

THE ARTHREX
Bio-TenodesisTM
SCREW SYSTEM

Now you can insert,
tension and fixate a graft
without transosseous tunnels



Bio-Tenodesis Screw System

The Bio-Tenodesis Screw System eliminates transosseous tunnels in tendon repairs and ligament reconstructions. The Tenodesis Screw may be used in conjunction with #2 or 2-0 FiberWire® to facilitate intraoperative tissue tensioning and fixation in a predrilled socket. The predrilled socket minimizes incision length, dissection, and overall morbidity. PLLA or titanium Tenodesis Screw insertion provides superior and immediate fixation for foot and ankle indications such as Achilles repair, FDL, FHL tendon transfers and lateral ligament stabilization. The system can also be used for applications in the hand and elbow (UCL, LRTI, distal biceps), shoulder (rotator cuff repair, proximal biceps) as well as collateral ligament repair/reconstruction and secondary graft or suture fixation for ACL/PCL reconstruction. This construct allows for direct tendon-to-bone healing, without hardware prominence.

Reusable driver system is used with all Tenodesis Screws except the 3 mm x 8 mm screw



Consider These Surgical Procedures:



Knee:

Lateral and Medial Collateral Ligament Repair and Secondary Fixation of an ACL Soft Tissue Graft



Foot and Ankle:

Achilles, Lateral Stabilizations and FDL, FHL Tendon Transfers



Hand:

Ligament Reconstruction Tendon Interposition (LRTI)
Scapholunate Ligament Reconstruction
Collateral Ligament Reconstruction



Elbow:

UCL and Distal Biceps Tendon Repair



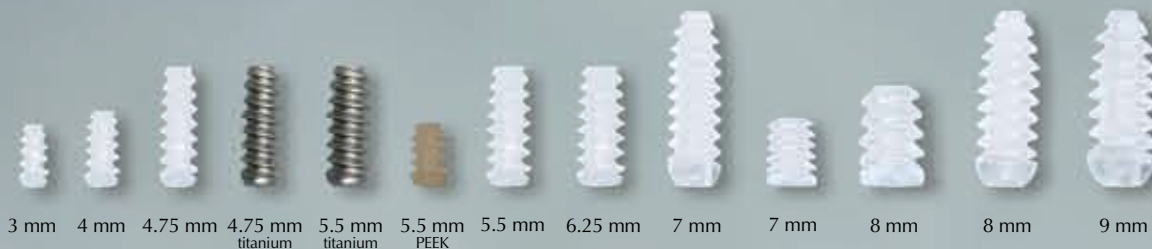
Shoulder:

Proximal Biceps Tendon Repair and Rotator Cuff Repair



Surgical Technique: Tendon or Graft Fixation

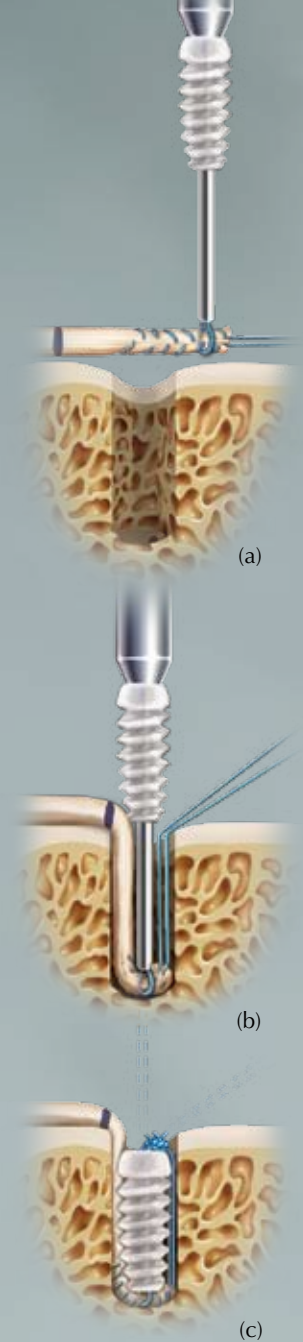
An anatomic attachment site is determined and a 2.4 mm guide pin is inserted with a power drill. A bone socket is created to a depth 2 mm longer than the screw used. An optional tap may be used here, if extra hard bone is encountered. The tendon graft is anatomically tensioned over the socket and a methylene blue line drawn on the tendon at the inner socket rim to mark the appropriate tensioned graft length. The appropriate screw is inserted onto the Tenodesis Driver and a FiberWire loop is positioned around the tendon the length of the screw away from the methylene blue mark (a). The extended Tenodesis Driver tip is inserted into the socket with the graft end until the methylene blue mark lies over the socket rim (b). The screw is inserted maintaining tension on the graft. After full insertion of the screw, the driver is removed and graft passing sutures exiting the screw/socket interface are tied with the FiberWire loop exiting the screw cannulation over the screw rim as additional fixation (c). (Please use the reference chart below to help select the appropriate implant, driver and diameter for the reamed socket).



