

BioPatella™ OATS® System

Surgical Technique



Arthrex® 

Introducing the Arthrex BioPatella™ OATS® System

The BioPatella Instrument Set is the new standard for restoration of the articular surface of the patella when presented with oblong cartilage defects involving a significant amount of the patellar articular surface. Through a series of precisely designed cutting instruments, surgeons can replace damaged cartilage with a single, elliptical piece of viable, hyaline cartilage.

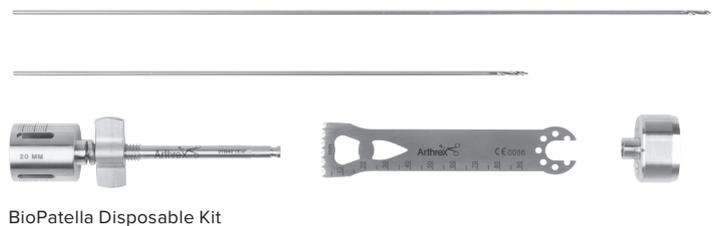
The BioPatella instruments address many of the challenges and risks associated with the recovery and implantation of standard smaller cylindrical cartilage cores. Positioning a standard round graft often does not

suffice to adequately resurface the entirety of the injured articular surface. The BioPatella instruments were designed to match the natural curvature of the patella to resurface the entire functional articular surface. Multiple sizes allow flexibility for the surgeon to adjust the width and length of the cartilage defect and to ensure proper restoration of the articular surface with a single cartilage piece.

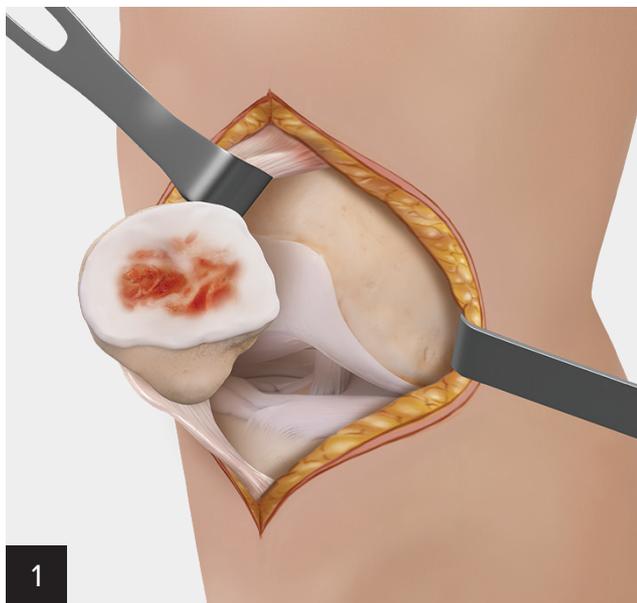
Technique described by Thomas M. DeBerardino, MD (San Antonio, TX)

The BioPatella instrumentation includes sizes small, medium, and large, each with an accompanying disposable kit.

| Description | Size | Item Number |
|-------------|-------------------|-------------|
| Small | 20 mm × 30 mm | ABS-4085D-S |
| Medium | 25 mm × 35 mm | ABS-4085D-M |
| Large | 27.5 mm × 37.5 mm | ABS-4085D-L |



