Surgical Technique

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.

The OATS Technique and Instrumentation have been developed in cooperation with Vladimir Bobic, M.D., Liverpool, U.K. and Craig D. Morgan, M.D., Wilmington, DE, USA.

Ordering Information

OATS Harvester Sets:
- Set of 5 & 6 mm diameter Tubular Harvesters w/Collared Pins AR-1980-05S
- Set of 6 & 7 mm diameter Tubular Harvesters w/Collared Pins AR-1980-06S
- Set of 7 & 8 mm diameter Tubular Harvesters w/Collared Pins AR-1980-07S
- Set of 8 & 9 mm diameter Tubular Harvesters w/Collared Pins AR-1980-08S
- Set of 9 & 10 mm diameter Tubular Harvesters w/Collared Pins AR-1980-09S
- Set of 10 & 11 mm diameter Tubular Harvesters w/Collared Pins AR-1980-10S

All Tube Harvesters w/Collared Pins are sterile packed and single use.

OATS Instrumentation Set (AR-1980S):
- Tube Harvester Driver/Extractor AR-1415T
- Sizer/Tamp, 5 mm, green AR-1985-05
- Sizer/Tamp, 6 mm, red AR-1985-06
- Sizer/Tamp, 7 mm, blue AR-1985-07
- Sizer/Tamp, 8 mm, purple AR-1985-08
- Sizer/Tamp, 9 mm, gold AR-1985-09
- Sizer/Tamp, 10 mm, black AR-1985-10
- Graft Remover, 10 mm AR-1988-10
- OATS Alignment Stick, 5 mm & 6 mm AR-1989-56
- OATS Alignment Stick, 7 mm & 8 mm AR-1989-78
- OATS Alignment Stick, 8 mm & 9 mm AR-1989-90
- OATS Pin Calibrator AR-1991
- Core Extractor AR-1979
- Cartilage Protector Cap AR-1983
- OATS Instrumentation Case AR-1992

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The osteochondral defect is inspected for anisotropy and the size of the hole is measured. A set of OATS tubes with a matching size is used to precisely determine the diameter of the defect. The color-coded tamps correspond in size with the base of the driver and the chuck tightened. A Cartilage Sizer/Tamps with heads of 5 mm - 10 mm diameters are used to precisely determine the diameter of the defect. The color-coded tamps correspond in size with the base of the driver and the chuck tightened. A Cartilage Sizer/Tamps with heads of 5 mm - 10 mm diameters are used to precisely determine the diameter of the defect.

The Tube Harvester Driver/Extractor is assembled. The donor Tube Harvester or Collared Pin is loaded into the Driver and the Collared Pin advancement is verified using the Collared Pin advancement. The Donor Protector Cap is screwed onto the back of the driver. When turned, the Collared Pin will provide a firm alignment with the sharp cutting tip of the harvester to protect articular surfaces.

After using a mallet to drive the tube harvester into subchondral bone to a depth of approximately 13 mm (two mm less than the length of the donor core), the depth markings are visualized. Care is taken to end up with a flush transfer. The harvester should be fully into the recipient socket. This stabilizes the harvester and position of the harvester during this step.

After using the mallet, the tube harvester is inserted over the guide pin and pressed into the open back of the driver. The harvester is placed into the chuck and the T-handled mid-section removed. This allows the collar to be exposed from the recipient socket when the Core Extruder is used to advance the core.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on either side of the bone core. From this point, the core will be forced from the donor tube harvester into the recipient socket. When the Core Extruder is advanced by turning it in a clockwise motion, the end of the collared pin is driven flush with the end of the Pin Calibrator. The Core Extruder is driven until the core is completely seated flush with the recipient socket wall.

Extraction/Removal of Inserted Core

For extracted bone cores, the Donor Protector Cap is removed and record the depth of harvest. The pre-determined length of the collared pin is designed to advance the bone core so that its end of the graft will be exposed from the recipient socket when the tube harvester and Collared Pin advancement is slowed. The Collared Pin advancement is continued. The Collared Pin advancement is slowed. The Collared Pin advancement is continued. The Collared Pin advancement is slowed.

The Collared Pin advancement is slowed. The Collared Pin advancement is continued. The Collared Pin advancement is slowed.

Do not attempt to remove the OATS Tube Harvesters in completeness of Collared Pin advancement. Do not allow the tube harvester to advance from the insertion angle. Donor cores fractures may occur in either of these situations.

The Collared Pin advancement is continued. The Collared Pin advancement is slowed. The Collared Pin advancement is continued. The Collared Pin advancement is slowed.

When multiple cores of various diameters are harvested and transferred into specific quadrants of the harvest site, it is important to maintain a stable bone fixation angle and position of the harvesters during this step.
It is important to maintain a stable flexion angle and position of the harvester during this step.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.

The Collared Pin should be carefully advanced until the end of the pin is flush with the Pin Calibrator on the back of the Tube Harvester Driver/Extractor. The pre-determined length of the collared pin is designed to advance the bone core so that 1 mm of the core will be forced from the recipient socket when the pin is driven flush with the end of the Pin Calibrator. Also, one can visualize the core extrusion as it occurs by viewing the core and Collared Pin advancement through the windows of the back of the driver/extractor.
The osteochondral defect is inspected for anisotropy and the size of the lesion is measured. A set of OATS size inscribed tamps corresponding in size with the defect are used to precisely determine the diameter of the defect. The color-coded tamps correspond in size with the diameter of the tube harvesters.

