

# Cellbrick™ Knee Spacer



**Surgical Protocol**

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# Device Description

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## *Cellbrick knee spacer–*

The Cellbrick knee spacer provides a mobile solution to 2-stage infection control in total knee arthroplasty. The polyethylene spacer core for both femoral and tibial sides enhanced biomechanical safety during their application period, while the multiaperture features act as cement carrier for adequate antibiotics elution when applied with antibiotic cement. The canal rod is prepared for deep infection control in femoral or tibial canal.

## **INDICATIONS**

This product is indicated for temporary use (maximum of 180 days) as a total knee replacement (TKR) in skeletally mature patients undergoing a two-stage procedure due to a septic process.

This product is indicated for patients who extinct infection risks or infect by gentamicin-sensitive bacteria.

This product is not intended for use for more than 180 days, at which time it must be explanted and a permanent device implanted or another appropriate treatment performed (e.g., resection arthroplasty, fusion, etc.).

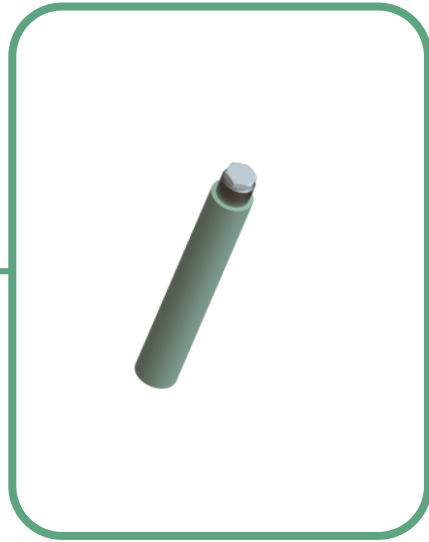
*Please note, this Surgical Protocol is consistent with our validated labeling. It is not intended to substitute for each surgeon's individual medical judgement regarding patient care. It is intended to be a reference document to be utilized in supporting usage of United Orthopedics' Cellbrick knee spacer.*



# Surgical Overview



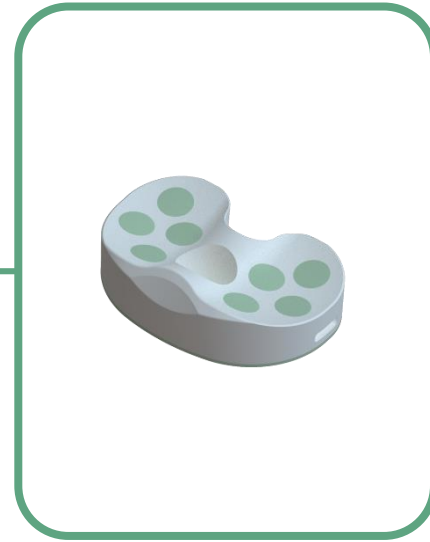
**A. Bone Preparation & Size Selection**