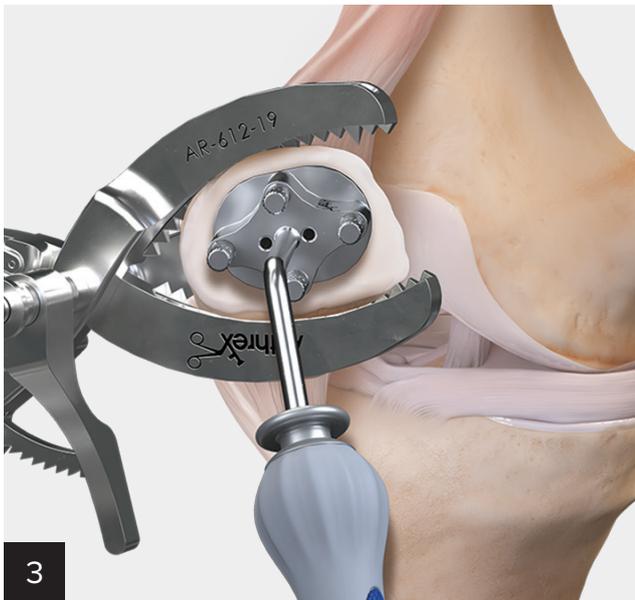
Surgical Technique



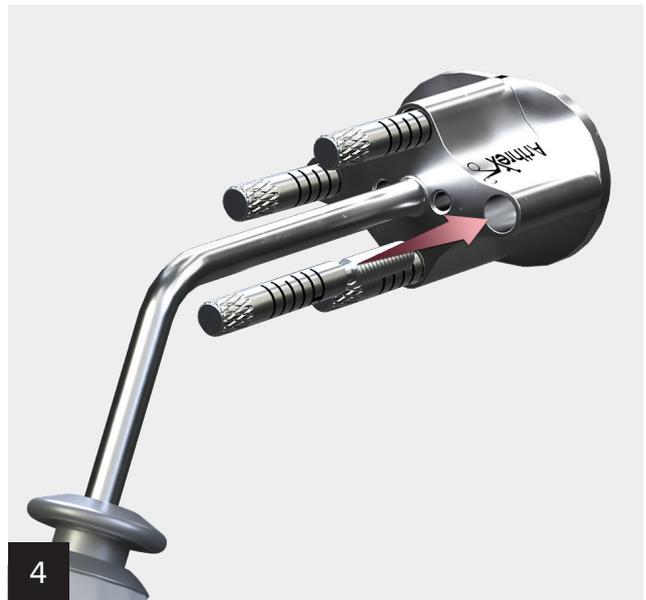
The first step in the BioPatella procedure is to perform a midline incision with medial parapatellar arthrotomy to allow eversion of the patella.



There are three different size of guides provided with the BioPatella instrumentation, with three accompanying disposable kits. **NOTE: The maximum depth of the donor graft is 12 mm. If the depth of the articular cartilage and defect is greater than 12 mm, it is recommended to utilize standard Allograft OATS approaches to treat the articular cartilage defect.**



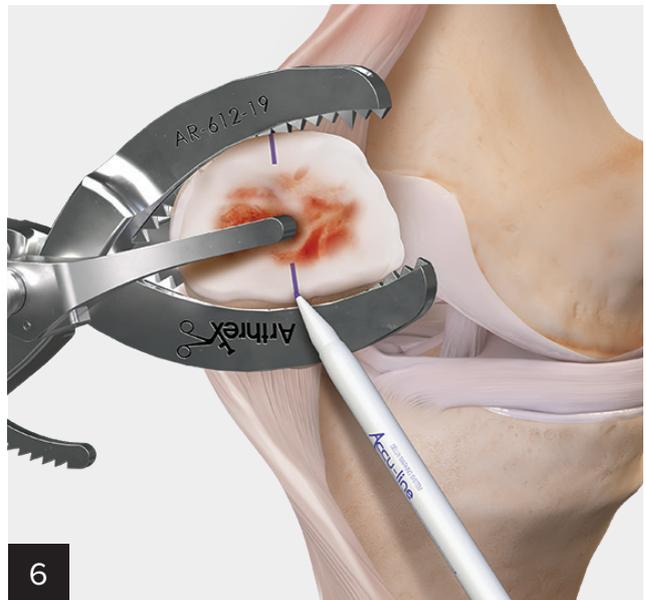
Next, select the appropriate BioPatella™ guide (small, medium, or large) to treat the articular cartilage lesion. A minimum of 5 mm border should remain surrounding the desired implant size to ensure a stable recipient site.



Once the appropriate guide has been selected, assemble the four alignment pins with the BioPatella guide.



