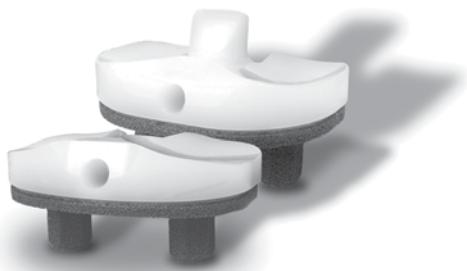




**Zimmer® NexGen®  
Trabecular Metal™  
Monoblock Tibial  
Components  
Surgical Technique  
Addendum**



CR and LPS Articular Surface Geometry with a Trabecular Metal Base Plate



**Zimmer® NexGen®  
Trabecular Metal™  
Monoblock Tibial  
Component Surgical  
Technique Addendum****Table of Contents**

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## Introduction

The *Zimmer NexGen CR* and *Legacy® Knee Posterior Stabilized (LPS) Trabecular Metal™* Monoblock Tibias combine the CR or LPS articular surface geometry with a *Trabecular Metal* base plate. This is accomplished by direct compression-molding polyethylene into a *Trabecular Metal* base plate and subsequently machining the *NexGen CR* or *LPS* articular surface geometry. The two hex-shaped *Trabecular Metal* pegs are press fit into the tibia.

The following surgical technique is an addendum to any of the *NexGen Knee Instrument System Surgical Techniques*. These include:

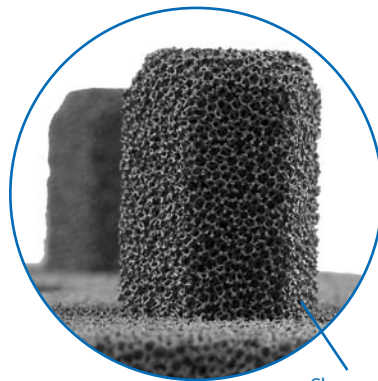
- *MIS™ Multi-Reference® 4-in-1 Femoral Instrumentation System*
- *MICRO-MILL® Instrumentation System-Milling or 5-in-1 Saw Blade Option*
- *MIS Intramedullary Instrumentation System*
- *Epicondylar Instrumentation System*
- *MIS Quad-Sparing™ Instrumentation System*



CR



LPS



Close-up of hex-shaped  
*Trabecular Metal* Pegs

## Resect the Tibia

Using any of the *NexGen* instrumentation systems listed and following the appropriate technique, establish the tibial cutting platform and resect the proximal tibia.

Proceed with the following steps to finish the tibia for implanting the *Zimmer NexGen Trabecular Metal Monoblock Tibia*.

## Finish the Tibia

Select the appropriate size (3-8) Provisional/Sizing Plate that provides the desired tibial coverage (Fig. 1). If more or less tibial coverage is desired, or if tibial plate size 1, 2, 9, or 10 is selected, you must proceed by using the standard *NexGen* CR or LPS tibial plate and corresponding articular surface. The *Trabecular Metal Monoblock Tibia* is only offered in sizes 3-8.

Position can be chosen based on anatomic landmarks (Fig. 2) or alternatively, the plate and provisionals can be used to perform a trial range of motion to aid in position.

**Note: The *Trabecular Metal Monoblock Tibia* is only offered in 10, 12, 14, and 17mm thicknesses. As such, it is strongly recommended that a trial range of motion be performed prior to drilling the peg holes. If greater thickness is required, the standard *NexGen CR or LPS System* must be utilized.**

After the Sizing Plate position has been chosen, secure the plate with Short-head Holding Pins (Fig. 3). Verify that the Sizing Plate is in uniform contact with the resected tibia (no gaps).