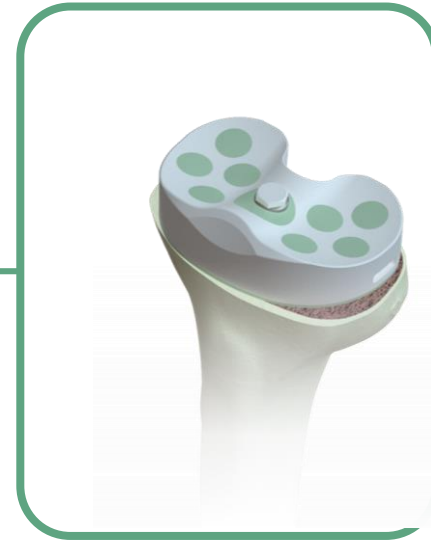
**B. Canal Rod Preparation**



**C. Tibial Canal Rod Insertion**



**D. Tibial Spacer Preparation**



**E. Tibial Spacer Implantation**



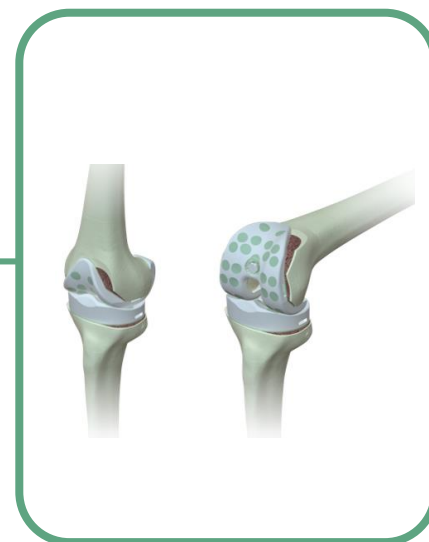
**F. Femoral Canal Rod Insertion**



**G. Femoral Spacer Preparation**



**H. Femoral Spacer Implantation**



**I. Reduction of Knee Joint**

# A. Bone Preparation & Size Selection

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Remove the Prosthesis and clean the host site by aggressive debridement. Remove all residual bone cement if present



Select the spacers with appropriate sizes according to preoperative plan or intraoperative observation.

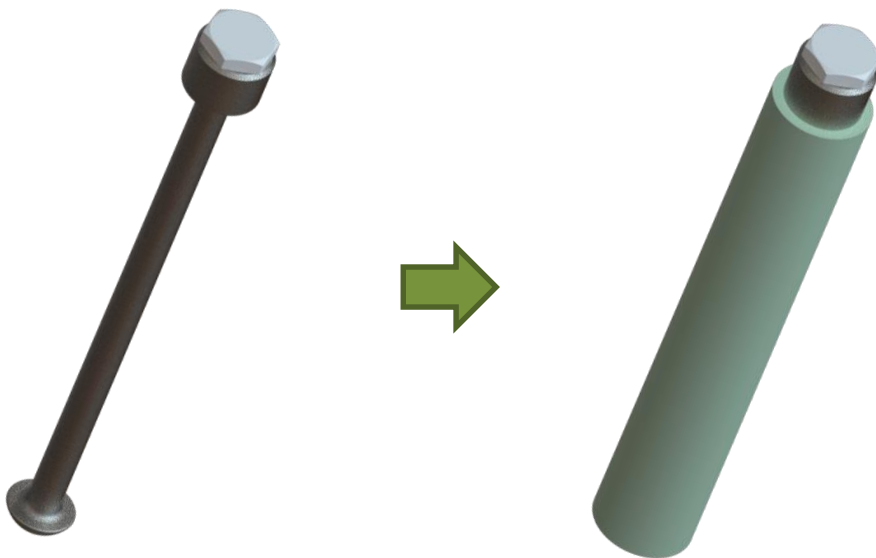
## Instruments

N/A

## B. Canal Rod Preparation

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If a canal rod is required, properly wrap the cement around the shaft of canal rod, and leave the head region of canal rod uncovered. Keep the canal rod at an appropriate environment until the polymerization of wrapped cement is achieved. If canal rods are required for both tibial and femoral sides, then 2 canal rods should be prepared in this stage



Instruments

N/A

## C. Tibial Canal Rod Insertion

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Insert the wrapped canal rod into tibial canal until an around 10 mm prominence of canal rod head from the resected tibial surface is achieved.



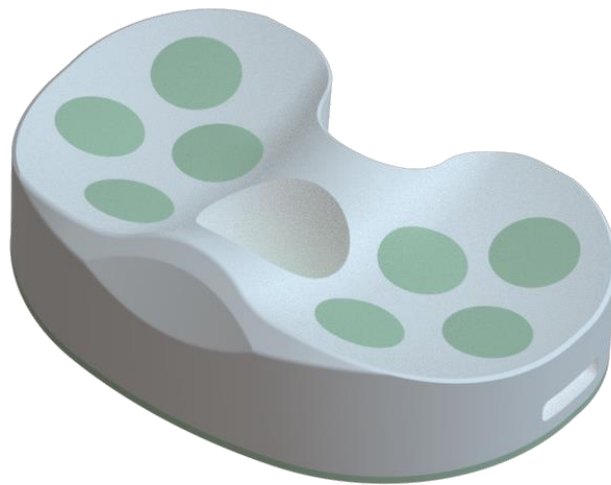
Instruments

N/A

## D. Tibial Spacer Preparation

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Apply bone cement to the holes and the backside of tibial spacer, and to the proximal tibia where the spacer will be placed. Leave the central hole of tibial spacer unoccupied by the cement if insertion of a canal rod is expected.