Next, secure the patient's patella with the Allograft OATS® patella resection clamp from the instrumentation tray. Take care to ensure the patella is secured in the resection clamp and an approach to the articular surface is readily available. **Note: determine the patellar height by rotating the articular arm of the resection guide and viewing the "window" of the resection guide.**



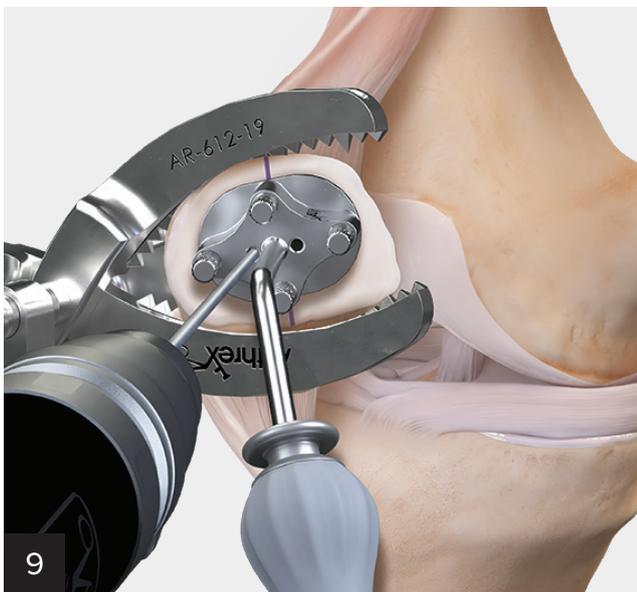
Use a marking pen to note the superior and inferior plane of the patellar ridge. This anatomical feature and associated markings of the recipient site will help to ensure appropriate alignment of the guide in the steps to follow.



Center the BioPatella™ guide on the articular cartilage lesion. **NOTE: In cases where the lesion is not centered on the patellar ridge and associated superior and inferior markings on the patella, take care to offset the guide and subsequent steps accordingly.**



Confirm the stability and fit of the BioPatella guide by viewing the central plane of the patella. Further adjust the pins as necessary to ensure an appropriate and stable fit of the guide that is parallel with the central plane of the patella.



Use the short guide pin and drill bicortical to gain appropriate purchase in the patella.



Once the first guide pin is secured, remove the guide.



11

The reamer depth is adjusted to the appropriate depth by referencing the 1 mm increment laser marks on the reamer and securing the wing-nut where appropriate. Reference the patellar ridge height that was measured previously to help determine the appropriate reamer depth. **NOTE: The maximum allograft plug height that can be recovered is 12 mm. When preparing the recipient site, adjust the reamer depth as needed but not to exceed 12 mm.**



12

Ream to the appropriate depth with the depth-stop feature. Maintain alignment with the 2.4 mm guide pin throughout reaming the recipient site. Remove any loose cartilage or bone debris.



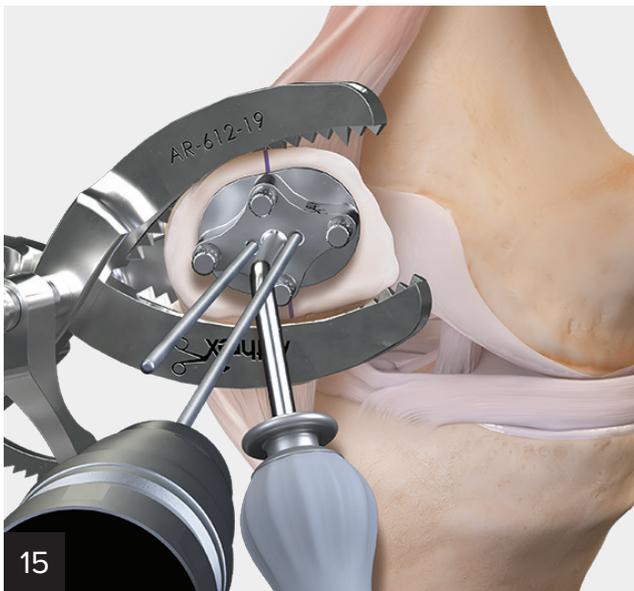
13

Remove the reamer, taking care to ensure the guide pin remains in position.



14

Reassemble the BioPatella™ guide over the short guide pin. Ensure the appropriate guide pin location is used in the BioPatella guide. Also, ensure the orientation of the BioPatella guide matches the original orientation and alignment markings.



