The Material Difference

Options for Rotator Cuff Repair, Labral Repair and Suture Management

BIOMET®
SPORTS MEDICINE

The Material Difference

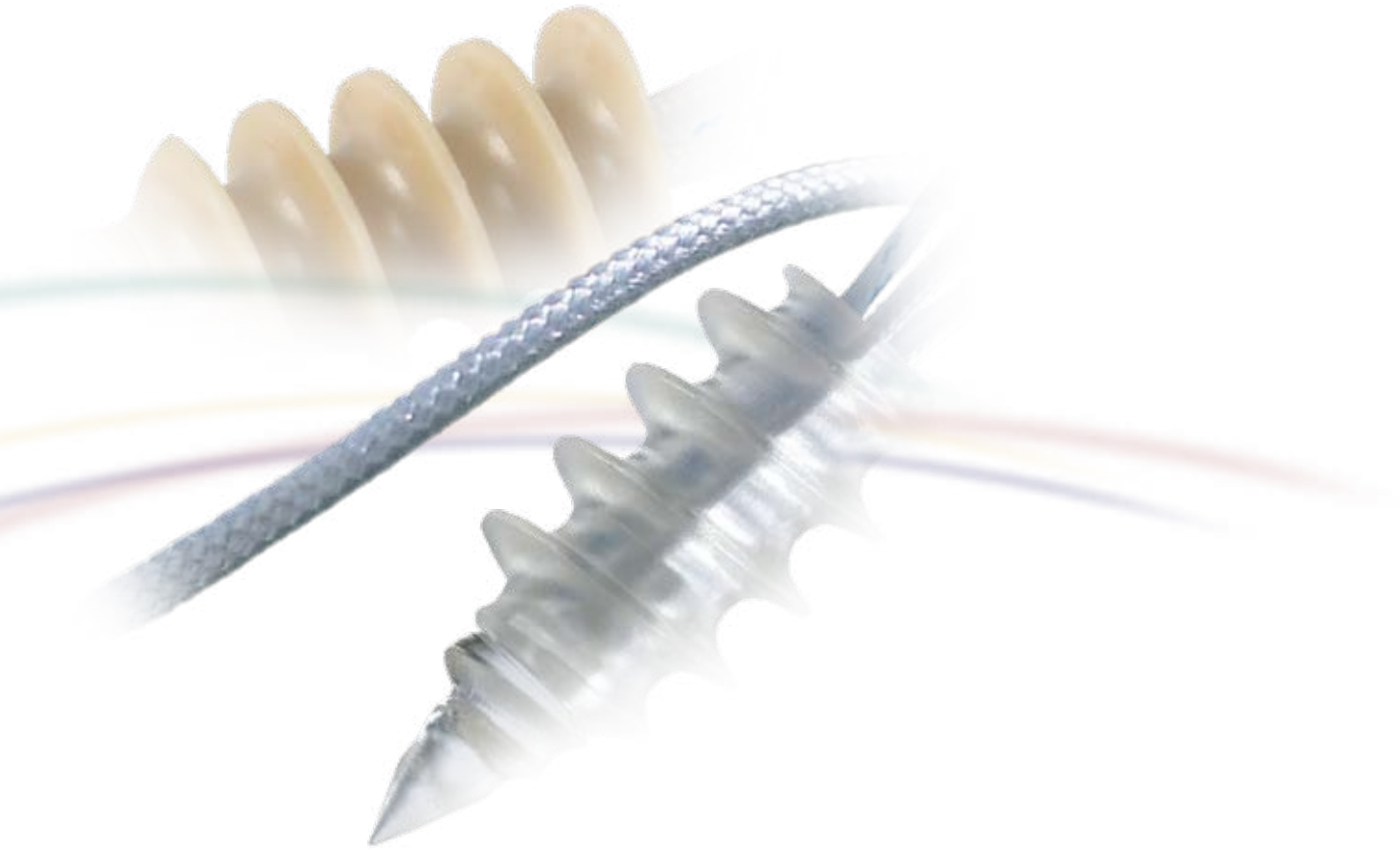
Biomet Sports Medicine recognizes the benefit of material options. Many times surgeons require different materials for different applications. These requirements may be dependent upon anatomic location, bone quality, or patient acceptance. Biomet Sports Medicine is proud to offer a wide range of shoulder fixation products manufactured with innovative materials to meet your needs. New polymers coupled with new implant configurations similar in form and function to those of traditional metal systems are becoming a dominant treatment modality.

