



# Shoulder Restoration System™

## PopLok® Knotless Suture Anchor

Simple, Secure, Versatile – all-PEEK knotless anchor system  
for rotator cuff and instability repairs



COMMITTED TO INNOVATION

SURGICAL  
TECHNIQUE

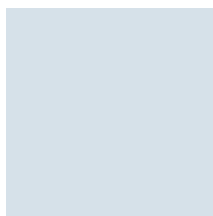
# Arthroscopic Repairs using the PopLok® Knotless Suture Anchor

The all-PEEK PopLok® knotless suture anchor provides easy and reliable fixation for the repair of both labral and rotator cuff pathology. The characteristic (audible) “POP” indicates that the suture is securely locked between the two sliding components, independent of the bone-anchor interface, and deployable wings ensure repair security. The unique ability to modify the amount of tension applied to the soft tissues once the anchor is inserted lessens the risk of compromising the vascular supply, a key feature for healing. Furthermore, the knotless feature coupled with a simple insertion technique can lead to improved surgical efficiency.

Technique Contributions by John Randle, MD, Newmarket, Ontario, Canada  
See animation and surgical videos at [srs.linvatec.com](http://srs.linvatec.com)

## INSTABILITY SURGICAL TECHNIQUES

### Arthroscopic **Bankart Repair** using the 2.8 or 3.3mm PopLok® Knotless Suture Anchor



1



2



3

#### Pass Suture

A free strand of Hi-Fi® suture is passed through the capsule and full thickness of labrum using the desired Spectrum® hook or Spectrum® MVP™ suture passers. Both ends of the Hi-Fi® suture are loaded through the eyelet of the PopLok® Anchor. A hemostat is then attached to the sutures and the anchor is allowed to hang outside the cannula.

#### Drill

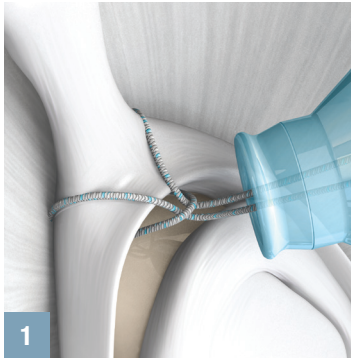
The drill guide is placed just onto articular surface of glenoid. The drill is advanced until the proximal depth stop makes contact with the drill guide ensuring that the distal laser line is just below the surface of the subchondral bone.

#### Seat, Tension, POP, and Go!

Orient the suture eyelet on the anchor to face the labrum or repair site. The lever on the anchor handle is co-linear with the suture eyelet to aid in achieving this desired orientation. “Pretension” the suture to estimate the tension needed for the final repair. The PopLok® is then fully seated into the pilot hole using a mallet and the individual suture strands are then “micro-tensioned” as required. After disengaging the red safety lever, the anchor is deployed by squeezing the trigger, making an audible “POP”. These steps are repeated for subsequent anchors. ■

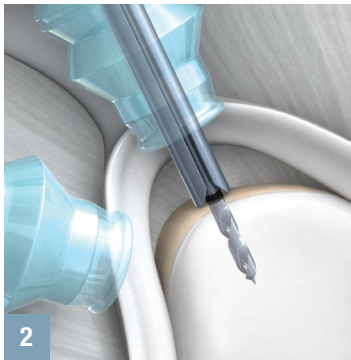
## INSTABILITY SURGICAL TECHNIQUES

### Arthroscopic **SLAP Repair** using the 2.8 or 3.3mm PopLok® Knotless Suture Anchor (Left Shoulder)



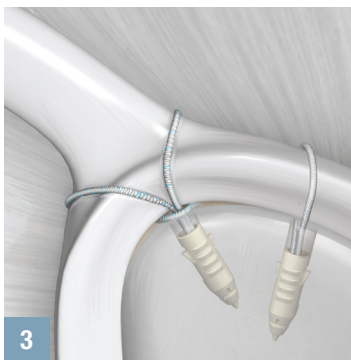
#### **Pass Sutures**

Using a 45° Spectrum® II Hook and Super Shuttle® Relay suture passers, one end of a free #2 Hi-Fi® Suture is passed from the superior aspect of the labrum toward the articular surface just anterior to the biceps tendon and retrieved out an accessory anterior portal. The second end of the suture is then “shuttled” in a similar manner just posterior to the biceps tendon creating a “loop” just inferior to the biceps anchor. A looped grasper is then used to pull the two ends of the suture back through the loop, which is then tightened. The two ends of the suture are then loaded into the eyelet of the PopLok® anchor.