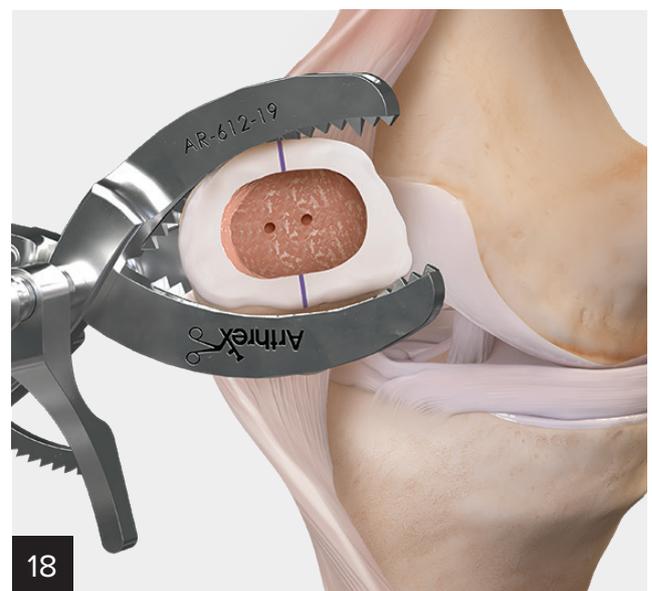
15 Advance the long 2.4 mm guide pin into the patella, taking care to ensure the guide pins are parallel.



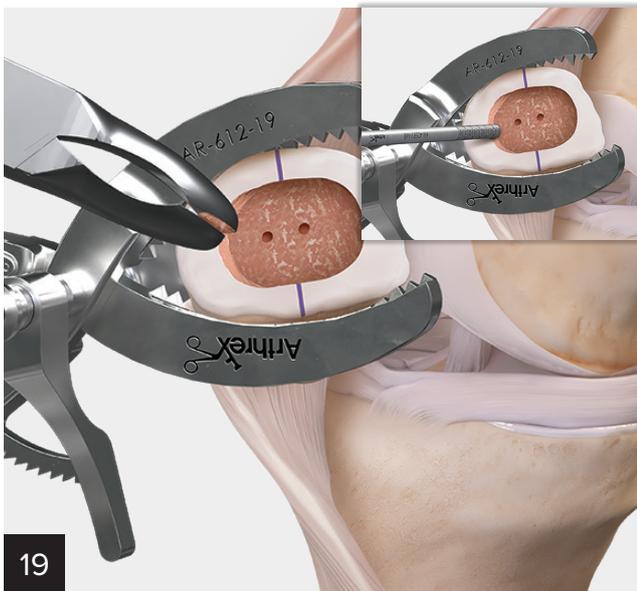
16 Remove the first short guide pin then remove the BioPatella™ guide. Note the second guide pin is offset from the first.



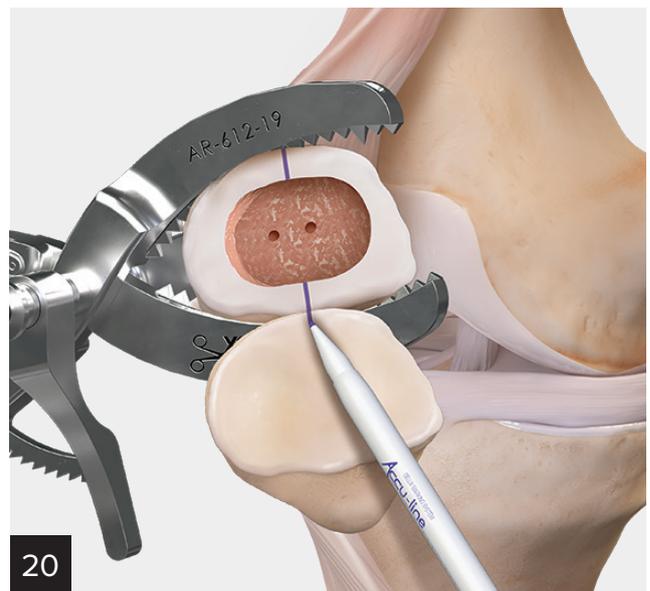
17 Repeat the reaming process over the second guide pin, adjusting the depth of the reamer as needed to achieve a smooth base in the recipient site.