PEEK-OPTIMA® POLYMER

Biomet Sports Medicine is proud to be one of the first companies to provide implants manufactured with PEEK-Optima® Polymer. This significant polymer advancement provides benefits from both metal and resorbable technologies. PEEK-Optima® Polymer exhibits a superior combination of strength, stiffness and toughness, while being radiolucent and revisable, making it ideally suited for suture anchors. PEEK-Optima® Polymer provides for physiological load sharing between the implants and the surrounding tissues.

LACTOSORB® COPOLYMER

Biomet Sport Medicine's resorbable shoulder fixation implants are manufactured from clinically proven LactoSorb® Copolymer, 82% L-lactic acid and 18% glycolic acid, or LactoSorb® L15 Copolymer, 85% L-lactic acid and 15% glycolic acid. These formulations provide a balance of properties, *i.e.*, strength retention/loss timed to complement healing, complete mass loss and enhanced biocompatibility during degradation principally due to the lack of crystallinity. The elimination of future implant removal surgery, clearer radiographs and more physiological load sharing between the implants and the surrounding tissues are a few of the benefits of LactoSorb® Technology.



MAXBRAID™ SUTURE

Suture plays a significant role in repairs made with suture anchors. Biomet Sports Medicine's incredible strength MaxBraid™ Suture is comprised of polyethylene, to help eliminate suture fray and prevent breakage. MaxBraid™ Suture has high tensile strength, but also possesses great knot tying characteristics. The unique braid cinches on itself, providing confidence when tying knots.

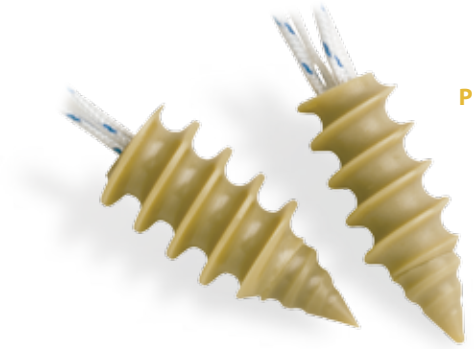
Strength Comparison (lbs.)

	Ethibond Excel® #2[2]	Fiberwire® Suture[2]	MaxBraid™ Suture[3]
Tensile	27.01	60.96	69.18
Knot	12.61	29.83	39.45

Dyneema® Purity is ultra-high molecular weight polyethylene-based. It is 15 times stronger than steel on a weight for weight basis.[1] The fiber possesses benefits such as outstanding flexibility, pliability, and surgical ease-of-use.

Rotator Cuff Repair

Options. Repairing a torn rotator cuff can present a multitude of challenges. Biomet Sports Medicine offers multiple options in implant design, material, size and suture configuration. This allows the surgeon to select fixation methods based on the needs of the patient. Biomet Sports Medicine also offers the SportMesh™ Soft Tissue Reinforcement to augment the repair.

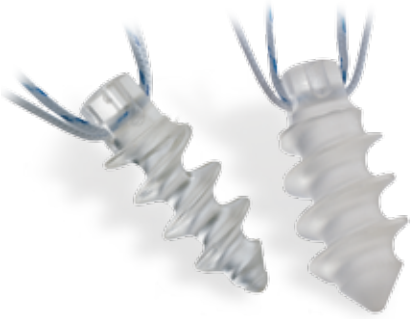


PEEK-OPTIMA® POLYMER

ALLthread™ Anchor with PEEK-Optima® Polymer

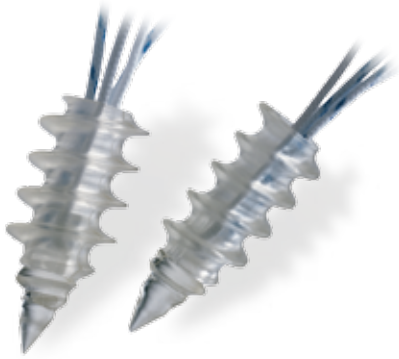
- Available in 5.5mm and 6.8mm for rotator cuff repair
- Fully threaded
- Dual eyelets
- Cortical bone purchase