#### **Drill**

Place the drill guide just beyond the articular surface of glenoid at the midpoint of the biceps “anchor” on the superior glenoid tubercle. The drill is advanced until the proximal depth stop makes contact with the drill guide ensuring that the distal laser line is just below the surface of the subchondral bone.



#### **Seat, Tension, POP, and Go!**

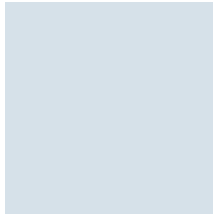
Orient the suture eyelet on the anchor to face the labrum. The lever on the anchor handle is co-linear with the suture eyelet to aid in achieving this desired orientation. “Pretension” the suture to estimate the tension needed for the final repair. The PopLok® anchor is then fully seated into the pilot hole using a mallet and the sutures are individually micro-tensioned.

After disengaging the red safety lever, the anchor is deployed by squeezing the trigger. The PopLok anchor’s audible “POP” confirms fixation of the suture and disengagement of the driver. ■

Arthroscopic Repairs  
using the PopLok®  
Knotless Suture Anchor

## ROTATOR CUFF SURGICAL TECHNIQUES

### Arthroscopic **Single Row Rotator Cuff Repair** using the 3.5 or 4.5mm PopLok® Knotless Suture Anchor – *Three Individual Technique Options*



#### **Simple Stitch**

Pass individual sutures through the torn tendon. Place paired suture limbs through a 4.5mm PopLok anchor and insert near the lateral edge of the footprint of the supraspinatus. For smaller tears only a single anchor and 2 sutures are used (a total of 4 suture limbs). For larger tears, 2 or even 3 anchors can be used. The anchors should be spaced at least 9mm apart. Suture organization is enhanced by utilizing individual (suture) stab incisions. ■

#### **Horizontal Mattress (Inverted) Stitch**

A horizontal mattress (inverted) stitch provides broader compression of the tendon onto the greater tuberosity. A single horizontal mattress stitch should be used with each 3.5mm anchor to prevent bunching of the tendon, which can occur when attempting to bring too many different parts of the tendon down to a single anchor point. ■

#### **Mattress Loop Stitch**

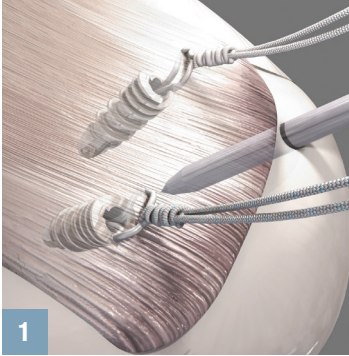
For this stitch, the sutures are passed similarly to a horizontal mattress except both ends of the suture are brought back through the trailing loop. The loop closes around the tendon as the suture is tensioned in the anchor. Only a single pair of suture limbs (or single loop) should be used per 3.5mm anchor to prevent bunching of the tendon during tensioning. ■

*NOTE: For these single row techniques, see page 5 for additional information on “Seat, Tension, POP and GO!”*



