Allograft OATS® Resurfacing Technique for Articular Cartilage Restoration

Surgical Technique
Allograft OATS® Surgical Technique for Cartilage Resurfacing

There are few treatment options for patients with large, symptomatic lesions of osteoarticular surfaces. The use of fresh osteochondral allografts for osteoarticular resurfacing allows a surgeon the ability to match the contour and cartilage morphology of the recipient site, while avoiding multiple surgical sites and the possible donor site morbidity associated with recovering an autograft from the knee. Fresh osteochondral allografts are stored in a proprietary storage nutrient media at 4°C to maintain chondrocyte viability. The results of fresh osteochondral allografts are well documented and provide reliable outcomes when restoring articular cartilage.
Following standard preoperative examination and diagnostic studies confirming the size and extent of the lesion, a standard para-patellar arthrotomy is performed to expose the defect. Cannulated Allograft OATS Sizers, in various sizes, are selected to estimate and approximate coverage of the lesion.

The sizer utilized to establish the recipient defect size is placed over the allograft condyle to ensure the allograft is large enough for the defect site then circumferentially marked. The sizer is removed and a reference mark is placed in a superior 12:00 position on the graft.

Once the appropriate size match has been confirmed with the sizer, return to the recipient site and place the Sizer over the defect, staying perpendicular to the condyle surface. A Drill Tip Guide Pin is drilled through the Sizer into bone. Create a circumferential mark around the cylinder. The Sizer is removed and a reference mark is placed in a superior 12:00 position.

Retrieve the appropriately sized Recipient Harvester and attach it to the Quick Connect T-Handle. Insert the harvester over the Drill Tip Guide Pin and advance it to the cartilage. The peripheral cartilage is scored to the underlying subchondral bone. The harvester is then removed leaving the Drill Tip Guide Pin in place.
Surgical Technique

The calibrated Allograft OATS® Recipient Counterbore is then secured to the drill and placed over the Drill Tip Guide Pin. The counterbore is drilled into the defect and subchondral bone to a depth of 5 to 8 mm. Bleeding subchondral surfaces should be confirmed. Remove cut bone from the socket.

The appropriately sized Allograft OATS Dilator is threaded onto the Slap Hammer and inserted into the recipient's socket site to achieve a 0.5 mm socket dilation. Advance the dilator until it has completely seated fully into the socket. Operate the Slap Hammer to remove the tamp.

Depth measurements of the created socket are taken from four quadrants (12:00, 3:00, 6:00 and 9:00) and recorded for use when creating the allograft core.

The donor allograft is secured in the Allograft OATS Workstation. The appropriately sized Allograft OATS Workstation Bushing is placed into the articulating arm housing and secured. The articulating arm is moved over the graft and set to the exact angle necessary to match the recipient's contour. Use the OATS Sizer to confirm you are perpendicular to the graft. The housing is securely fastened with the hexagon bolt and Cheater Bar.
The Allograft OATS Donor Harvester, with a collared guide pin, is connected to a drill and passed into the proximal graft housing and rested upon the graft’s surface. The harvester is subsequently drilled to a depth of 15 – 20 mm and then removed. A sagittal saw is then advanced perpendicularly through the condyle at the approximate depth of the reaming and advanced until the core releases. An alternative method involves reaming through the entirety of the allograft and utilizing the collared guide pin to gently extract the graft.

The depths recorded from the recipient socket are marked on the four quadrants of the graft, then a circumferential mark in the bone is drawn. The allograft is secured in the Allograft OATS Holding Forceps and trimmed by a saw to achieve the appropriate length of the bone to ensure a press fit in the recipient socket. The allograft should be pulse lavaged. The allograft bone can be soaked in Autologous Conditioned Plasma (ACP) prior to implantation.

The graft is bulletized with a ronguer to assist with insertion. A thin layer of demineralized bone matrix (DBM) may be applied to the recipient socket. The graft reference mark is matched with recipient reference mark for orientation. Advance the graft with firm pressure into the socket. As needed, a Tamp may be utilized to achieve complete insertion.

The graft is advanced until flush with the surrounding cartilage. The Allograft OATS Graft Retriever may be utilized to facilitate extraction of the graft in the event minor adjustments need to be made.
Insert the white base into the Allograft OATS® Workstation with the rough side up. The elevated side of the workstation can be placed face up if the allograft needs to be raised.

Rotate each of the four legs into the locked position from underneath the base of the workstation.

Thread the Boom Arm into the appropriate hole in the workstation base. Secure tightly by hand or by using the Cheater Bar.

Place the clamp of the articulating arm over the top of the Boom Arm and hand tighten the large hex knob. The Cheater Bar can be utilized to secure the hex knob.

Insert each of the four threaded pins into the posts around the workstation. Different angles can be chosen to secure the allograft.

Insert the appropriately sized Allograft OATS Bushing into the articulating arm and secure with the bolt.
**Ordering Information**

Allograft OATS® Instrument Set  
RAR-4057S

**Accessories**

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autologous Conditioned Plasma (ACP)</td>
<td>ABS-10010S</td>
</tr>
<tr>
<td>StimuBlast Gel, 1 cc</td>
<td>ABS-2002-01</td>
</tr>
<tr>
<td>StimuBlast Gel, 5 cc</td>
<td>ABS-2002-05</td>
</tr>
</tbody>
</table>
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.