

# EXACTECH | KNEE

Operative Technique



**TRULIANT**<sup>®</sup>  
TOTAL KNEE SYSTEM

**IM Tibial Alignment Guide**

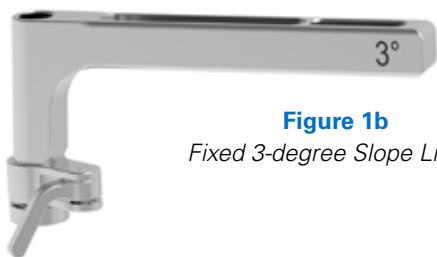


# TRULIANT IM TIBIAL ALIGNMENT GUIDE

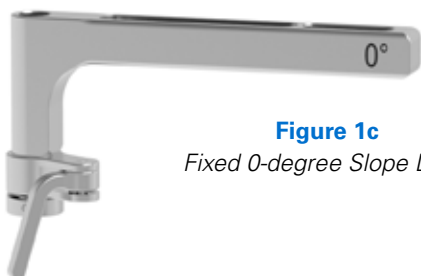
## SURGICAL TECHNIQUE



**Figure 1a**  
*Adjustable Slope Link*



**Figure 1b**  
*Fixed 3-degree Slope Link*



**Figure 1c**  
*Fixed 0-degree Slope Link*



**Figure 1d**  
*Height Adjustment Module*

## INTRODUCTION

The proximal tibial resection can be performed using either the Truliant extra-medullary (EM) tibial preparation method or the Truliant intra-medullary (IM) tibial preparation method. This technique reviews the IM tibial preparation technique.

Follow the Truliant Primary Operative Technique for preparation of the femur.

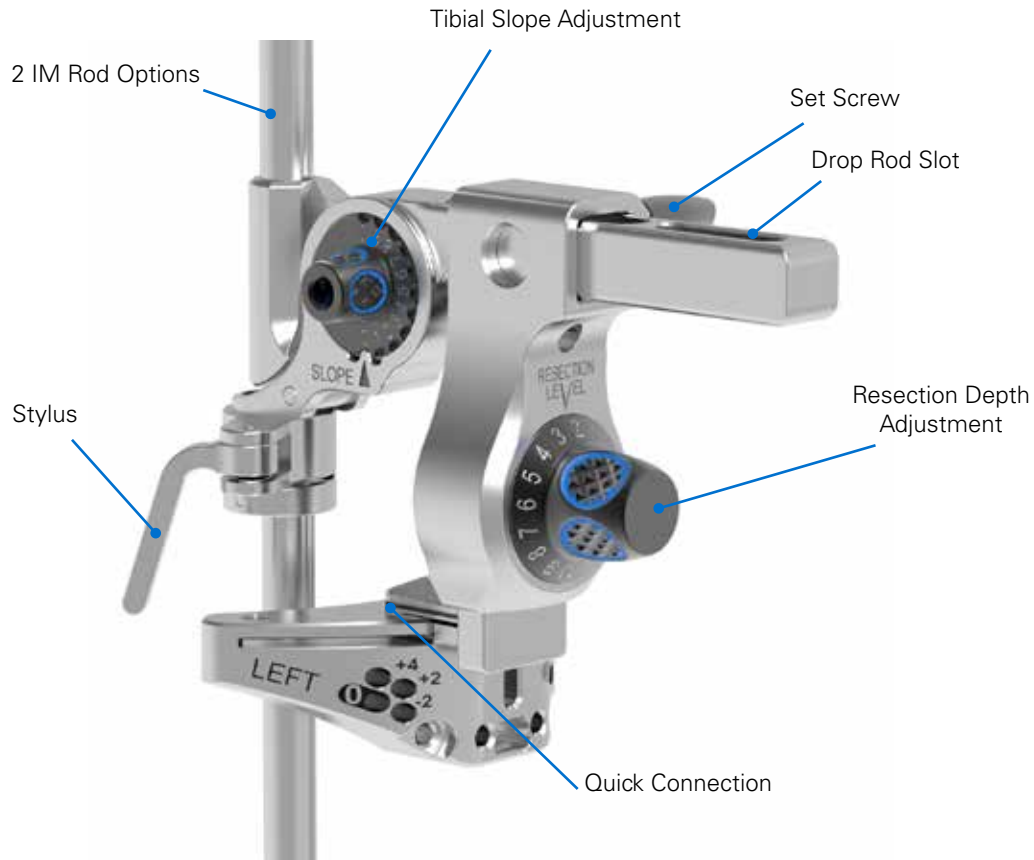
The Truliant IM Tibial Alignment Guide system consists of two components (*Figure 1*):