**Note:**

With pre-clinical validations of antibiotic elution and tibial spacer fatigue, and spacer wear test, the ***"Heraeus" Bone Cement with Gentamicin*** is recommended for application with the tibial spacer of Cellbrick™ knee spacer.

### Instruments

N/A

## E. Tibial Spacer Implantation

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Place the tibial spacer onto the proximal tibia in an adequate orientation. The head of canal rod should pass through the central hole of tibial spacer. If necessary, gap between the canal rod and the central hole can be filled with cement.



Avoid excessive cement protrusion from spacer surface, and remove the redundant cement. Hold the tibial spacer in position until the cement is fully polymerized.

### Instruments

N/A

## F. Femoral Canal Rod Insertion

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Insert the wrapped canal rod into femoral canal until an around 10 mm prominence of canal rod head from the resected femoral surface is achieved.



Instruments

N/A

## G. Femoral Spacer Preparation

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Apply bone cement to the holes and the backside of femoral spacer, and to distal femur where the spacer will be placed. Leave the central hole of femoral spacer unoccupied by the cement if insertion of a canal rod is expected.



**Note:**

With pre-clinical validations of antibiotic elution and spacer wear test, the "*Heraeus*" ***Bone Cement with Gentamicin*** is recommended for application with the femoral spacer of Cellbrick™ knee spacer.

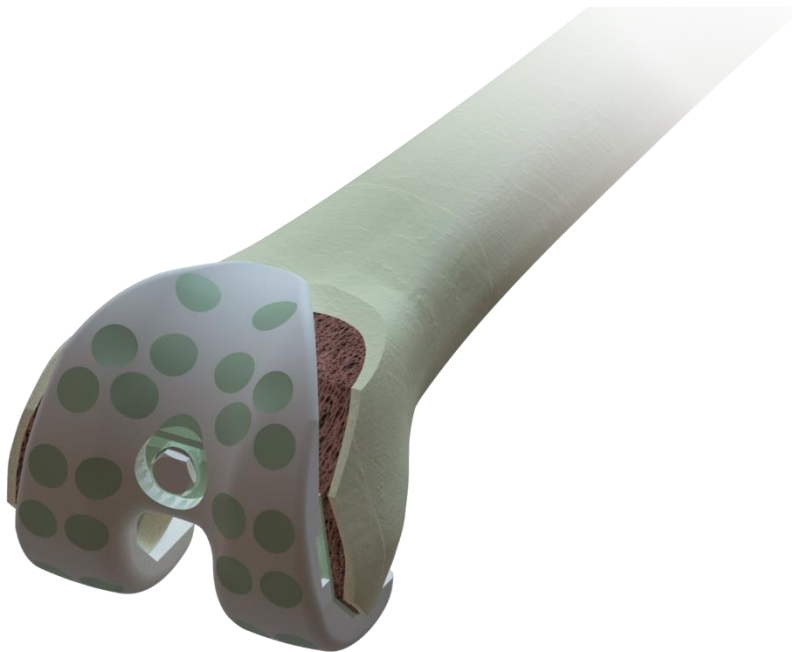
### Instruments

N/A

## H. Femoral Spacer Implantation

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Place the femoral spacer onto the distal femur in an adequate orientation. The head of canal rod should pass through the central hole of femoral spacer. If necessary, gap between the canal rod and the central hole can be filled with cement.



Avoid excessive cement protrusion from spacer surface, and remove the redundant cement. Hold the femoral spacer in position until the cement is fully polymerized.