Fig. 1



Fig. 2

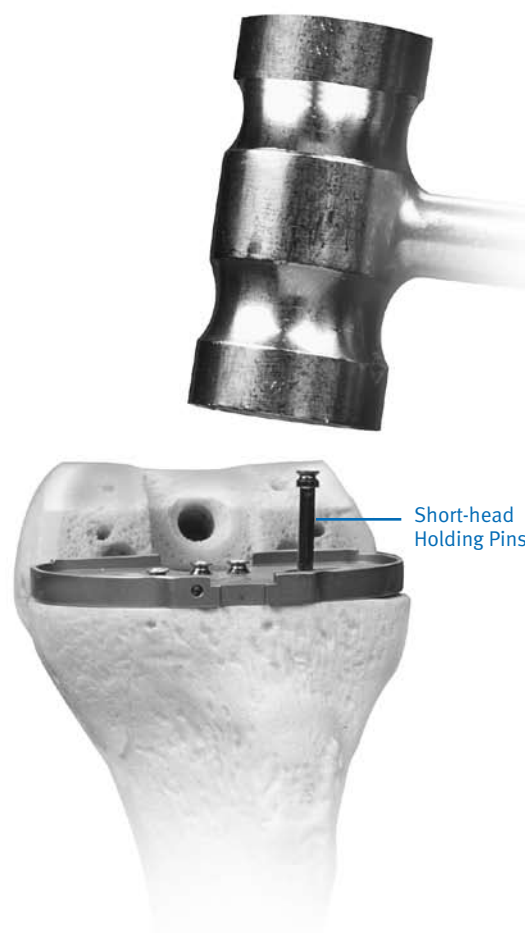


Fig. 3

## Drilling Peg Holes

With the Sizing Plate still pinned in position, place the Drill Guide (10.7mm) into the holes of the Sizing Plate and insert the 10.7mm Drill with Stop until it bottoms out on the Drill Guide (Fig. 4).

**Note: The holes must be drilled straight (90° to the resected tibial surface). Because the Drill Guide has a slight taper where it engages with the Sizing Plate, applying a small axial force will help ensure that the Drill Guide is oriented correctly. Angulation of the holes may prevent the Monoblock Tibia from seating properly.**

Re-insert all provisionals (Figs. 5 and 6) and check the range of motion and joint stability. In addition, insure that the Sizing Plate is in uniform contact with the resected tibia. Perform any necessary soft tissue releases. After the trial reduction is complete, remove all provisionals.

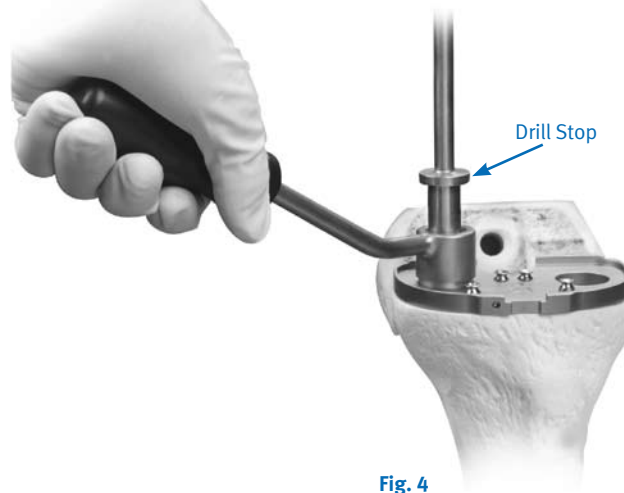


Fig. 4



Fig. 5 CR Provisionals



Fig. 6 LPS Provisionals

## Component Implantation

After the implants have been chosen, check to ensure that the femoral and *Trabecular Metal* Monoblock Tibial components match.

To assemble the *Trabecular Metal* Monoblock Tibial Impactor to either the CR or LPS Monoblock Tibia, slide the pin into the hole on the anterior surface of the Monoblock Tibia (Fig. 7), then pivot the impactor until it slides onto the articular surface and snaps into place (Fig. 8).

If using the **CR Monoblock Tibia**, it should be implanted first, prior to the femoral component for better exposure.

If using the **LPS Monoblock Tibia**, the LPS Femoral Component should be implanted first. This minimizes potential interference between the femoral cam and tibial eminence during insertion. After the LPS Femoral Component is fully seated, assemble the LPS Monoblock Tibia to the Monoblock Tibial Impactor.

The *Trabecular Metal* CR and LPS Monoblock Tibias may be implanted with or without bone cement (cemented or cementless options).