1. Slope Link\*

**\*Note:** Three Slope Link options are available according to surgeon preference and technique, including:

- Adjustable Slope Link (0-10 degrees) (*Figure 1a*)
- Fixed 3-degree Slope Link (*Figure 1b*)
- Fixed 0-degree Slope Link (*Figure 1c*)

2. Height Adjustment Module (*Figure 1d*)



**Figure 2**  
Truliant IM Tibial  
Alignment Guide

The Truliant IM Tibial Alignment Guide system offers the following features (Figure 2):

- A built-in stylus that can sit at the desired location on the tibial plateau for resection depth reference.
- Resection depth adjustment from 0 to 10mm below the tip of the stylus at 1mm increments.
- Tibial slope adjustment from 0 to 10 degrees with one degree increments.

**Note:** The surgeon shall properly select the tibial resection slope based on patient anatomy and surgical technique to ensure optimal surgical outcome.

- Anteroposterior (A/P) adjustment of Tibial Resection Guide

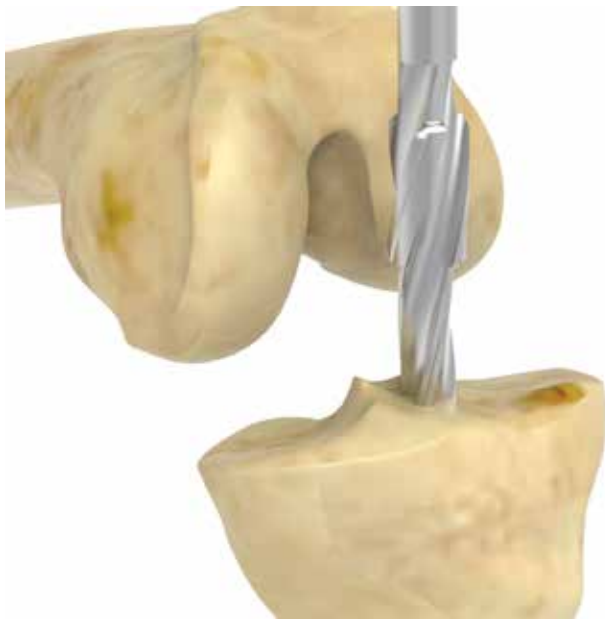
position, and a set screw for optional positive lock.

- Quick connection with any style Truliant Tibial Resection Guide\*.
- Drop rod slot available for EM alignment check prior to making tibial cut.
- Compatible with either the standard 9mm IM Rod or a thinner/shorter 6mm IM Rod to fit different patient size and anatomy.

**\*Note:** Truliant Tibial Resection Guide (standard or SM style) of 0-degree slope should be used with the Truliant IM Tibial Alignment Guide system. When Tibial Resection Guide of 3-degree slope is used, the resection depth measurement will be inaccurate due to compound angles.

# TRULIANT IM TIBIAL ALIGNMENT GUIDE

## SURGICAL TECHNIQUE



**Figure 3**  
Open Tibial IM Canal



**Figure 4**  
Insert the IM Rod

Identify the entry point to the tibial IM canal on the proximal tibial surface. The recommended anatomical landmark to initiate the perforation of the tibial IM canal is the tibial insertion of the ACL. This point corresponds to a straight proximal extension of the tibial IM canal.