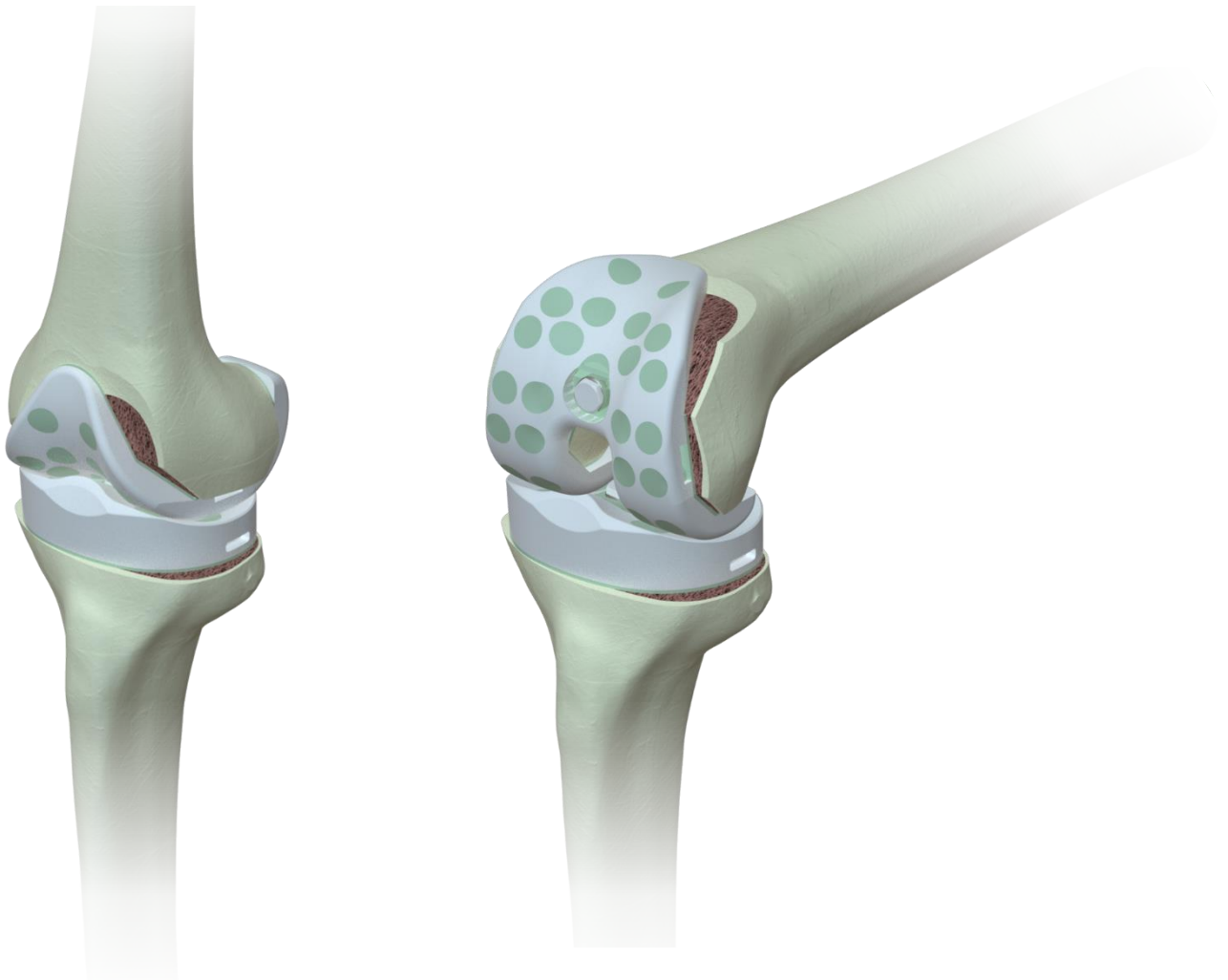
### Instruments

N/A

# I. Reduction of Knee Joint

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Reduce the knee joint to confirm if the spacers represents adequate performance.