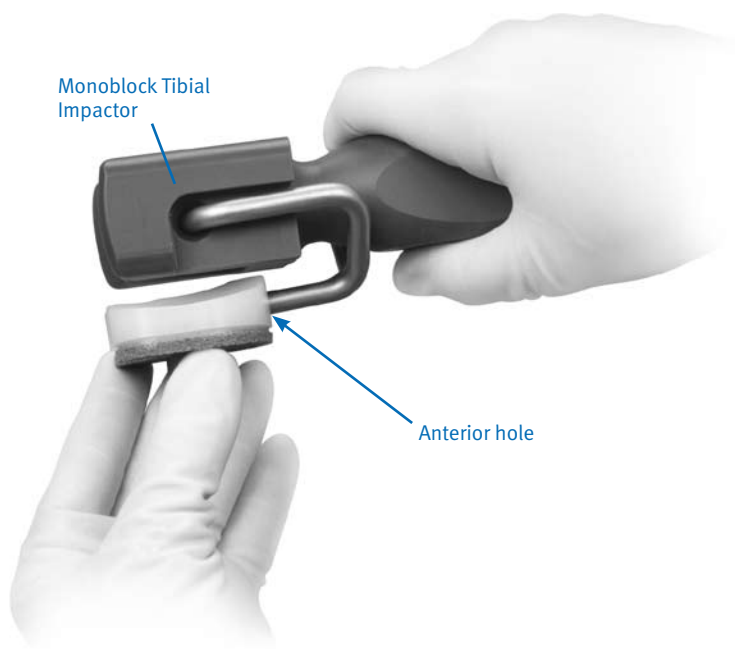


Fig. 7



Fig. 8



## Cementless Implantation Option

Prior to implantation of a *Trabecular Metal* Monoblock Tibia, the resected tibial bone surface must be flat and free of bone debris and fragments. Also, the patient's bone quality must be assessed for density and quality to insure adequate support and fixation of the *Trabecular Metal* Monoblock Tibia.\* The Monoblock Tibia is inserted with the knee fully flexed and the proximal tibia advanced anteriorly. The two hexagonal-shaped *Trabecular Metal* pegs must be axially aligned with the prepared holes in the proximal tibia, the chamfered ends of the *Trabecular Metal* pegs aid in initial engagement of the implant and the prepared tibia. After initial engagement of the Monoblock Tibia with bone and prior to impaction via the impaction handle (Fig. 9), insure that the inferior surface of the implant and proximal tibia are parallel with respect to each other and that the *Trabecular Metal* pegs are perpendicular to the proximal tibia. Once this visual check is performed, the *Trabecular Metal* Monoblock Tibia may be impacted into place.

After impaction, it is extremely important to insure that the *Trabecular Metal* base plate is in uniform contact with the resected tibia, and that there are no gaps.\*\* After the *Trabecular Metal* Monoblock Tibia is implanted, the *NexGen* CR Femoral Component may be inserted per the associated surgical technique. The knee should be flexed to 90°, and the femoral component impacted in place. It is important to note that flexing the knee beyond 90° may result in impingement of the posterior femoral condyles with the posterior aspect of the *Trabecular Metal* CR Monoblock Tibia.

**\* Note: When using the cementless option, bone quality must be assessed for ability to stabilize and support the *Trabecular Metal* Monoblock Tibia. Bone stock of insufficient quality and/or density may not be capable of adequately supporting the component. If the bone stock is of questionable quality or density, the *Trabecular Metal* Monoblock Component should be cemented to the proximal tibia (reference page 8).**

**\*\* Note: After impaction of the *Trabecular Metal* Monoblock Tibia, the interface between the component and tibia must be in uniform contact. There must be no gaps between the implant and bone, or fixation, support and/or stability may be insufficient.**