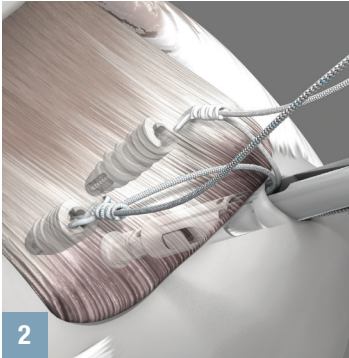
## ROTATOR CUFF SURGICAL TECHNIQUES

### Arthroscopic **Double Row Rotator Cuff Repair** using the 3.5 or 4.5mm PopLok® Knotless Suture Anchor



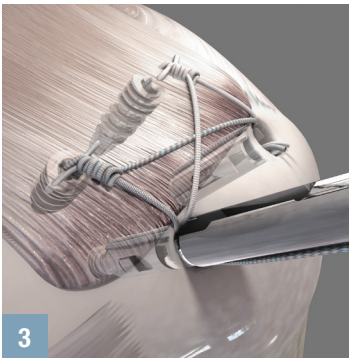
#### **Suture Loading and Punch**

With two CrossFT™ suture anchors placed medially and mattress sutures tied, a single suture limb from each anchor is loaded into the first PopLok anchor. A hemostat is clipped on the suture limbs and the loaded PopLok anchor hangs from the cannula. To facilitate insertion of the anterior anchor through the lateral working portal, the shoulder may be externally rotated, so the perfect location can be achieved. The PopLok punch is then inserted down to the laser line for the anterior anchor.



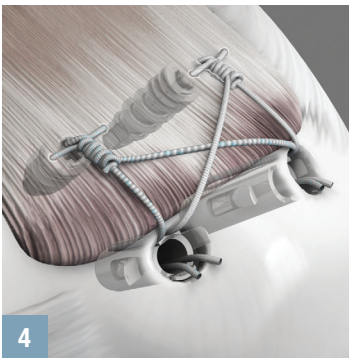
#### **Anterior Anchor**

Using same insertion angle as the punch, the PopLok anchor is inserted down to the laser line. With counter pressure applied, each suture is tensioned individually, then locked into the cleat on the handle. After the red safety lever is disengaged, the anchor is deployed by squeezing the trigger, making the audible “POP”.



#### **Posterior Anchor**

The shoulder is internally rotated to allow the posterior anchor to be inserted through the lateral working portal. The second suture from each medial row anchor is loaded into the second PopLok anchor. The same technique – hemostat, punch, anchor insertion, tension, “POP” – is repeated for this posterior anchor.



#### **Final Construct**

The Katana® Suture Cutter cuts the remaining suture tails and the completed repair can be viewed from both the posterior and lateral portals, confirming compression of the tendon to the footprint and appropriate placement of the anchors. A final view of the repair from the articular side is also recommended, to ensure medial row compression. ■

Arthroscopic Repairs  
using the PopLok®  
Knotless Suture Anchor

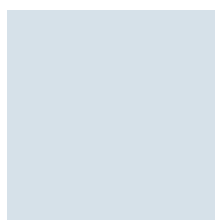
## QUICK REFERENCE: Remember these four simple steps in every Technique



### SEAT ANCHOR

Sutures are loaded into the anchor and the anchor seated into bone tunnel.

NOTE: A maximum of two #2 Hi-Fi® suture limbs should be used with the 3.5mm anchor, and four suture limbs with the 4.5mm anchor. The 2.8 and 3.3mm anchors will accept two #2 or four #0 limbs of Hi-Fi® Suture.



### TENSION

Sutures are pulled to proper tension and locked into cleat on handle.



### POP

Trigger is squeezed until audible “POP”, which locks the inner sleeve into the outer sleeve and deploys the wings.



### GO

The sutures are locked between the sleeves. The inserter automatically detaches from the anchor. Suture tails are cut with the Katana® Suture Cutter.