Open the tibial IM canal using the Truliant IM Pilot Drill (*Figure 3*). It is recommended to use a suction cannula to aspirate the contents of the canal.

Assemble the Truliant T-Handle with the selected IM Rod (either the standard 9mm IM Rod or the thinner/shorter 6mm IM Rod based on surgeon preference to best fit the patient size and anatomy). Insert the IM Rod into the tibial IM canal (*Figure 4*). The IM Rod is grooved to allow the endosteal content to be evacuated proximally through the hole, preventing sudden increases in the pressure inside the bone.



**Figure 5a**  
Slide Slope Link onto IM Rod from Proximal End



**Figure 5b**  
Slide Slope Link onto IM Rod from Distal End



**Figure 6**  
Adjust the slope angle by “push and turn”.

Assemble the Truliant Tibial Resection Guide with the Height Adjustment Module, and with the Slope Link. The Height Adjustment Module has a flexure feature that adds friction while holding the Tibial Resection Guide.

Attach the Slope Link onto the IM Rod in one of the two ways:

- 1) Keep the IM Rod in the tibial canal and detach the T-Handle from the IM Rod. Slide the Slope Link onto the IM Rod from the proximal end (*Figure 5a*).
- 2) Remove the T-Handle and IM Rod from the tibia together. Slide the Slope Link onto the IM Rod from the distal end and place the IM Rod together with the Slope Link back into the tibial canal (*Figure 5b*).

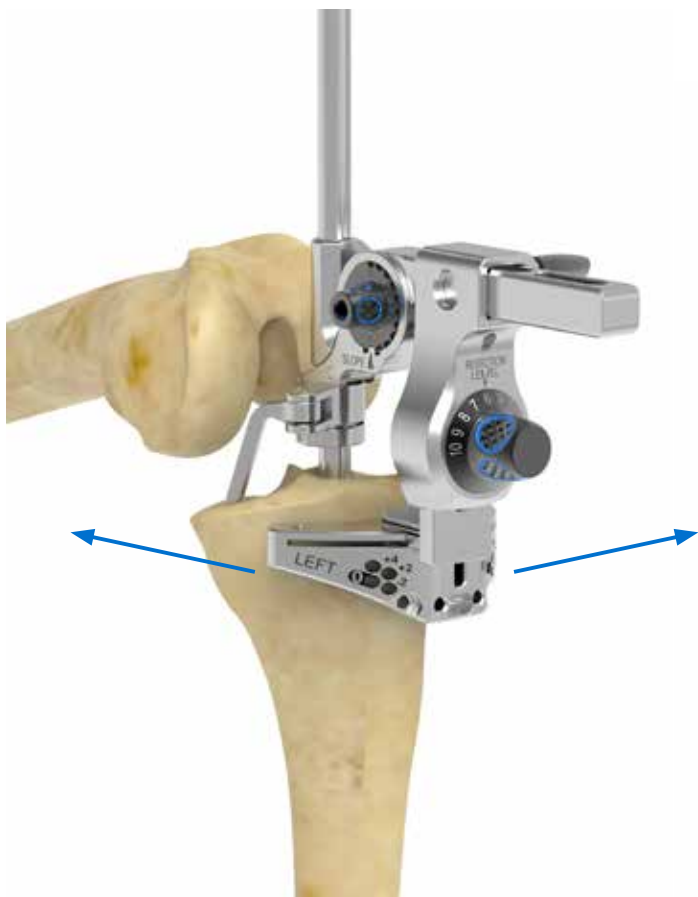
When using the Adjustable Slope Link, the surgeon sets the desired tibial slope angle before attaching the Slope Link onto the IM Rod. The slope angle can also be re-adjusted any time in the workflow prior to pinning the Tibial Resection Guide.

