

EXACTECH | KNEE

Operative Technique
Addendum



TRULIANT[®]

Porous Tibia



TABLE OF CONTENTS

INTRODUCTION.....	1
PREPARATION AND IMPLANTATION.....	2
Cementless Tibial Preparation.....	2
FINAL IMPLANTATION.....	7
Cementless Implantation.....	7
OPTIONAL FIXATION METHODS.....	9
Optional Screw Fixation through Porous Tibial Tray Component.....	9
CEMENTED IMPLANTATION.....	10
Tibial Preparation to Accept Cement Component.....	10
IMPLANT LISTING.....	12
INSTRUMENT LISTING.....	13



INTRODUCTION

This addendum provides detailed instructions for implantation of the Truliant® Porous Tibial Tray Component.

The Truliant Porous Tibial Tray is indicated for both cemented and cementless applications. It is important to assess the patient's bone density and quality prior to implantation to ensure sufficient mechanical support and biological fixation potential. Bone stock of insufficient quality may not provide the necessary stability for cementless implantation. The decision to use cemented or cementless implants may be made following resection of the proximal tibia.

All steps for femoral preparation and proximal tibia resection preparation described in the Truliant Primary Operative Technique should be completed prior to proceeding with the following protocol.

DETAILED OPERATIVE TECHNIQUE

CEMENTLESS TIBIAL PREPARATION

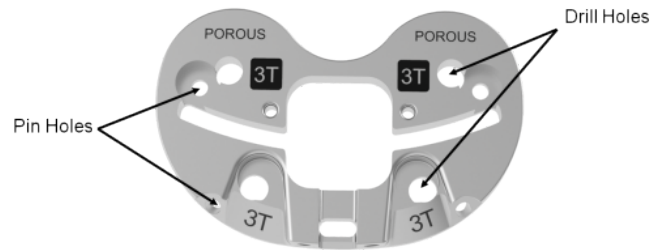


Figure 1a
Porous Tibial Tray Trial



Figure 1b
Porous Tibial Pilot Drill Guide



Figure 1c
Truliant Pilot Drill Guide and Porous Tibial Tray Trial

PREPARATION AND IMPLANTATION

CEMENTLESS TIBIAL PREPARATION

Pin the appropriately sized Truliant Porous Tibial Tray Trial to the resected proximal tibia surface with the orientation based on desired anatomical alignment.

Note: There are two sets of holes on the porous tibial tray trial: one set to pin the trial to the resected tibia, one set for drilling the peripheral pegs. Please note the location of the pin holes, to not interfere with drilling for the peripheral pegs (Figure 1a).

Note: When using the syringe pin puller (02-029-90-4100) avoid bending the instrument off-axis during manipulation as such off-axis bending may damage the instrument.

Select the **Truliant Porous Tibial Pilot Drill Guide** that corresponds to the Porous Tibial Tray Trial size with the following ranges (Figure 1b):

Drill Guide	Porous Tibia Tray Trial Size
Small	0 – 1.5
Medium	2 – 3.5
Large	4 – 6

Seat the appropriate Pilot Drill Guide in the anterior holes and fin cut-outs of the Porous Tibial Tray Trial. Ensure the Pilot Drill Guide is flush and stable (Figure 1c).



Figures 2a and 2b

Assemble Tibial Pilot Drill with Drill Stop

Assemble the **Truliant Porous Tibial Pilot Drill** with the **Truliant Tibial Pilot Drill Stop** by pressing the button on the drill stop while sliding over the drill's connection feature (Figure 2a). The drill stop cannot be assembled over the drill tip. Continue to press the drill stop button and slide until the

distal surface of the drill stop aligns with the laser mark on the drill corresponding to the selected Porous Tibial Tray Trial size. The intended tray trial size number will remain visible when selected (Figure 2b).

Note: The laser marked line near the Zimmer-Hudson connector is not an indicator for connection integrity. This line does not have to be covered by the connector.