18 Remove the 2.4 mm guide pin. Clear the recipient site of the bone and cartilage debris.



Use a rongeur at the mating edges to remove any remaining bone in the recipient site. At each quadrant, measure and note the depth of the recipient site.



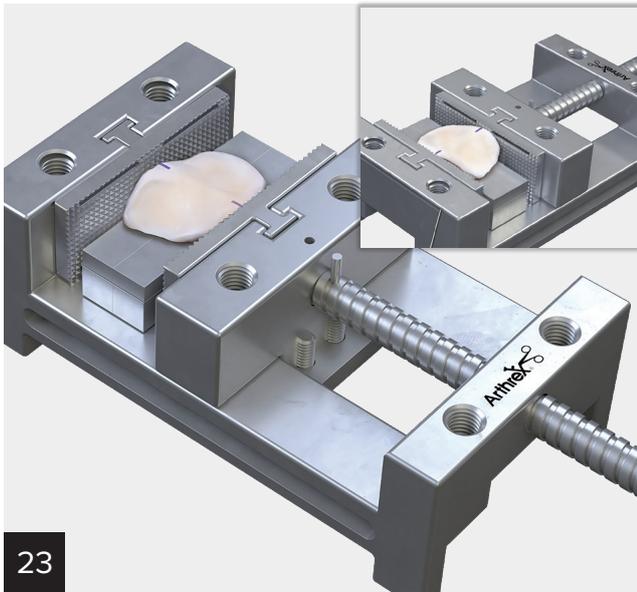
Orient the donor patella with the recipient site and place a mark at the superior patellar ridge. Additional markings may be desired to ensure orientation of the allograft and recipient site are maintained.



Adjust the articulating arm depth to the maximum desired implant plug height then assemble the allograft into the clamp. Secure the donor patella in the patella resection clamp, taking care to align the cutting feature with the patella and in plane with the desired allograft plug maximum height. **Note: The resulting allograft plug height may not exceed 12 mm; adjust in this step as necessary to the appropriate cutting plane.**

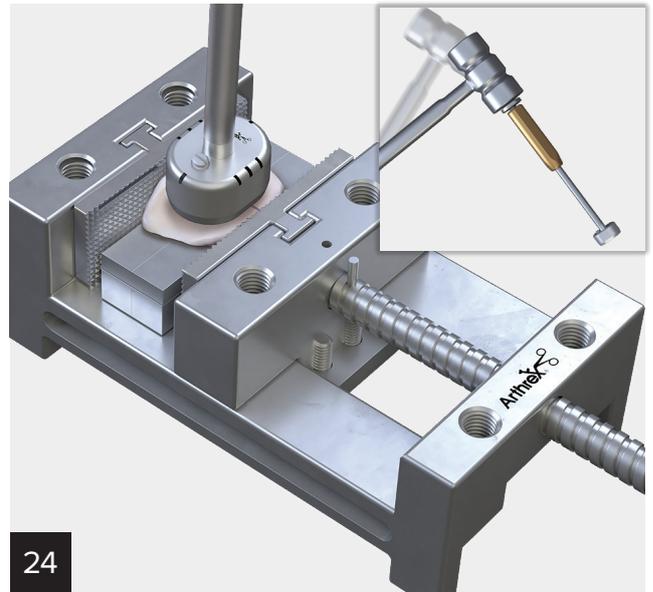


Complete the sagittal cut through the patella to remove the excess bone.