## ORDERING INFORMATION

### SPECTRUM® II SET

Spectrum II Handle .....	C6350
Spectrum II Sterilization Tray .....	C6355
Spectrum II Roller Wheel Replacement Kit ...	C6356

### LIMITED REUSE SUTURE HOOKS

Suture Hook 45° Right .....	C6360
Suture Hook 45° Left .....	C6361
Suture Hook 60° Right .....	C6362
Suture Hook 60° Left .....	C6363
Suture Hook 90° Right .....	C6364
Suture Hook 90° Left .....	C6365
Suture Hook CorkScrew, Right .....	C6366
Suture Hook CorkScrew, Left .....	C6367
Suture Hook Straight .....	C6368
Suture Hook Crescent, Small, 3.0 x 15.0mm .....	C6369
Suture Hook, Crescent, Medium, 4.0 x 20.0mm .....	C6370
Suture Hook, Crescent, Large, 6.0 x 25.0mm .....	C6371

### DISPOSABLE SUTURE HOOKS

Suture Hook, 45° Right (Red) .....	C6380
Suture Hook, 45° Left (Blue) .....	C6381
Suture Hook, 60° Right (Orange) .....	C6382
Suture Hook, 60° Left (Yellow) .....	C6383
Suture Hook, Straight (Pink) .....	C6384
Suture Hook, Crescent, Small, 3.0 x 15.0mm (White) .....	C6385
Suture Hook, Crescent, Medium, 4.0 x 20.0mm (Teal) .....	C6386
Suture Hook, Crescent, Large, 6.0 x 25.0mm (Purple) .....	C6387

### ACCESSORIES

Super Shuttle® Suture Passer (8/box) .....	C6005
Loop Handle Knot Pusher .....	C6112
Crochet Hook .....	C6105
Grasping Forceps, 3.4mm Diameter, Straight with Ratchet .....	11.1001
Suture Retrieval Forceps, 3.4mm Diameter .....	16.1018

### KATANA® HIGH-STRENGTH SUTURE CUTTER

3.5mm dia., 142mm .....	GU1009
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### POPLOK® KNOTLESS SUTURE ANCHOR

#### INSTABILITY REPAIR

2.8mm PopLok w/one #2 Hi-Fi Suture .....	GKP-2801
2.8mm PopLok w/two #0 Hi-Fi Sutures .....	GKP-2802
3.3mm PopLok w/one #2 Hi-Fi Suture .....	GKP-3301
3.3mm PopLok w/two #0 Hi-Fi Sutures .....	GKP-3302
PopLok 2.8/3.3mm Drill Bit .....	BKL-00M
Drill Guide .....	BGU-00M
PopLok Obturator .....	BTR-00M

#### ROTATOR CUFF REPAIR

3.5mm PopLok Anchor (no suture) .....	CKP-3500
3.5mm PopLok Anchor w/one #2 Hi-Fi Suture .....	CKP-3501
4.5mm PopLok Anchor (no suture) .....	CKP-4500
4.5mm PopLok Anchor w/two #2 Hi-Fi Sutures .....	CKP-4502
3.5mm PopLok Punch .....	PKL-35M
4.5mm PopLok Punch .....	PKL-45M
SRS Instrument Tray .....	RCR-TRAY

### HI-FI® HIGH STRENGTH SUTURE

(STERILE, 12 PER BOX)

#2, 36 in. single strand, (blue and white co-braid) no needle .....	H5120
#2, 36 in. single strand, (white) no needle .....	H5130
#2, 36 in. single strand, (white and green co-braid) no needle .....	H5140
#2, 36 in. single strand, (black and white co-braid) no needle .....	H5150
#0, 36 in. single strand, (black and white co-braid) no needle .....	H5301
#0, 36 in. single strand, (white ) no needle .....	H5302

### DRY-DOC® CANNULA

Dry-Doc 5x85mm .....	C7350
Dry-Doc 6x85mm .....	C7359
Dry-Doc 7x85mm .....	C7360
Dry-Doc 7x95mm .....	C7369
Dry-Doc 8x75mm .....	C7367
Dry-Doc 8x85mm .....	C7368

### REUSABLE CANNULATED METAL OBTURATOR

5.0mm x 85mm .....	C7380
6.0mm x 85mm .....	C7388
7.0mm x 85mm .....	C7385
7.0mm x 95mm .....	C7382
8.0mm x 75mm .....	C7390
8.0mm x 85mm .....	C7395

Arthroscopic Repairs  
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