LACTOSORB® COPOLYMER



LactoScrew® Anchor

- Available in 5.5mm and 6.8mm for rotator cuff repair
- Allows the ability to reposition if unsatisfied with initial position
- Simple insertion technique, tap only
- Pullout strength (5.5mm): 87 lbs.[4]
- LactoSorb® copolymer resorbs in approximately 18 months[4]

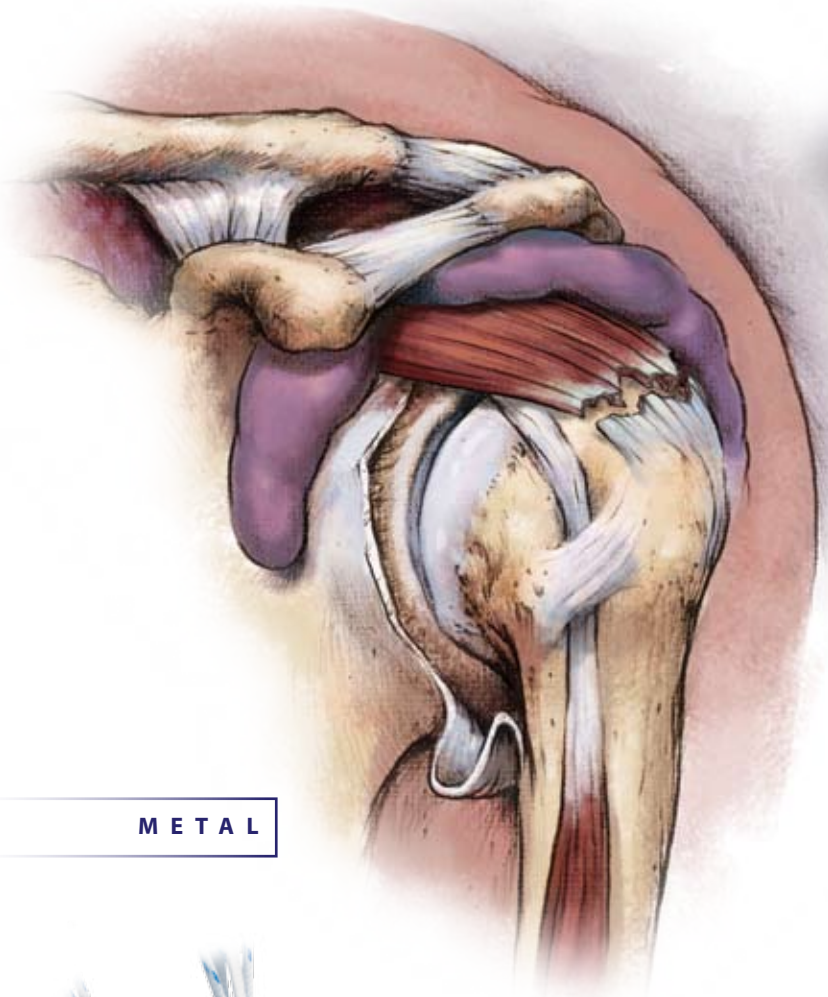


ALLthread™ L15 Suture Anchor

- Available in 5.5mm and 6.8mm for rotator cuff repair
- Options with needles
- Dual eyelets
- Cortical bone purchase

ArthroRivet™ RC Tack

- 15mm in length
- Eliminates knot tying and suture management problems
- Strong tissue fixation
- Easy tissue grasping
- Small implant size allows for multiple implant placement
- Strength: 44lbs.[4]



SportMesh™ Soft Tissue Reinforcement

- Soft tissue reinforcement scaffold
- Facilitates anatomical footprint restoration
- Long-term biocompatible augmentation
- Restoration of joint mechanics
- Assisting to make the first repair the best repair possible

METAL

ALLthread™ Ti Anchor

- Available in 5.0mm and 6.5mm for rotator cuff repair
- Double or triple loaded with MaxBraid™ Suture
- Fully threaded
- Cortical bone purchase

Ti-Screw Anchor

- Available in 5.0mm and 6.5mm for rotator cuff repair
- Cancellous thread
- Options with needles
- Pullout strength (5.0mm): 120 lbs.[4]

Harpoon® Suture Anchor

- Available in 4.0mm (expands to 4.4mm) for rotator cuff repair
- Expanded wings for optimal fixation
- Stainless steel

Labral Repair

Stability. Shoulder instability is often the result of a Bankart tear. Biomet Sports Medicine offers multiple options in implant design and material to restore stablity to the shoulder. The surgeon can select the appropriate fixation for Bankart tears or SLAP lesions based on the needs of the patient.