The donor tube harvester is inserted into the recipient socket. The protector cap is seated over the guide pin and pressed into the open back of the harvester. As described above, the beveled edge of the donor tube harvester is seated fully into the recipient socket. While the tapper is rotated, the collared pin is driven into the recipient socket. An OATS tube harvester driver/extractor is assembled and inserted bone cores are harvested and transferred into specific quadrants of the defect, each core transfer should be completed prior to proceeding with further recipient socket creation. This prevents potential recipient tunnel wall failure and allows in situ bone cores to be placed directly adjacent to previously inserted bone cores.

Do not attempt to remove the OATS tube harvesters prior to completion of Collared Pin advancement. The Collared Pin is driven into the subchondral bone to a depth of approximately 13 mm (two mm less than the length of the donor core), the core will be forced from the donor tube harvester into the recipient socket. When the Core Extruder is fully seated, the bone core should remain slightly proud.

Once an acceptable position is established, the donor tube harvester is rotated 90˚ to the articular surface. Do not allow the tube harvester to deviate from the articular surface. Donor core fractures may occur in either of these situations.

The calibrated OATS Alignment Stick of the appropriate diameter is used to measure the recipient socket depth and diameter of the bone core. A Cartilage Protector Cap is screwed onto the back of the driver. When seated, the Collared Pin will protrude a few millimeters past the base of the driver and the chuck tightened. A Cartilage Protector Cap is inserted in a similar fashion. During autograft impaction, the articular surface remains flush with the articular surface. The position of the insertion portal when using an arthroscopic approach.

It is important to maintain a stable flexion angle and position of the harvester during this step. A mallet is used to lightly tap the end of the Collared Pin and drive the bone core into the recipient socket. This stabilizes the harvester during arthrography impaction. A mallet is used to lightly tap the end of the Collared Pin and drive the bone core into the recipient socket. The assembled drive extruder is inserted into the recipient socket. As the Core Extruder is advanced by turning it in a clockwise motion, the bone core will be forced from the donor tube harvester into the recipient socket. When the core is fully seated, the T-handled mid-section removed. This exposes the end of the collared pin which is used to advance the core into the recipient socket. The Donor Calibrations are inserted over the guide pin and pressed into the open back of the harvester. As described above, the beveled edge of the donor tube harvester is seated fully into the recipient socket. While the tapper is rotated, the collared pin is driven into the recipient socket. An OATS tube harvester driver/extractor is assembled and inserted bone cores are harvested and transferred into specific quadrants of the defect, each core transfer should be completed prior to proceeding with further recipient socket creation. This prevents potential recipient tunnel wall failure and allows in situ bone cores to be placed directly adjacent to previously inserted bone cores.

The color-coded tamps correspond in size with the diameter of the tube harvesters.
Osteochondral Autograft Transfer System (OATS®)

Surgical Technique

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.

The OATS Technique and Instrumentation have been developed in cooperation with Vladimir Bobic, M.D., Liverpool, U.K. and Craig D. Morgan, M.D., Wilmington, DE, USA.

Ordering Information

**OATS Harvester Set:**
- Set of 5 & 6 mm diameter Tube Harvesters w/Collared Pins AR-1980-05S
- Set of 6 & 7 mm diameter Tube Harvesters w/Collared Pins AR-1980-06S
- Set of 7 & 8 mm diameter Tube Harvesters w/Collared Pins AR-1980-07S
- Set of 8 & 9 mm diameter Tube Harvesters w/Collared Pins AR-1980-08S
- Set of 9 & 10 mm diameter Tube Harvesters w/Collared Pins AR-1980-09S
- Set of 10 & 11 mm diameter Tube Harvesters w/Collared Pins AR-1980-10S

All Tube Harvesters w/Collared Pins are sterile packed and single use.

**OATS Instrumentation set (AR-1980S):**
- Tube Harvester Driver/Extractor AR-1415T
- Sizer/Tamp, 5 mm, green AR-1985-05
- Sizer/Tamp, 6 mm, red AR-1985-06
- Sizer/Tamp, 7 mm, blue AR-1985-07
- Sizer/Tamp, 8 mm, purple AR-1985-08
- Sizer/Tamp, 9 mm, gold AR-1985-09
- Sizer/Tamp, 10 mm, black AR-1985-10
- Graft Remover, 10 mm AR-1980-10
- OATS Alignment Stick, 5 mm & 6 mm AR-1989-56
- OATS Alignment Stick, 7 mm & 8 mm AR-1989-78
- OATS Alignment Stick, 8 mm & 9 mm AR-1989-90
- OATS Pin Calibrator AR-1991
- Core Extractor AR-1979
- Cartilage Protector Cap AR-1983
- OATS Instrumentation Case AR-1992

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Ordering Information

OATS Harvester Set:
- Set of 5 & 6 mm diameter Tubes Harvesters w/Collared Pins AR-1980-05S
- Set of 6 & 7 mm diameter Tubes Harvesters w/Collared Pins AR-1980-06S
- Set of 7 & 8 mm diameter Tubes Harvesters w/Collared Pins AR-1980-07S
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- Set of 9 & 10 mm diameter Tubes Harvesters w/Collared Pins AR-1980-09S
- Set of 10 & 11 mm diameter Tubes Harvesters w/Collared Pins AR-1980-10S

All Tube Harvesters w/Collared Pins are sterile packed and single use.

OATS Instrumentation Set (AR-1980S):
- Tube Harvester Driver/Extractor AR-141ST
- Sizer/Tamp, 5 mm, green AR-1985-05
- Sizer/Tamp, 6 mm, red AR-1985-06
- Sizer/Tamp, 7 mm, blue AR-1985-07
- Sizer/Tamp, 8 mm, purple AR-1985-08
- Sizer/Tamp, 9 mm, gold AR-1985-09
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- OATS Pin Calibrator AR-1991
- Core Extractor AR-1979
- Graft Protector Cap AR-1983
- OATS Instrumentation Case AR-1992

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