DETAILED OPERATIVE TECHNIQUE

CEMENTLESS TIBIAL PREPARATION



Figure 3a

Insert Tibial Pilot Drill into Drill Guide



Figure 3b

Prepare Peg Pilot Holes

Insert the Pilot Drill into the Pilot Drill Guide, positioning the tip of the drill at the center of the guide. Ensure the drill tip is touching bone inside the drill guide before applying power. Drill until the drill stop engages the proximal end of the drill guide (*Figure 3a*). Remove the drill.

Note: It may be necessary to stabilize the Pilot Drill Guide by hand during drilling.

With the Pilot Drill Guide still in place, use the **Truliant Porous Tibia Peg Drill** and drill the four peg pilot holes. Drill each hole until the collar on the drill engages the drill guide (*Figure 3b*).

Note: It may be necessary to stabilize the Pilot Drill Guide by hand during drilling.

After drilling, remove the Pilot Drill Guide.



Figure 4
Assemble Tibial Tamp Head to Tamp Guide



Figure 5
Rotate Knob Until the Appropriate Size is in View

Assemble the **Truliant Porous Tibial Tamp Head** to the **Truliant Tibial Tamp Guide** by pressing the button on the anterior distal end of the Tibial Tamp Guide and sliding the Porous Tibial Tamp Head into the guide connection feature (*Figure 4*).

Select the size corresponding to the selected Porous Tibial Tray Trial on the Tibial Tamp Guide by rotating the proximal knob until the appropriate size is viewed in the window (*Figure 5*).

DETAILED OPERATIVE TECHNIQUE

CEMENTLESS TIBIAL PREPARATION



Figure 6
Place Truliant Tamp Guide

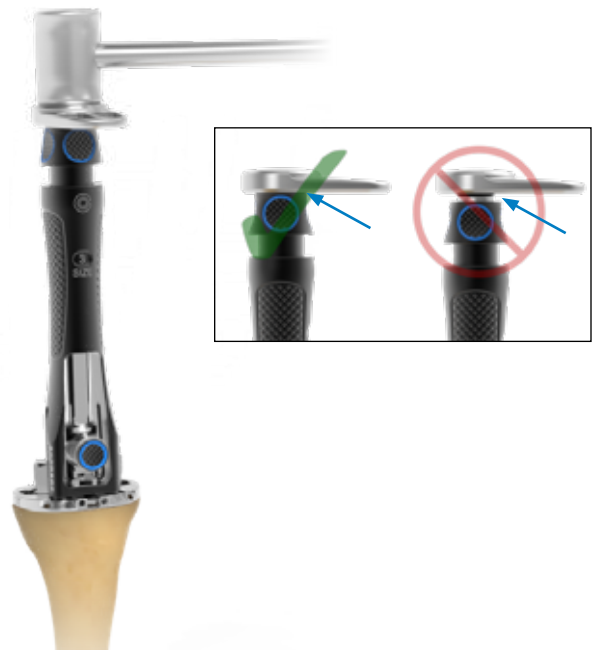


Figure 7
Impact Tray Tamp Until Flush with Top of Handle

Position the Tibial Tamp Guide Assembly by inserting the anterior distal pegs of the guide into the anterior counter bores found on the Porous Tibial Tray Trial and seat the Tibial Tamp Guide flush and stable against the tray by engaging the posterior pegs (Figure 6).

The Tamp Head is driven by striking the proximal strike plate until the impaction plate contacts the adjustment knob (Figure 7).

Note: Be sure to hold the Tibial Tamp Guide steady during impaction to avoid tilt or lift-off. Ensure the Tibial Tray Trial is flush with the proximal tibia throughout impaction. If any prominent bone is present that prevents the Tibial Tray Trial from laying flush on the bone, then it may be necessary to use an osteotome to prepare the affected area prior to final tibial tamp head seating.

After the Tamp Head is fully seated, hit the underside of the strike plate on the Tamp Guide to disengage the Tamp Head from the proximal tibia.

Remove the Tibial Tamp Guide, the Tibial Tray Trial and pins.



