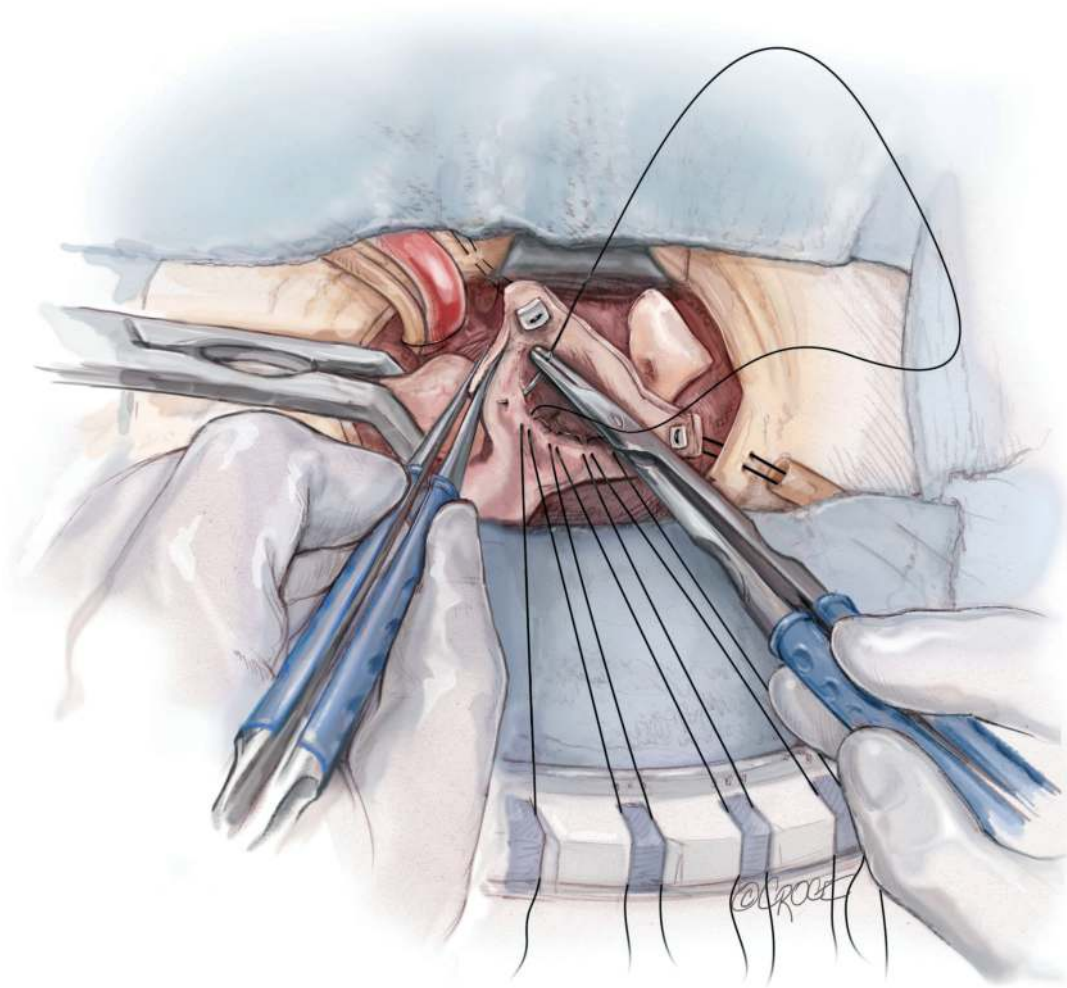


NEW