To adjust the slope angle on the Adjustable Slope Link: push the knob down to unlock the angle, turn the knob to the desired angle while holding it down and release the knob to lock the selected angle (*Figure 6*). The “double-motion” mechanism prevents any unintentional change of the slope angle during the surgery.

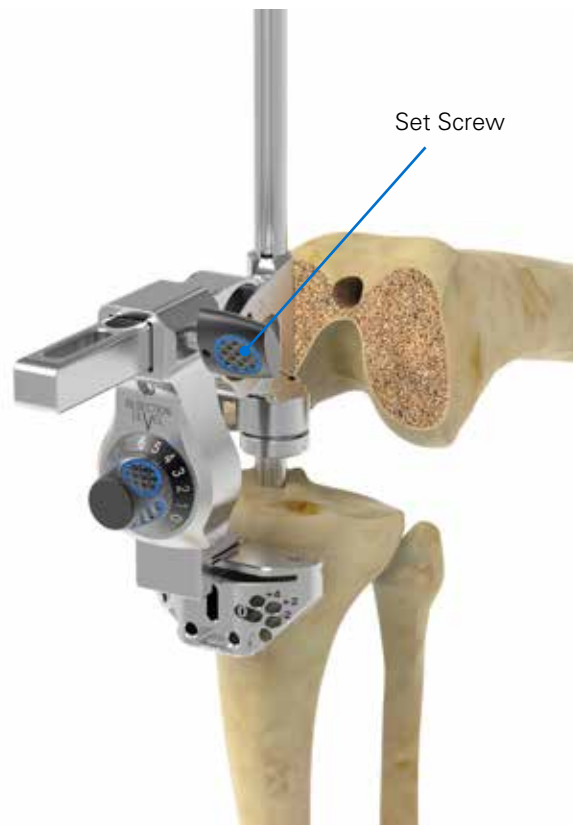
As an alternative assembling workflow, the Slope Link alone can be attached onto the IM Rod first; then the Height Adjustment Module and Tibial Resection Guide construct can be slide onto the Slope Link after.

# TRULIANT IM TIBIAL ALIGNMENT GUIDE

## SURGICAL TECHNIQUE



**Figure 7**  
Adjust the Tibial Resection Guide



**Figure 8**  
Set Screw to Lock AP Position

This semi-locking attachment between the Height Adjustment Module and the Tibial Resection Guide also allows mediolateral (M/L) and rotational adjustment of the Tibial Resection Guide before pinning (*Figure 7*).

The A/P position of the Height Adjustment Module can be continuously adjusted to optimize the position of the Tibial Resection Guide relative to the bone.

A set screw can be used to optionally lock the A/P position if preferred (*Figure 8*).

**Figure 9**

Place the Stylus at Desired Location on Tibial Plateau and Set Resection Depth

**Figure 10**

Using Drop Rod to Check Alignment

Place the stylus of the Slope Link at the desired location on the tibial plateau. If needed, remove extra bone near the tibial spine using a rongeur to ensure the stylus has enough clearance to touch the desired location on the tibial plateau. Adjust the knob on the Height Adjustment Module to set the desired resection depth. The reading of "Resection Level" indicates how many millimeters the resection plane is below the tip of the stylus (*Figure 9*).

A Drop Rod and Extension can also be placed through the slot on the Slope Link to check alignment prior to making the tibial cut (*Figure 10*).

Adjustments to tibial resection guide's ML position and rotation, resection depth, and slope angle (when using the Adjustable Slope Link) can be made before pinning the Tibial Resection Guide onto the bone.