Fig. 9



## Cemented Implantation Option

The *Trabecular Metal* CR and LPS Monoblock Tibias are implanted with cement between the baseplate and bone only; the *Trabecular Metal* pegs are implanted without bone cement (cementless). Bone cement should be applied in the doughy state in order to control its application to the *Trabecular Metal* base plate and/or bone. Bone cement is applied directly onto the *Trabecular Metal* base plate of the Monoblock Tibia in a uniform fashion; care must be taken to insure a consistent and continuous cement layer is applied to the *Trabecular Metal* base plate. Cement Masks are provided in the instrument set for covering the *Trabecular Metal* pegs; the Cement Masks prevent bone cement coming in contact with the *Trabecular Metal* pegs (Fig. 10). Bone cement may also be applied to the proximal tibia; the cement

masks can be used to occlude the prepared holes and prevent the egress of bone cement (Fig. 11). Once the cement has been applied to the *Trabecular Metal* Monoblock Tibia, the two hexagonal-shaped *Trabecular Metal* pegs are axially aligned with the prepared holes of the proximal tibia, and the *Trabecular Metal* Monoblock Tibia is inserted into the holes. After initial engagement of the Monoblock Tibia with bone and prior to impaction via the Impaction Handle, insure that the inferior surface of the implant and proximal tibia are parallel with respect to each other and that the *Trabecular Metal* pegs are perpendicular to the proximal tibia. Once this visual check is performed, the *Trabecular Metal* Monoblock Tibia may be impacted into place.

After impaction, it is extremely important to insure that the cemented interface between the Monoblock Tibia and resected tibial bone is of uniform thickness and consistency. Excess bone cement must be removed from the periphery of the *Trabecular Metal* Monoblock Tibia, and there must be no bone cement on the articular surfaces.

After the *Trabecular Metal* Monoblock Tibia is in place, the *NexGen* CR Femoral Component may be inserted per the associated surgical technique. The knee should be flexed to 90°, and the femoral component impacted in place.

It is important to note that flexing the knee beyond 90° may result in impingement of the posterior femoral condyles with the posterior aspect of the *Trabecular Metal* CR Monoblock Tibia.