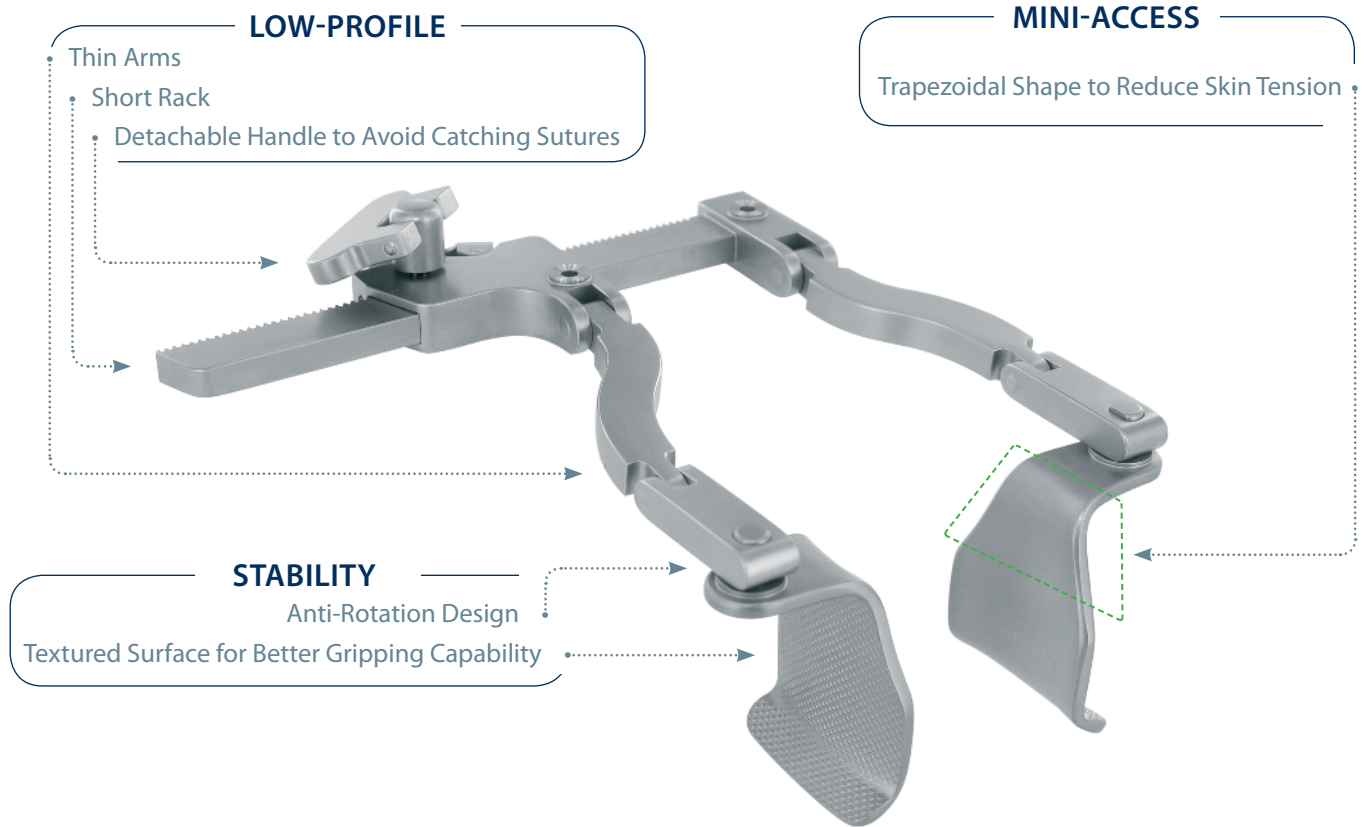
Minimal Access Aortic Surgery How to do it