PEEK-OPTIMA® POLYMER

Hitch™ Anchor with PEEK-Optima® Polymer

- Available in 2.4mm for labral repair
- Offset suture loop eyelet
- Single or double loaded with #2 MaxBraid™ Suture

Hitch™ Anchor with LactoSorb® L15

- Available in 2.4mm for labral repair
- Offset suture loop eyelet
- Loaded with #2 MaxBraid™ Suture
- Small implant allows for multiple implant placement

LACTOSORB® COPOLYMER

LactoScrew® Anchor

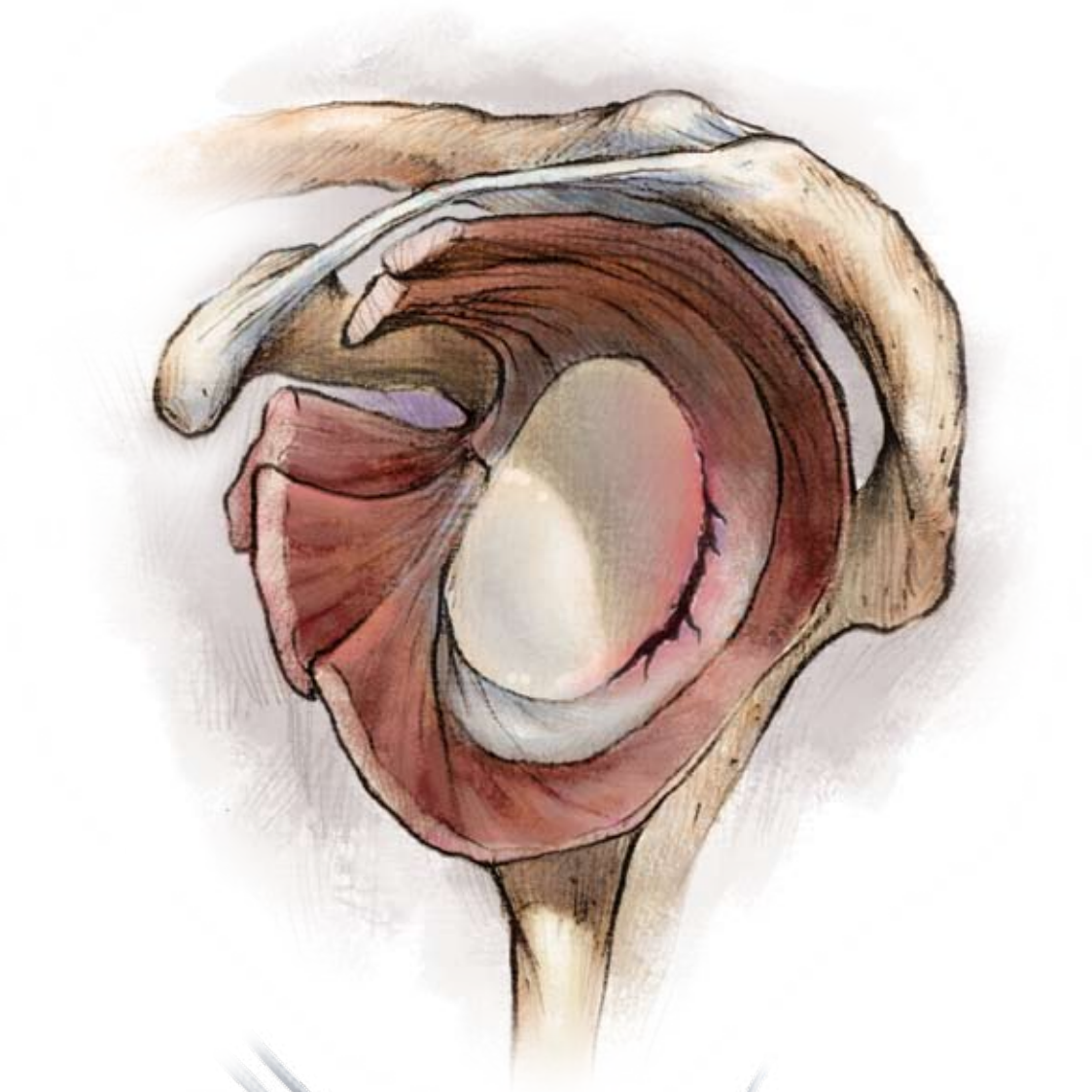
- Available in 2.8mm and 3.5mm for labral repair
- Allows the ability to reposition if unsatisfied with initial position
- Simple insertion technique, tap only
- LactoSorb® copolymer resorbs in approximately 18 months[4]