Figure 8

Assemble Impactor Plate and Component

FINAL IMPLANTATION

CEMENTLESS IMPLANTATION

Note: When using cementless components, it is critical to ensure that the bone resection surfaces are flat and free of debris, fragments or unintended prominences.

Note: A slurry of morselized autograft bone (bone resection remnants) may be placed on the proximal tibia prior to implantation to fill small cancellous cavities.

Caution: It is important to properly handle the Porous Tibial Tray component. Do not touch the porous surface of the implant. The rough porous surface of the tibial component can ensnare a glove, towel or lap sponge. Keep the implant in the sterile packaging until it is ready to be implanted.

Assemble the **Truliant Universal Modular Handle** to the **Truliant Locking Tibial Impactor**. Attach the Porous Tibial Tray to the handle and introduce the Porous Tibial Tray into the prepared tibia by applying a constant downward force (Figure 8).

DETAILED OPERATIVE TECHNIQUE

CEMENTLESS IMPLANTATION



Figure 9

Impact Tibial Component Until Fully Seated

Verify the proper rotational orientation in the transverse plane using the keel and pegs and strike the proximal surface of the handle with a mallet, until the Porous Tibial Tray is fully seated. (Figure 9). Check to ensure that Porous Tibial Tray is in full contact with the tibial surface around the **entire** periphery of the tibial tray.

If removal of the Porous Tibial Tray Component is necessary during surgery, reattach the Locking Tibial Impactor to the tray. Then pull the Porous Tibial Tray out.

Note: Should removal of the Porous Tibial Tray become necessary, it is not recommended to re-implant the tray as the prepared surface could become damaged during removal. As such, it is recommended to switch to a Truliant Cemented Implant (reference the Truliant Primary Operative Technique).



Figure 10a
Remove Screw Seals



Figure 10b
Prepare Bone Screw Pilot Holes

OPTIONAL FIXATION METHODS

If additional tibial tray stability is desired, proceed to the following sections for optional screw fixation or cemented component preparation and implantation.

OPTIONAL SCREW FIXATION THROUGH POROUS TIBIAL TRAY COMPONENT

If supplemental fixation is desired, two bone screws can be placed through the Porous Tibial Tray Component. Carefully unthread the two screw seals from the Porous Tibial Tray Component with a 3.5mm hex-driver (*Figure 10a*). The screw seals can be discarded.

Note: Screw seal removal should be performed prior to implantation if the surgeon has already decided to use supplemental screw fixation. If it is decided that additional

fixation is necessary after implanting care must be taken to apply a counter torque to the tray during screw seal removal so as to avoid damaging the fit with the bone.

Place the **Truliant Bone Screw Drill Guide** into one of the tibial tray bone screw holes. The Bone Screw Drill Guide is seated properly when its head nests in the bone screw hole counterbore of the Porous Tibial Tray (*Figure 10b*). The cone-shaped hole in the drill guide allows screws to be positioned at a maximum angle of 12° from normal in any direction. The **Truliant Porous Tibia Peg Drill** bit is used to prepare the holes for the bone screws through the Bone Screw Drill Guide. Drill each hole to the desired position and angle.

Caution: Care should be taken to ensure the Collar Drill does not perforate the tibial cortex.

DETAILED OPERATIVE TECHNIQUE

TIBIAL PREPARATION



Figure 11
Seat Bone Screws



Figure 12a
Press Cement Into Prosthesis



Figure 12b
Coat Tray Thoroughly with Cement

Use the **3.5mm Hex Driver** to seat Alteon®, 6.5mm bone screws into each of the screw holes in the Porous Tibial Tray (Figure 11).

Caution: Do not drive screws with power, use provided instruments.

CEMENTED IMPLANTATION

The Porous Truliant Tibia is also indicated for cemented use.

TIBIAL PREPARATION TO ACCEPT CEMENT COMPONENT

Bone cement should be applied to the prosthesis and prepared bone surfaces when the cement has a viscosity low enough to facilitate good penetration into the trabecular bone.