Actual Sizes of Bio-Tenodesis Screws



3 mm x 8 mm Bio-Tenodesis Screw w/handled inserter - AR-1530B



Suggested Reference Chart

Graft Diameter	Implant Diameter	Implant Length	Catalog Number	Drill Depth	Drill Diameter	Suture Loop	Driver Part Number
2.5 - 3.5 mm	3 mm	8 mm	AR-1530B	8 mm	3 - 3.5 mm	N/A	N/A
3 - 4 mm	4 mm	10 mm	AR-1540B	12 mm	4 - 4.5 mm	2-0	AR-1540DB
3.5 - 4.5 mm	4.75 mm	15 mm	AR-1547B	17 mm	4.5 - 5.5 mm	#2	AR-1350D
4.5 - 5.5 mm	5.5 mm	15 mm	AR-1555B	17 mm	5.5 - 6.5 mm	#2	AR-1350D
4.5 - 5.5 mm	5.5 mm	8 mm	AR-1655PS	17 mm	5.5 - 6.5 mm	#2	AR-1350D
5 - 6 mm	6.25 mm	15 mm	AR-1562B	17 mm	6 - 7 mm	#2	AR-1350D
4.5 - 7 mm	7 mm	10 mm	AR-1670B	12 mm	7 - 8 mm	#2	AR-1670DB
4.5 - 7 mm	7 mm	23 mm	AR-1570B	25 mm	7 - 8 mm	#2	AR-1570DB
5.5 - 8 mm	8 mm	12 mm	AR-1680B	14 mm	8 - 9 mm	#2	AR-1670DB
5.5 - 8 mm	8 mm	23 mm	AR-1580B	25 mm	8 - 9 mm	#2	AR-1570DB
7 - 9 mm	9 mm	23 mm	AR-1590B	25 mm	8 - 10 mm	#2	AR-1570DB

Implant diameter should be as close to graft diameter as possible by measuring 0 - 25 mm from the tip of the tendon.

Drill diameter should be 0.5 - 1 mm larger than tendon diameter, assuming the screw selected is within 1 mm of the tendon diameter.

Drill depth should be 2 mm longer than the length of the screw selected.

Drill selection is based on diameter size of tendon and quality of bone.

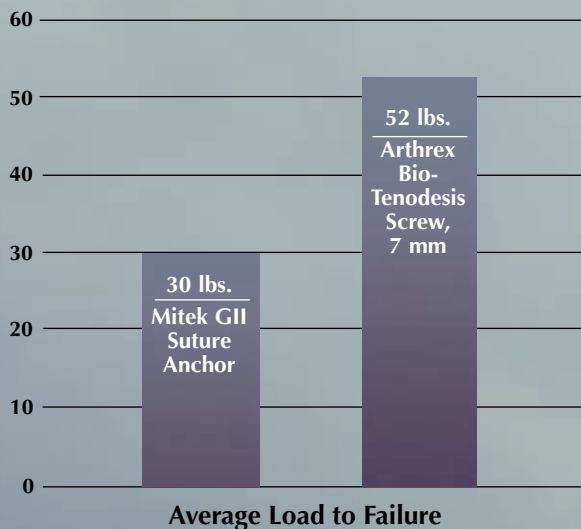
Creation of the FiberWire Suture Loop

The surgeon must create a FiberWire loop at the tip of the driver to snare the tendon to be placed in the bone tunnel. The FiberWire loop is created by a disposable nitinol suture passing wire and #2 FiberWire found in the Bio-Tenodesis Disposable Kit (a). Snare the tip of the whipstitched tendon 2 mm from the end of the graft (b). Place tension on the sutures exiting the back of the Tear Drop Handle and wrap them once around the o-ring inside the cleat as shown below (c). It is important to maintain maximum tension between the driver tip and the tendon during initial placement of the tendon in the tunnel.



Strongest Fixation Strength

The chart below demonstrates the average pull-to-failure force of the Arthrex Bio-Tenodesis Screw compared to the Mitek GII anchor. The testing was performed to determine the mechanical strength of fixation of a biceps tendon by the Bio-Tenodesis Screw in a bone socket. The Bio-Tenodesis Screw fixation of the biceps tendon was inserted into a socket in the proximal humerus in cadaveric bone. The results indicate that Bio-Tenodesis Screws behave in a mechanically superior fashion when compared to the Mitek GII anchors (52 lbs vs. 30 lbs).