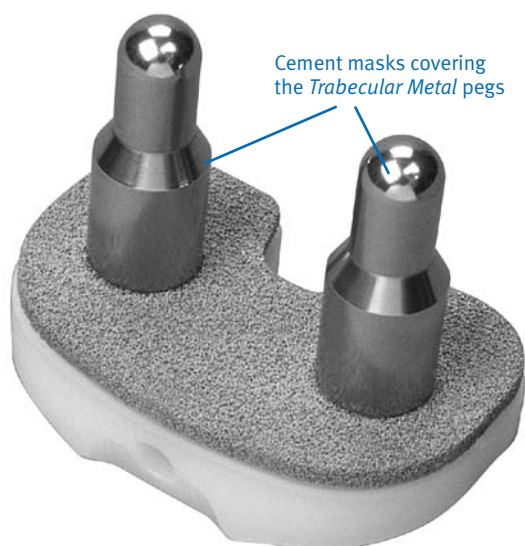


Fig. 10

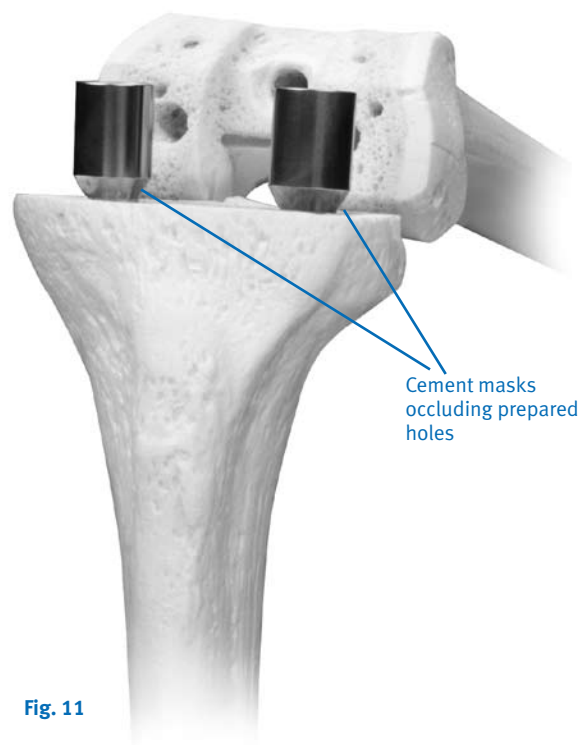


Fig. 11

## Ordering Information

### LPS MONOBLOCK IMPLANTS

Catalog No.	Description	Catalog No.	Description
<b>5886-04-01</b>	<b>Trabecular Metal Monoblock LPS Implant Set (Includes 1 each of the items listed below)</b>	5886-55-17	Trabecular Metal Monoblock LPS Tibia, Green, Size 5 E/F, 17mm
5886-53-10	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 3 C/D, 10mm	5886-56-10	Trabecular Metal Monoblock LPS Tibia, Green, Size 6 E/F, 10mm
5886-53-12	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 3 C/D, 12mm	5886-56-12	Trabecular Metal Monoblock LPS Tibia, Green, Size 6 E/F, 12mm
5886-53-14	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 3 C/D, 14mm	5886-56-14	Trabecular Metal Monoblock LPS Tibia, Green, Size 6 E/F, 14mm
5886-53-17	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 3 C/D, 17mm	5886-56-17	Trabecular Metal Monoblock LPS Tibia, Green, Size 6 E/F, 17mm
5886-54-10	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 4 C/D, 10mm	5886-67-10	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 7 E/F, 10mm
5886-54-12	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 4 C/D, 12mm	5886-67-12	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 7 E/F, 12mm
5886-54-14	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 4 C/D, 14mm	5886-67-14	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 7 E/F, 14mm
5886-54-17	Trabecular Metal Monoblock LPS Tibia, Yellow, Size 4 C/D, 17mm	5886-67-17	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 7 E/F, 17mm
5886-75-10	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 C/D, 10mm	5886-68-10	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 8 E/F, 10mm
5886-75-12	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 C/D, 12mm	5886-68-12	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 8 E/F, 12mm
5886-75-14	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 C/D, 14mm	5886-68-14	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 8 E/F, 14mm
5886-75-17	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 C/D, 17mm	5886-68-17	Trabecular Metal Monoblock LPS Tibia, Str Blue, Size 8 E/F, 17mm
5886-76-10	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 C/D, 10mm	5886-65-10	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 G/H, 10mm
5886-76-12	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 C/D, 12mm	5886-65-12	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 G/H, 12mm
5886-76-14	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 C/D, 14mm	5886-65-14	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 G/H, 14mm
5886-76-17	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 C/D, 17mm	5886-65-17	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 5 G/H, 17mm
5886-63-10	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 3 E/F, 10mm	5886-66-10	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 G/H, 10mm
5886-63-12	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 3 E/F, 12mm	5886-66-12	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 G/H, 12mm
5886-63-14	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 3 E/F, 14mm	5886-66-14	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 G/H, 14mm
5886-63-17	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 3 E/F, 17mm	5886-66-17	Trabecular Metal Monoblock LPS Tibia, Str Green, Size 6 G/H, 17mm
5886-64-10	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 4 E/F, 10mm	5886-57-10	Trabecular Metal Monoblock LPS Tibia, Blue, Size 7 G/H, 10mm
5886-64-12	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 4 E/F, 12mm	5886-57-12	Trabecular Metal Monoblock LPS Tibia, Blue, Size 7 G/H, 12mm
5886-64-14	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 4 E/F, 14mm	5886-57-14	Trabecular Metal Monoblock LPS Tibia, Blue, Size 7 G/H, 14mm
5886-64-17	Trabecular Metal Monoblock LPS Tibia, Str Yellow, Size 4 E/F, 17mm	5886-57-17	Trabecular Metal Monoblock LPS Tibia, Blue, Size 7 G/H, 17mm
5886-55-10	Trabecular Metal Monoblock LPS Tibia, Green, Size 5 E/F, 10mm	5886-58-10	Trabecular Metal Monoblock LPS Tibia, Blue, Size 8 G/H, 10mm
5886-55-12	Trabecular Metal Monoblock LPS Tibia, Green, Size 5 E/F, 12mm	5886-58-12	Trabecular Metal Monoblock LPS Tibia, Blue, Size 8 G/H, 12mm
5886-55-14	Trabecular Metal Monoblock LPS Tibia, Green, Size 5 E/F, 14mm	5886-58-14	Trabecular Metal Monoblock LPS Tibia, Blue, Size 8 G/H, 14mm
		5886-58-17	Trabecular Metal Monoblock LPS Tibia, Blue, Size 8 G/H, 17mm