Bone cement should be applied to the proximal tibia and the distal surface of the tibial tray component, including the stem, using either a cement gun or by manually pressurizing the cement (Figures 12a - 12c).

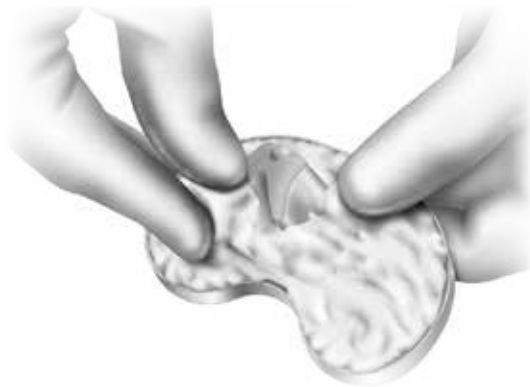


Figure 12c
Coat Keel Thoroughly with Cement



Figure 13
Impact Tibial Component Until Fully Seated

Next, assemble the Truliant Tibial Locking Impactor to the Truliant Universal Modular Handle. Attach the Porous Tibial Tray to the handle and introduce the Porous Tibial Tray into the prepared tibia by applying a constant downward force.

Introduce the Truliant Porous Tibial Tray component onto the prepared tibial surface using the Impactor assembly construct by applying a constant downward force until fully seated. Impact the Impactor assembly to fully seat the tibial component (*Figure 13*).

Remove all of the extraneous cement from the borders of the tibial component, starting posteriorly and working around to the sides and front.

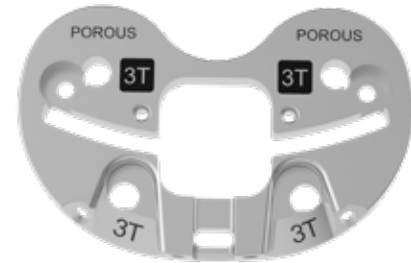
IMPLANT LISTING

CATALOG NUMBER	DESCRIPTION
02-022-55-0000	Truliant Porous Tibia Fit Tray, Size 0F/0T
02-022-55-0010	Truliant Porous Tibia Fit Tray, Size 0F/1T
02-022-55-1000	Truliant Porous Tibia Fit Tray, Size 1F/0T
02-022-55-1010	Truliant Porous Tibia Fit Tray, Size 1F/1T
02-022-55-1020	Truliant Porous Tibia Fit Tray, Size 1F/2T
02-022-55-1505	Truliant Porous Tibia Fit Tray, Size 1.5F/.5T
02-022-55-1515	Truliant Porous Tibia Fit Tray, Size 1.5F/1.5T
02-022-55-1525	Truliant Porous Tibia Fit Tray, Size 1.5F/2.5T
02-022-55-2010	Truliant Porous Tibia Fit Tray, Size 2F/1T
02-022-55-2020	Truliant Porous Tibia Fit Tray, Size 2F/2T
02-022-55-2030	Truliant Porous Tibia Fit Tray, Size 2F/3T
02-022-55-2515	Truliant Porous Tibia Fit Tray, Size 2.5F/1.5T
02-022-55-2525	Truliant Porous Tibia Fit Tray, Size 2.5F/2.5T
02-022-55-2535	Truliant Porous Tibia Fit Tray, Size 2.5F/3.5T
02-022-55-3020	Truliant Porous Tibia Fit Tray, Size 3F/2T
02-022-55-3030	Truliant Porous Tibia Fit Tray, Size 3F/3T
02-022-55-3040	Truliant Porous Tibia Fit Tray, Size 3F/4T
02-022-55-3525	Truliant Porous Tibia Fit Tray, Size 3.5F/2.5T
02-022-55-3535	Truliant Porous Tibia Fit Tray, Size 3.5F/3.5T
02-022-55-3545	Truliant Porous Tibia Fit Tray, Size 3.5F/4.5T
02-022-55-4030	Truliant Porous Tibia Fit Tray, Size 4F/3T
02-022-55-4040	Truliant Porous Tibia Fit Tray, Size 4F/4T
02-022-55-4050	Truliant Porous Tibia Fit Tray, Size 4F/5T
02-022-55-4535	Truliant Porous Tibia Fit Tray, Size 4.5F/3.5T
02-022-55-4545	Truliant Porous Tibia Fit Tray, Size 4.5F/4.5T
02-022-55-4555	Truliant Porous Tibia Fit Tray, Size 4.5F/5.5T
02-022-55-5040	Truliant Porous Tibia Fit Tray, Size 5F/4T
02-022-55-5050	Truliant Porous Tibia Fit Tray, Size 5F/5T
02-022-55-5060	Truliant Porous Tibia Fit Tray, Size 5F/6T
02-022-55-6050	Truliant Porous Tibia Fit Tray, Size 6F/5T
02-022-55-6060	Truliant Porous Tibia Fit Tray, Size 6F/6T