MicroMax™ Suture Anchor

- Available in 2.9mm and 3.9mm for labral repair
- Easy deployment system
- Mechanical fixation
- Loaded with MaxBraid™ Suture
- LactoSorb® copolymer resorbs in approximately 18 months[4]
- Small implant size allows for multiple implant placement

ArthroRivet™ Cannulated Tack

- 10mm in length
- Eliminates knot tying and suture management problems
- Strong tissue fixation
- Easy tissue grasping
- Small implant size allows for multiple implant placement
- Cannulated to align tack will drill hole
- Strength: 44lbs.[4]



METAL

Ti-Screw Anchor

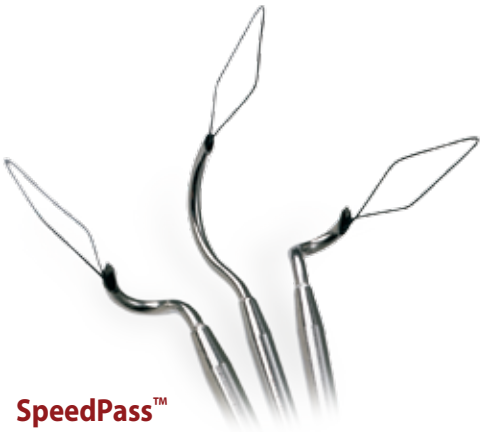
- Available in 3.0mm for labral repair
- Cancellous thread
- Options with needles
- Available with one #2 or two 2-0 suture

Mini-Harpoon® Suture Anchor

- Available in 1.8mm (expands to 2.2mm)
- Expanded wings for optimal fixation
- Stainless steel

Suture Management

Flexibility. Suture management is instrumental for secure fixation in tissue repair. Biomet Sports Medicine offers several options for passing and retrieving suture, and then securely tightening the knot. The BiPass™ Suture Punch is unique in its ability to pass and retrieve suture simultaneously.



SpeedPass™ Suture Retriever

- Easy-to-use disposable instrument for retrieving or passing suture
- Simple thumb slide deployment system utilizing Nitinol loop for retrieving or passing any type of suture
- Pigtail 70˚ curvature ideal for reaching the low five o'clock position for anterior labral repair or capsularlabral tissue plication

SpeedPass™ Suture Lariat

- Suture relay device
- Various tip curvatures for arthroscopic Bankart, SLAP and rotator cuff repairs
- Sharp tip allows easy penetration through tissue
- Disposable instrument