*Data on file

Bio-Tenodesis Screw System Implants, sterile, single use:

Bio-Tenodesis Screw w/handled inserter, 3 mm x 8 mm	AR-1530B
Bio-Tenodesis Screw, 4 mm x 10 mm	AR-1540B
Bio-Tenodesis Screw, 4.75 mm x 15 mm	AR-1547B
Tenodesis Screw, titanium, 4.75 mm x 15 mm	AR-1350-475
PEEK Tenodesis Screw, 5.5 mm x 8 mm	AR-1655PS
Tenodesis Screw, titanium, 5.5 mm x 15 mm	AR-1350-55
Bio-Tenodesis Screw, 5.5 mm x 15 mm	AR-1555B
Bio-Tenodesis Screw, 6.25 mm x 15 mm	AR-1562B
Bio-Tenodesis Screw, 7 mm x 23 mm	AR-1570B
Bio-Tenodesis Screw, 8 mm x 23 mm	AR-1580B
Bio-Tenodesis Screw, 9 mm x 23 mm	AR-1590B
Bio-Tenodesis Screw, 7 mm x 10 mm	AR-1670B
Bio-Tenodesis Screw, 8 mm x 12 mm	AR-1680B

Bio-Tenodesis Master Instrument Set (AR-1675S) includes:

Tear Drop Handle w/Suture Cleat	AR-2001BT
Cannulated Drill, 4 mm	AR-1204L
Cannulated Drill, 4.5 mm	AR-1204.5L
Cannulated Headed Reamer, 5 mm	AR-1405
Cannulated Headed Reamer, 5.5 mm	AR-1405.5
Cannulated Headed Reamer, 6 mm	AR-1406
Cannulated Headed Reamer, 6.5 mm	AR-1406.5
Cannulated Headed Reamer, 7 mm	AR-1407
Cannulated Headed Reamer, 7.5 mm	AR-1407.5
Cannulated Headed Reamer, 8 mm	AR-1408
Cannulated Headed Reamer, 8.5 mm	AR-1408.5
Cannulated Headed Reamer, 9 mm	AR-1409
Cannulated Headed Reamer, 10 mm	AR-1410
Driver for 10 mm long Bio-Tenodesis Screw	AR-1540DB
Driver for 12 mm long Bio-Tenodesis Screw	AR-1670DB
Driver for 15 mm long Bio-Tenodesis Screw	AR-1350D
Driver for 23 mm long Bio-Tenodesis Screw	AR-1570DB
Bio-Tenodesis Screw Instrumentation Case	AR-1675C

Bio-Tenodesis Disposables Kit (AR-1675DS), sterile, single use, qty. 5:

includes one each of the following:

Drill Tip Guide Pin, 2.4 mm
Suture Passing Wire
#2 FiberWire, 38 inches (blue) w/Tapered Needle, 26.5 mm 1/2 circle
#2 FiberWire, 38 inches (blue)
2-0 FiberWire, 18 inches (blue) w/Tapered Needle, 17.9 mm 3/8 circle
2-0 FiberWire, 38 inches (blue)

Optional Disposable Accessories:

FiberSnare, #2 FiberWire, 26 inches with closed loop, one end stiffened, 12 inches	AR-7209SN
Bio-Tenodesis Disposables Kit, for 3 mm screw	AR-1530DS

Optional Accessories:

Bio-Tenodesis Tap, 4 mm x 10 mm	AR-1540T
Bio-Tenodesis Tap, 4.75 mm x 15 mm	AR-1547T
Bio-Tenodesis Tap, 5.5 mm x 15 mm	AR-1555T
Bio-Tenodesis Tap, 6.25 mm x 15 mm	AR-1562T
Bio-Tenodesis Tap, 7 mm x 23 mm	AR-1570T
Bio-Tenodesis Tap, 7 mm x 10 mm	AR-1670T
Bio-Tenodesis Tap, 8 mm x 12 mm	AR-1680T

Bio-Tenodesis Screw System Small Joint Accessories:

Bio-Tenodesis Drill Guide, 4 mm/5.5 mm	AR-1542
Bio-Tenodesis Drill Guide, 5 mm/6.5 mm	AR-1543
Bio-Tenodesis Drill Guide, 4.5 mm/6 mm	AR-1544
Bio-Tenodesis Screw Drill, 4 mm	AR-1204D
Bio-Tenodesis Screw Drill, 4.5 mm	AR-1204.5D
Bio-Tenodesis Screw Drill, 5 mm	AR-1205D
Bio-Tenodesis Screw Drill, 5.5 mm	AR-1205.5D
Bio-Tenodesis Screw Drill, 6 mm	AR-1206D
Bio-Tenodesis Screw Drill, 6.5 mm	AR-1206.5D

Bio-Tenodesis Screw System ACL Backup Accessories:

Drill Pin Tip Headed Reamer, 7 mm	AR-1407DP
Drill Pin Tip Headed Reamer, 8 mm	AR-1408DP
Drill Pin Tip Headed Reamer, 9 mm	AR-1409DP



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