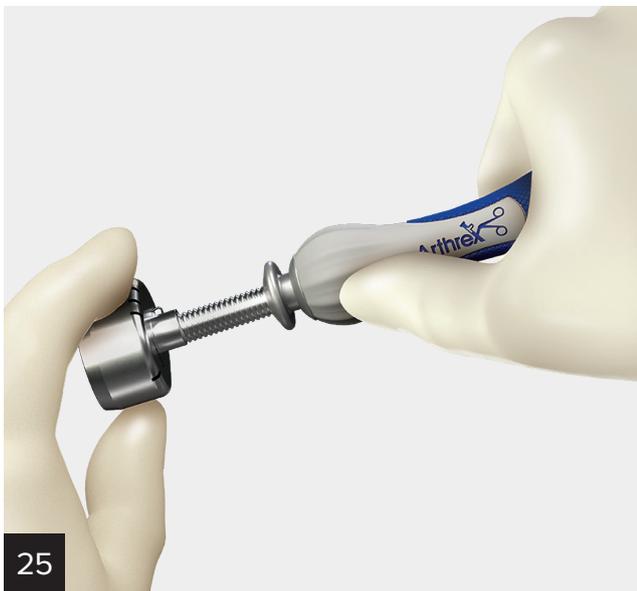
23

The vice workstation is then used to prepare the allograft further. Assemble the workstation spacers to achieve a flat, stable surface. A guide pin may be used to ensure graft stability by advancing through the window in the straight plate and workstation.



24

Ensure the appropriate cutter insert is assembled with the oblong cutter; then assemble with the handle. Next, align the oblong cutter perpendicularly with the allograft to achieve the desired plug. Advance the cutter through the allograft and remove the excess cartilage and bone.



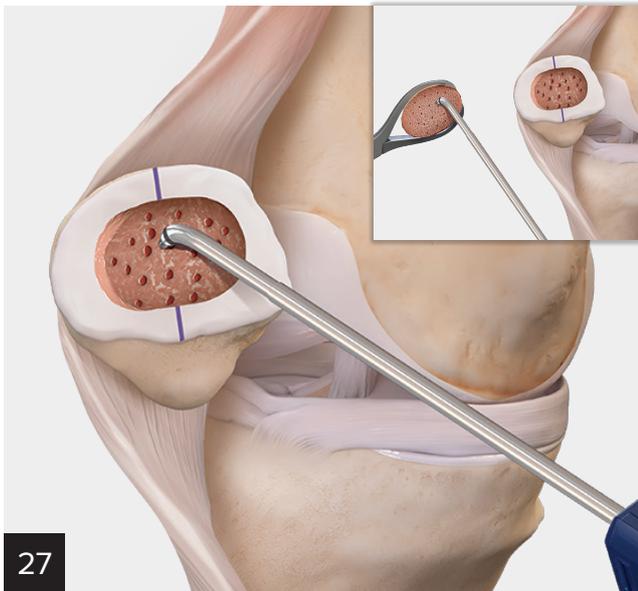
25

Assemble the threaded pin with the cutter and advance to remove the allograft core from the cutter.



26

At each quadrant of the allograft, measure and mark the desired height to match the recipient site. Use a rasp to reduce the height of the allograft as needed.



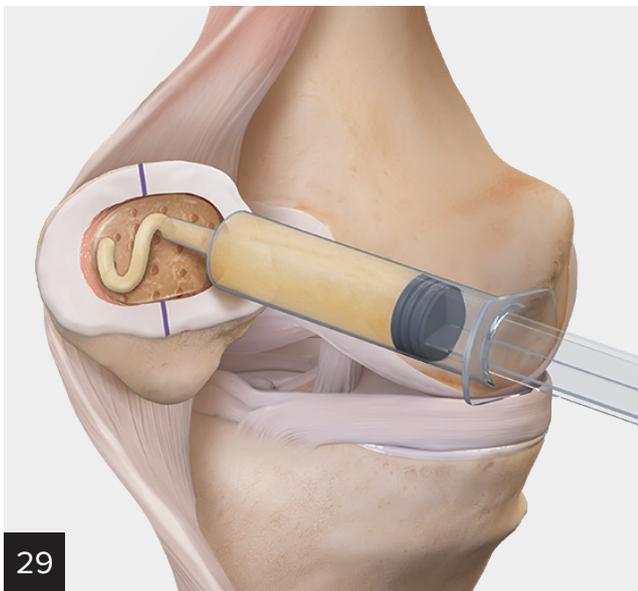
27

Use the PowerPick™ device to prepare the recipient site of the patella as well as the donor allograft.