Nordt™ Knot Tightener

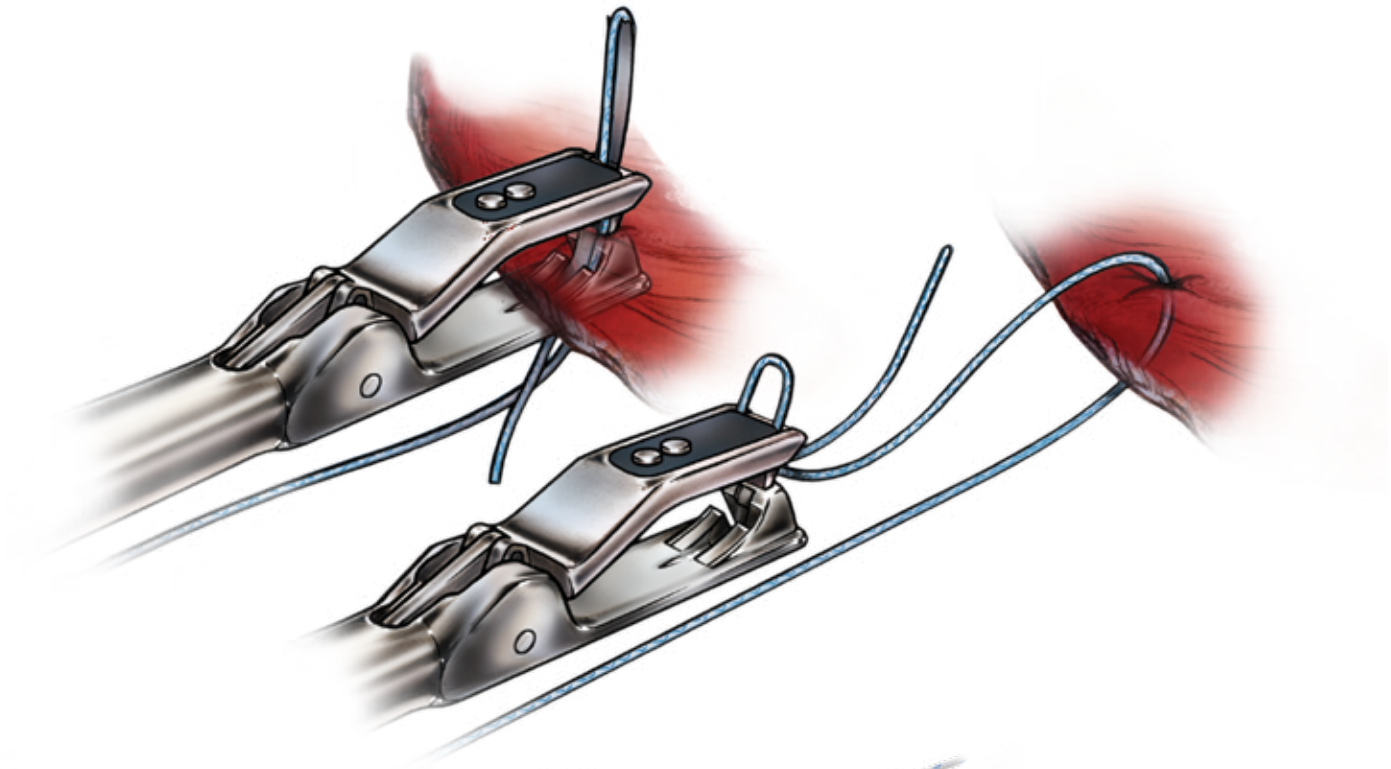
- Allows both pushing and tightening of knots
- Statistically secure as hand-tied knots[5]
- Most secure arthroscopic knots compared to a single hole and cannulated double-diameter knot pushers[5]
- Allows tying of any type or size of suture

Knot Pushers

- Allows both pushing and tightening of knots
- Allows tying of any type or size of suture
- Easily snaps on to suture eliminating eyelet threading
- Available with closed or open ended tip

ArthroPasser™ Suture Passer

- Straight 22˚ and 45˚ tip angles
- Passes or retrieves suture through tissue
- Grabs tissue in open space or cinches suture with grasping tip



BiPass™ Suture Punch

- Dual-purpose instrument that passes and retrieves suture simultaneously, reducing O.R. time
- Nitinol pusher maintains suture integrity
- One hand operation for arthroscopic or mini-open shoulder repair
- Ergonomic, low profile design provides comfort and ease of use
- Large tissue bite up to 16mm

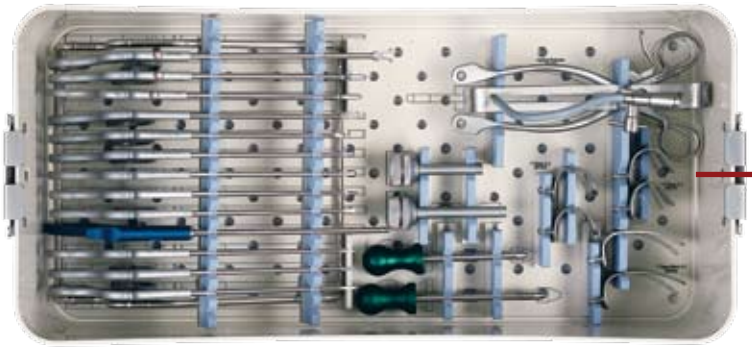
MaxCutter™ Suture Cutter

- Knot pushing tip
- Cinches knot before cutting
- Leaves approximately 3–4mm suture tail
- Cuts any style of suture easily
- Slotted version allows simple suture loading