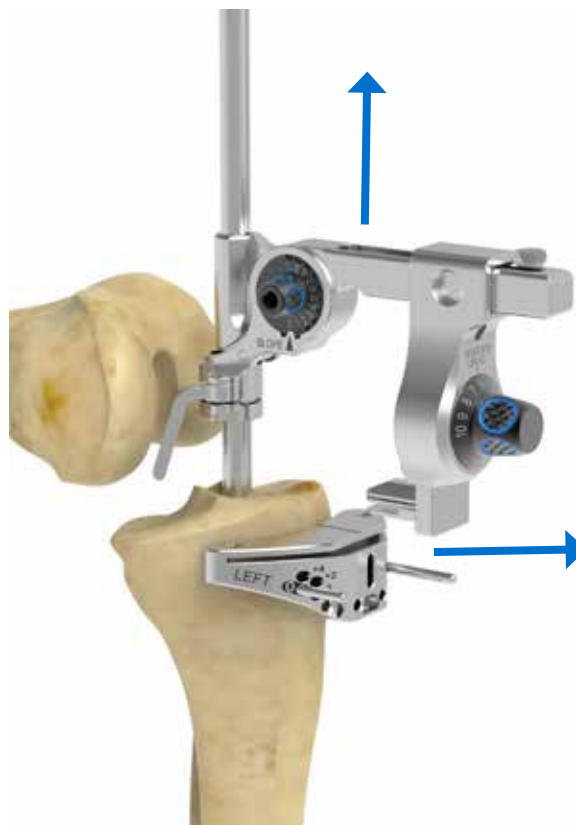
The Truliant Joint Line Predictor may be used to evaluate the tibial resection level and slope through the cutting slot of the Tibial Resection Guide (*Figure 9*).

# TRULIANT IM TIBIAL ALIGNMENT GUIDE

## SURGICAL TECHNIQUE



**Figure 11**  
Pin Resection Guide



**Figure 12**  
Remove Instrument Construct

Once the desired location is set, proceed to pin the Resection Guide into the tibia (Figure 11).

After pinned through the “0” holes, the Tibial Resection Guide may be adjusted proximally or distally in 2mm increments by shifting the Tibial Resection Guide onto either the -2mm, +2mm, or +4mm shift holes. If the resection is performed on the proximal flat surface of the Tibial Resection Guide, it resects 4mm less bone.

Cross pin holes are also available on the Tibial Resection Guide for additional stability during bone resection.

After pinning the Tibial Resection Guide, remove all IM Tibial Alignment Guide instruments, and only leave the Tibial Resection Guide on the bone (Figure 12).

To remove the instrument construct, unlock the set screw between the Height Adjustment Module and the Slope Link, gently pull the Height Adjustment Module anteriorly to detach it from the Tibial Resection Guide. Using both hands to hold the entire construct including the IM Rod, pull the entire construct upward to remove from the bone (Figure 12).

**Note:** When detaching the Height Adjustment Module from the Tibial Resection Guide, it's recommended that the user uses one hand to secure the Tibial Resection Guide in place, while using the other hand to pull the Height Adjustment Module anteriorly, in order not to compromise the fixation of the Tibial Resection Guide.



Proceed to cut the proximal tibia through the Tibial Resection Guide.

Follow the remaining steps of the Truliant Primary Operative Technique to complete the surgery.



# INSTRUMENT LISTING

**CATALOG NUMBER    DESCRIPTION**

02-029-11-1000

IM Pilot Drill



02-029-11-1300

T-Handle, Non-ratcheting



02-029-11-1100

IM Rod, 9mm

02-029-21-3300

IM Rod, 6mm



02-029-21-3000

IM Tibial Guide, Adjustable Slope Link



02-029-21-3100

IM Tibial Guide, 0-degree Slope Link



02-029-21-3130

IM Tibial Guide, 3-degree Slope Link



02-029-21-3200

IM Tibial Guide, Height Adjustment Module



## INSTRUMENT LISTING

CATALOG NUMBER	DESCRIPTION
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02-029-29-2000	Truliant Extra-medullary Alignment Rod/Coupler
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02-029-29-2100	Truliant Extra-medullary Alignment Rod Extension
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02-029-90-6000	Joint Line Predictor
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*\*Special Order Only*

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For additional device information, refer to the Exactech Knee System—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.

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