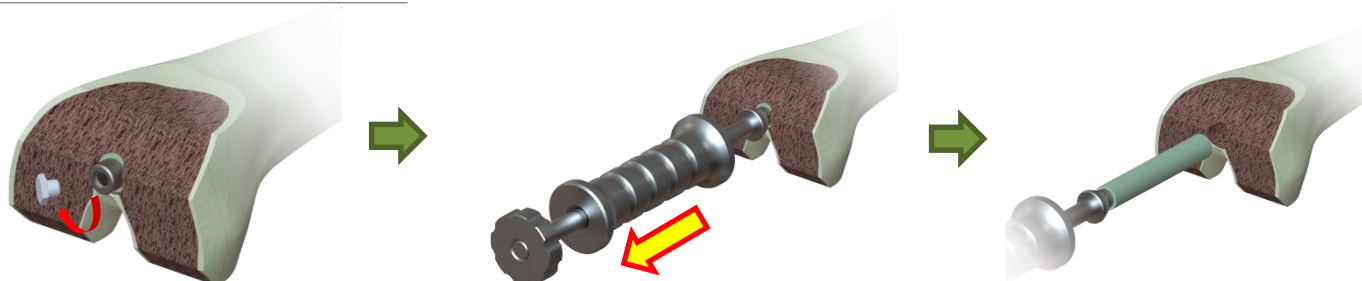
Instruments

N/A

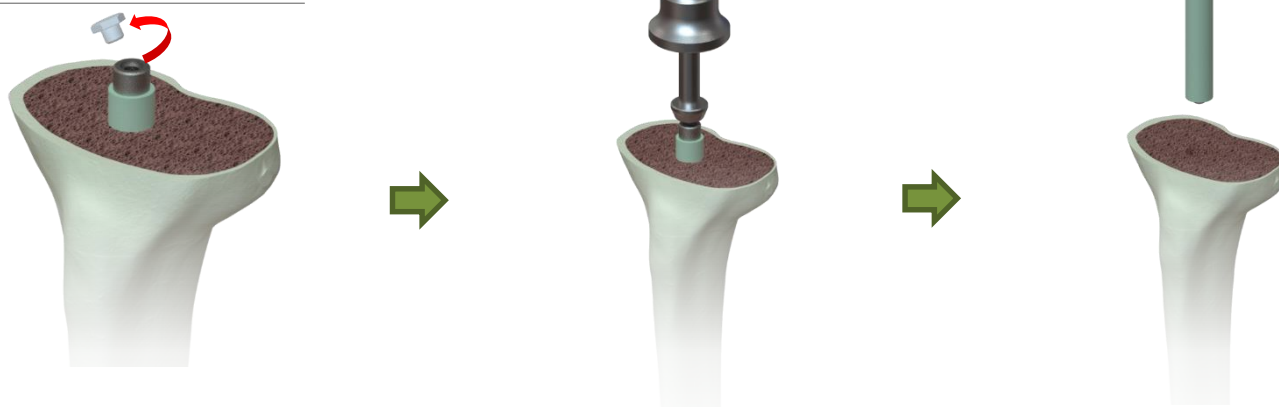
# Appendix: Removal of Implants

Use the osteotome to break the connective cement mantle between the spacer and the host bone, and retrieve the femoral/tibial spacer respectively. Remove the protection cap and reveal the internal thread on the head of canal rod. Secure the **Sliding Hammer** to the head of canal rod, and punch reversely to retrieve the canal rods from femoral/tibial canal respectively.

## Femoral canal rod removal



## Tibial canal rod removal



## Instruments



Sliding Hammer

# Order Information

Catalog Number Description

## Femoral spacer



2106-1010	#1
2106-1020	#2
2106-1030	#3
2106-1040	#4
2106-1050	#5

## Tibial spacer



2106-1010	#1
2106-1020	#2
2106-1030	#3
2106-1040	#4
2106-1050	#5

## Canal rod



2706-1009	Φ4×80 mm
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