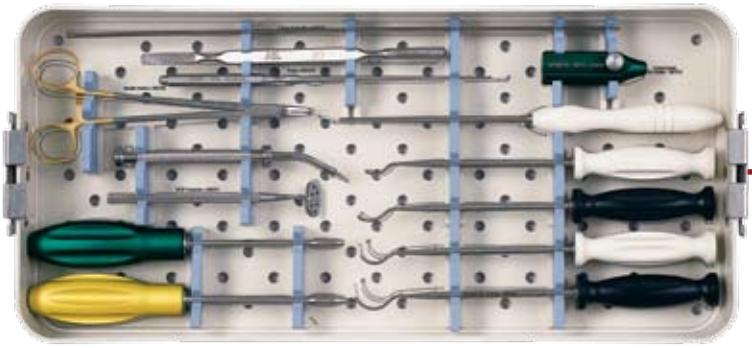
Instruments

CHARLOTTE™ SHOULDER SYSTEM

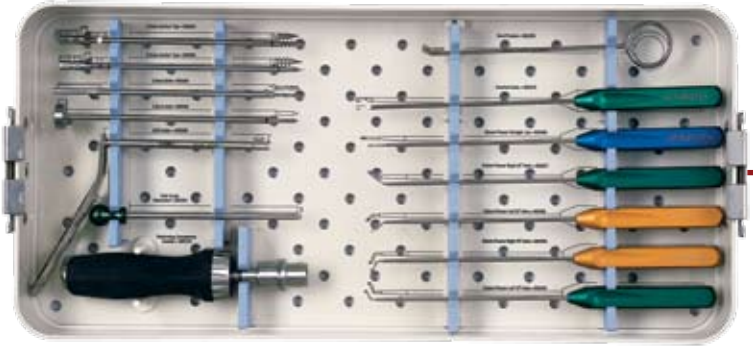
The Charlotte™ Shoulder System complements all open, mini-open and arthroscopic procedures. This modular system saves time in the O.R. by grouping the appropriate instruments for a particular procedure.



Tray 1
Hand Instruments
and RC Retractor



Tray 2
Portal Placement/
Miscellaneous Tray



Tray 3
Anchor Instrumentation/
Suture Management

Company History

Biomet Sports Medicine, a wholly owned subsidiary of Biomet, Inc., entered the arthroscopy market in 1990 when it purchased the assets of Arrow Surgical Technologies, Inc. of San Dimas, California. Today the product line offering includes more than 3,000 products to address the $1.2 billion worldwide market. Working in conjunction with some of the industry's most innovative surgeons, Biomet Sports Medicine is now focusing its research and development efforts on technique-specific instruments and implants for anterior cruciate ligament (ACL) reconstruction and arthroscopic shoulder repairs.


Warsaw, Indiana

Along with the development of new products for the arthroscopic industry, Biomet Sports Medicine strongly supports surgeon education, providing hands-on learning opportunities to help keep surgeons current in modern arthroscopic surgical procedures. The Biomet Sports Medicine Sales Force is likewise educated to become an informational asset for surgeons. Training takes place in two state-of-the-art cadaver labs, one in Warsaw, Indiana and the other in Ontario, California.

Biomet Sports Medicine is headquartered in Warsaw, Indiana within the Biomet, Inc. home office. California is the home of Biomet Sports Medicine's instruments and implants manufacturing site in Ontario and capital equipment in Redding. Shipping of finished goods comes from each of these three locations specific to the products that are produced there.

Biomet Sports Medicine is pleased to offer the most advanced arthroscopic products available today. Should you have questions regarding the product line or would like to have a Sales Representative contact you, please call the Corporate Headquarters at 800.348.9500 ext. 1501 for information.

References

1. Data supplied by DSM Dyneema.
2. Testing performed by Arthrex, Oct. 2000.
3. Data supplied by Teleflex Medical.
4. Data on file at Biomet Sports Medicine, Inc. Bench test results are not necessarily indicative of clinical performance.
5. Milia M, Peindl R, Connor P; "Arthroscopic Knot Tying: The role of instrumentation in achieving knot security." *Arthroscopy*, Vol. 21, Issue 1 pp. 69 – 76, January 2005.

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BSM0048.2 REV053108

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