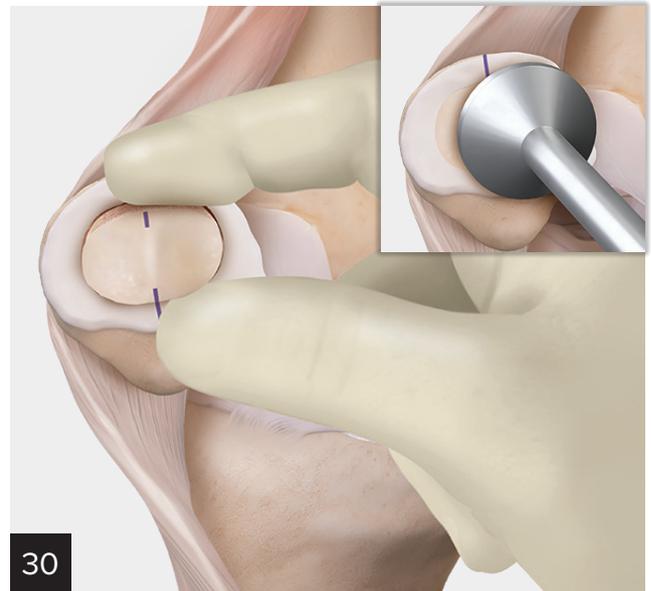
28

Use a rongeur to smooth the edge of the allograft core. Following pulse lavage of the allograft core, allow the osteochondral allograft core to be mixed with Arthrex ACP® or Angel® platelet-rich plasma (PRP).



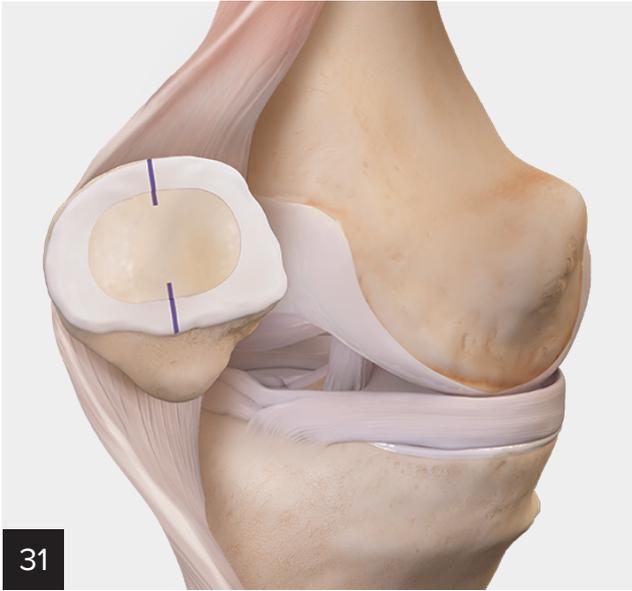
29

Add Arthrex ACP or Angel PRP to the recipient site, then use AlloSync™ demineralized bone matrix as needed to improve the fit of the allograft into the prepared recipient site.



30

Align the allograft and press-fit into the recipient site. If needed, a tamp may be used to implant the allograft.



At the completion of the case, close the surgical site following standard protocol.

BioPatella™ System

| Product Description | Item Number |
|---------------------------|--------------|
| BioPatella Instrument Set | RAR-4058MS |
| BioPatella Disposable Set | RAR-4058MS-D |

Required Disposables provided with RAR-4058MS-D

| | |
|--|-------------|
| BioPatella Disposable Kit, small (20 mm × 30 mm) | ABS-4085D-S |
| BioPatella Disposable Kit, medium (25 mm × 35 mm) | ABS-4085D-M |
| BioPatella Disposable Kit, large (27.5 mm × 37.5 mm) | ABS-4085D-L |

Accessories

| | |
|--|--------------|
| PowerPick™ Instrument, 45°, 6 mm depth | AR-8150PX-45 |
| PowerPick Instrument, 30°, 4 mm depth | AR-8150PP-30 |
| PowerPick Instrument, 45°, 6 mm depth (5 pack) | AR-8150PP-45 |
| AlloSync™ DBM Gel, 1 cc | ABS-2013-01 |
| AlloSync DBM Gel, 5 cc | ABS-2013-05 |



This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

View U.S. patent information at www.arthrex.com/corporate/virtual-patent-marking

© 2020 Arthrex, Inc. All rights reserved. | www.arthrex.com | LT1-000189-en-US_A