	2.3 (22mm)	2.3 (19mm)
⑧	Tube Adapter	2.8 A	3.4 B
⑨	Drill	2.8 (22mm)	3.4/2.8 (19mm)
⑩	Tube Adapter	3.4 A	3.8 B
⑪	Drill	3.4/2.8 (22mm)	3.8 (19mm)
⑫	Tube Adapter	•	4.4 B
⑬	Drill	•	4.4/3.8 (19mm)

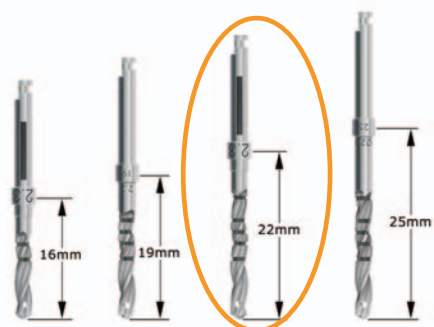
## Tapered Screw-Vent Surgical Kit with Zimmer Drill Module



## Zimmer Tube Adapter Kit



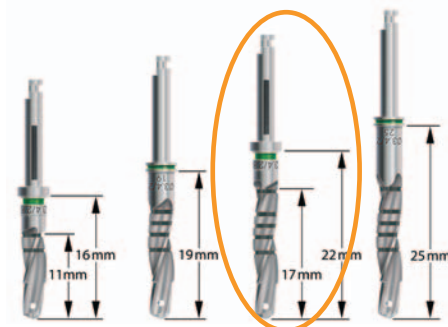
### Drill Length Chart



**2.3mmD** Note: 1mm shorter than other drills



**Actual Size  
100%**



**2.8 – 5.7mmD**

### Zimmer Drill Module



Part Number	Description
GSMOD	Zimmer Drill Module (includes Drills) – <i>Can be inserted into the Tapered Screw-Vent Surgical Kit (TSVKIT) for an all-in-one traditional/guided surgery kit</i>
GSTRAY	Zimmer Drill Module (plate only)
STR23D19	2.3mmD Dríva EG Surgical Drill, 19mmL
STR23D25	2.3mmD Dríva EG Surgical Drill, 25mmL
STP28D19	2.8/2.4mmD Dríva EG Surgical Step Drill, 19mmL
STP28D25	2.8/2.4mmD Dríva EG Surgical Step Drill, 25mmL
STR28D19	2.8mmD Dríva EG Surgical Drill, 19mmL
STR28D25	2.8mmD Dríva EG Surgical Drill, 25mmL
STP34D19	3.4/2.8mmD Dríva EG Surgical Step Drill, 19mmL
STP34D25	3.4/2.8mmD Dríva EG Surgical Step Drill, 25mmL
STR34D19	3.4mmD Dríva EG Surgical Drill, 19mmL
STR34D25	3.4mmD Dríva EG Surgical Drill, 25mmL
STP38D19	3.8/3.4mmD Dríva EG Surgical Step Drill, 19mmL
STP38D25	3.8/3.4mmD Dríva EG Surgical Step Drill, 25mmL
STR38D19	3.8mmD Dríva EG Surgical Drill, 19mmL
STR38D25	3.8mmD Dríva EG Surgical Drill, 25mmL
STP44D19	4.4/3.8mmD Dríva EG Surgical Step Drill, 19mmL
STP44D25	4.4/3.8mmD Dríva EG Surgical Step Drill, 25mmL

### Zimmer Tube Adapter Kit



Part Number	Description
TADKIT	Zimmer Tube Adapter Kit (includes Tube Adapters)
TADTRAY	Zimmer Tube Adapter Kit (tray only)
TAD23A	2.3mmD Tube Adapter, A
TAD28A	2.8mmD Tube Adapter, A
TAD34A	3.4mmD Tube Adapter, A
TAD23B	2.3mmD Tube Adapter, B
TAD28B	2.8mmD Tube Adapter, B
TAD34B	3.4mmD Tube Adapter, B
TAD38B	3.8mmD Tube Adapter, B
TAD44B	4.4mmD Tube Adapter, B

 Zimmer Drill Module with Driva EG Drills

 Tapered Screw-Vent Surgical Kit



 Zimmer Tube Adapters

 Zimmer Tube Adapter Kit



To schedule your **FREE** SimPlant® Software Demo, please visit us at [www.zimmerdental.com/simplantdemo](http://www.zimmerdental.com/simplantdemo) or call us at **1 800 854 7019** (in the U.S.) or **+1 (760) 929 4300** (outside the U.S.).

**For more information about our Products, Regenerative Materials and Educational Opportunities, contact us:**

1900 Aston Avenue  
Carlsbad, CA 92008-7308  
USA

**In the U.S. 1 (800) 854-7019**  
**To fax an order 1 (888) 225-2483**  
**Outside the U.S. +1 (760) 929-4300**  
**Australia +61 (0)2 9950 5444 or 1 (800) 241 916**  
**Canada +1 (905) 567-2073 or 1 (800) 265-0968**

**France +33 (0)1 45 12 35 35**  
**Germany +49 (0)761 1 56 47 0**  
**Israel +972 (0)3 6124242**  
**Italy +39 043 855 5573**  
**Spain +34 93 846 05 43**

To receive our eNews visit us at [http://www.zimmerdental.com/news\\_eNewsLetterSignUp.aspx](http://www.zimmerdental.com/news_eNewsLetterSignUp.aspx)



[www.zimmerdental.com](http://www.zimmerdental.com)