180-65-40 Alteon 6.5mm Bone Screw

CATALOG NUMBER	DESCRIPTION
02-029-25-1100	Truliant Porous Tibial Baseplate Trial, 0T
02-029-25-1105	Truliant Porous Tibial Baseplate Trial, 0.5T
02-029-25-1110	Truliant Porous Tibial Baseplate Trial, 1T
02-029-25-1115	Truliant Porous Tibial Baseplate Trial, 1.5T
02-029-25-1120	Truliant Porous Tibial Baseplate Trial, 2T
02-029-25-1125	Truliant Porous Tibial Baseplate Trial, 2.5T
02-029-25-1130	Truliant Porous Tibial Baseplate Trial, 3T
02-029-25-1135	Truliant Porous Tibial Baseplate Trial, 3.5T
02-029-25-1140	Truliant Porous Tibial Baseplate Trial, 4T
02-029-25-1145	Truliant Porous Tibial Baseplate Trial, 4.5T
02-029-25-1150	Truliant Porous Tibial Baseplate Trial, 5T
02-029-25-1155	Truliant Porous Tibial Baseplate Trial, 5.5T
02-029-25-1160	Truliant Porous Tibial Baseplate Trial, 6T



02-029-22-1310	Truliant Porous Tibial Drill Guide, Small
02-029-22-1320	Truliant Porous Tibial Drill Guide, Medium
02-029-22-1330	Truliant Porous Tibial Drill Guide, Large



02-029-22-1600	Truliant Porous Tibial Pilot Drill, 14mm
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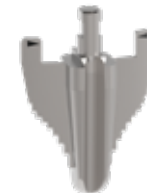
02-029-22-1200	Truliant Tibial Pilot Drill Stop
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02-029-22-1500	Truliant Porous Tibia Peg Drill
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02-029-22-2200	Truliant Porous Tibial Tamp Head
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02-029-22-2000	Truliant Tibial Tamp Guide
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1FL2-C01	Truliant Universal Modular Handle
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02-029-29-3200	Truliant Tibial Impactor, Locking
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02-029-29-4000	Truliant Porous Bone Screw Drill Guide
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02-029-90-7000	Truliant Hex Driver, 3.5mm
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In the USA, the TRULIANT Comprehensive Knee Systems are indicated for cemented use only, except for the TRULIANT Porous femoral and tibial tray components, which are indicated for cemented or cementless use.

For additional device information, refer to the Exactech Truliant Porous Tibia—Instructions for Use for a device description, indications, contraindications, precautions and warnings. For further product information, please contact Customer Service, Exactech, Inc., 2320 NW 66th Court, Gainesville, Florida 32653-1630, USA. (352) 377-1140, (800) 392-2832 or FAX (352) 378-2617.

Exactech, as the manufacturer of this device, does not practice medicine, and is not responsible for recommending the appropriate surgical technique for use on a particular patient. These guidelines are intended to be solely informational and each surgeon must evaluate the appropriateness of these guidelines based on his or her personal medical training and experience. Prior to use of this system, the surgeon should refer to the product package insert for comprehensive warnings, precautions, indications for use, contraindications and adverse effects.

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