**CR MONOBLOCK IMPLANTS**

Catalog No.	Description
<b>5886-04</b>	<b>Trabecular Metal Monoblock CR Implant Set (Includes 1 each of the items listed below)</b>
5886-43-10	Trabecular Metal Monoblock CR Tibia, Yellow, Size 3 C-H, 10mm
5886-43-12	Trabecular Metal Monoblock CR Tibia, Yellow, Size 3 C-H, 12mm
5886-43-14	Trabecular Metal Monoblock CR Tibia, Yellow, Size 3 C-H, 14mm
5886-43-17	Trabecular Metal Monoblock CR Tibia, Yellow, Size 3 C-H, 17mm
5886-44-10	Trabecular Metal Monoblock CR Tibia, Yellow, Size 4 C-H, 10mm
5886-44-12	Trabecular Metal Monoblock CR Tibia, Yellow, Size 4 C-H, 12mm
5886-44-14	Trabecular Metal Monoblock CR Tibia, Yellow, Size 4 C-H, 14mm
5886-44-17	Trabecular Metal Monoblock CR Tibia, Yellow, Size 4 C-H, 17mm
5886-45-10	Trabecular Metal Monoblock CR Tibia, Green, Size 5 C-H, 10mm
5886-45-12	Trabecular Metal Monoblock CR Tibia, Green, Size 5 C-H, 12mm
5886-45-14	Trabecular Metal Monoblock CR Tibia, Green, Size 5 C-H, 14mm
5886-45-17	Trabecular Metal Monoblock CR Tibia, Green, Size 5 C-H, 17mm
5886-46-10	Trabecular Metal Monoblock CR Tibia, Green, Size 6 C-H, 10mm
5886-46-12	Trabecular Metal Monoblock CR Tibia, Green, Size 6 C-H, 12mm
5886-46-14	Trabecular Metal Monoblock CR Tibia, Green, Size 6 C-H, 14mm
5886-46-17	Trabecular Metal Monoblock CR Tibia, Green, Size 6 C-H, 17mm
5886-47-10	Trabecular Metal Monoblock CR Tibia, Blue, Size 7 C-H, 10mm
5886-47-12	Trabecular Metal Monoblock CR Tibia, Blue, Size 7 C-H, 12mm
5886-47-14	Trabecular Metal Monoblock CR Tibia, Blue, Size 7 C-H, 14mm
5886-47-17	Trabecular Metal Monoblock CR Tibia, Blue, Size 7 C-H, 17mm
5886-48-10	Trabecular Metal Monoblock CR Tibia, Blue, Size 8 C-H, 10mm
5886-48-12	Trabecular Metal Monoblock CR Tibia, Blue, Size 8 C-H, 12mm
5886-48-14	Trabecular Metal Monoblock CR Tibia, Blue, Size 8 C-H, 14mm
5886-48-17	Trabecular Metal Monoblock CR Tibia, Blue, Size 8 C-H, 17mm

**INSTRUMENTS**

Catalog No.	Description
<b>5973-06</b>	<b>Trabecular Metal Monoblock CR/LPS Tibial Instrument Kit (Includes items listed below)</b>
5887-43	Monoblock Tibial Prov/Drill Guide, Size 3
5887-44	Monoblock Tibial Prov/Drill Guide, Size 4
5887-45	Monoblock Tibial Prov/Drill Guide, Size 5
5887-46	Monoblock Tibial Prov/Drill Guide, Size 6
5887-47	Monoblock Tibial Prov/Drill Guide, Size 7
5887-48	Monoblock Tibial Prov/Drill Guide, Size 8
5887-51	Monoblock Tibial Drill Guide, 19.7mm Dia
5887-52	Monoblock Tibial Drill w/Stop, 10.7mm Dia
5887-55	Monoblock Tibial Peg Cement Mask, qty 2
5887-56	Monoblock CR/LPS Tibial Impactor
5887-94-01	Monoblock CR/LPS Tibial Instrument Case
5887-56-01	Short-head Holding Pin, qty 4

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