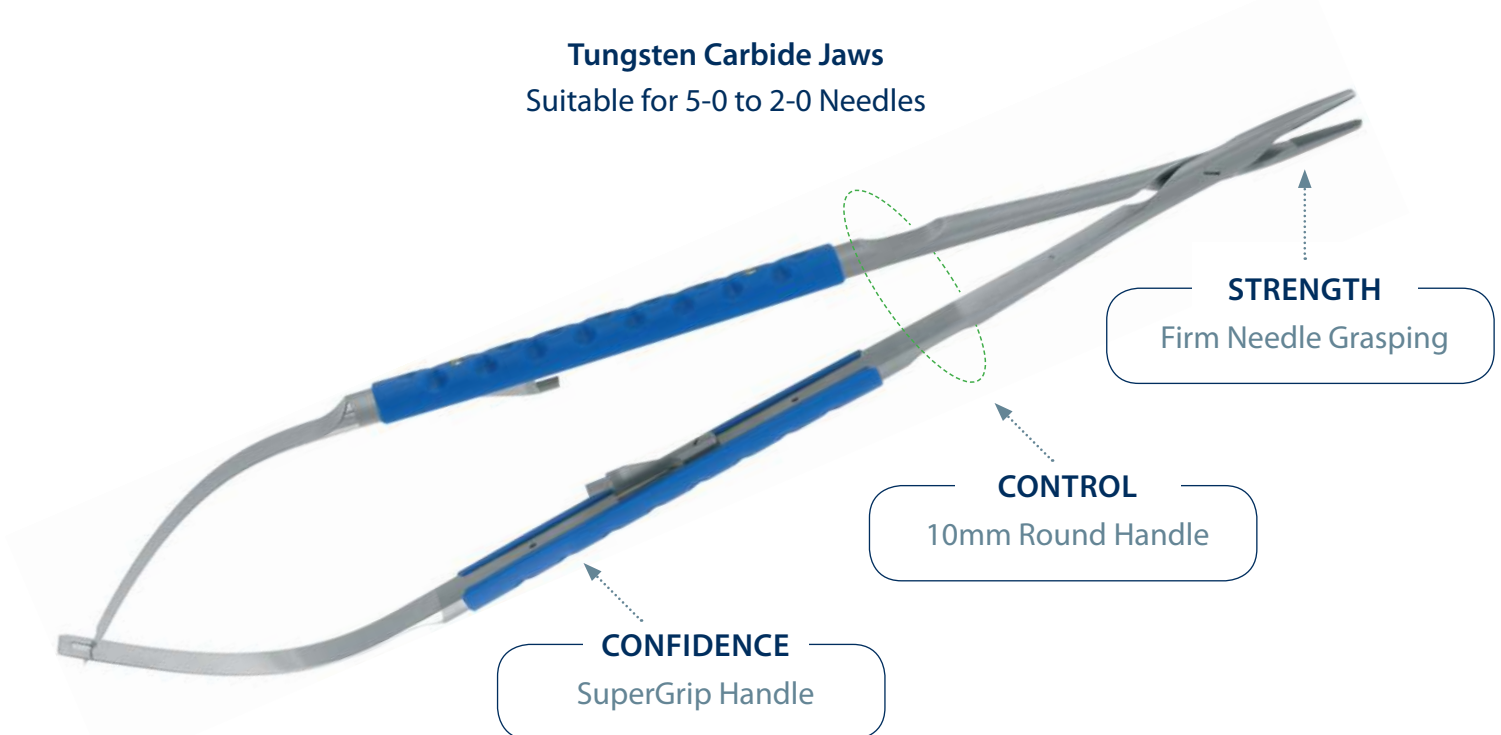
Prof. Tristan D. Yan's Instrument Set

Key Products

● YAN Mini-Access Retractor DC82160-00 - For Mini-Sternotomy and Mini-Thoracotomy Approaches

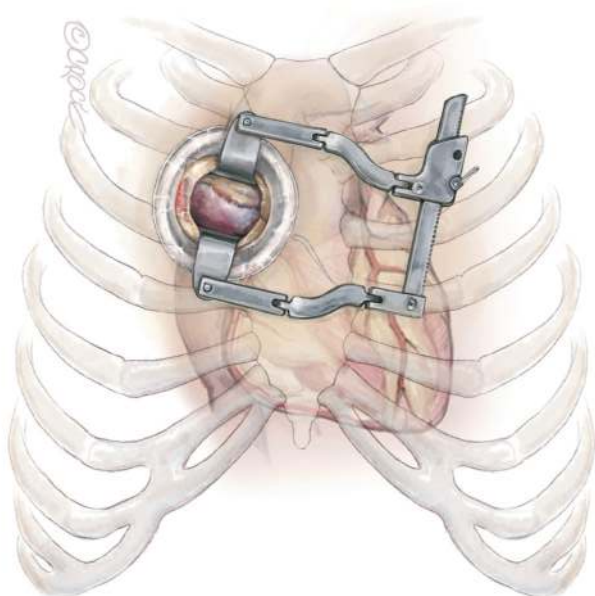


● YAN Heavy Style Jacobson& SuperGrip Needle Holder DC50644-235 & DC50644-25S - For Valve Surgery



This set of Minimal Access Aortic Surgery Instruments is designed specifically for aortic valve replacement and proximal aortic surgery, via either right anterior mini-thoracotomy or mini-sternotomy.

Mini-Thoracotomy.....p. 4



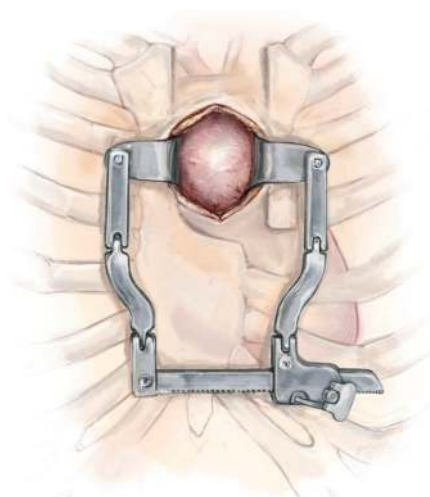
Aortic Valve Surgery

Mini Aortic Valve Replacement

Mitral Valve Surgery

Mini Mitral Surgery

Mini-Sternotomy.....p. 12



Aortic Valve Surgery

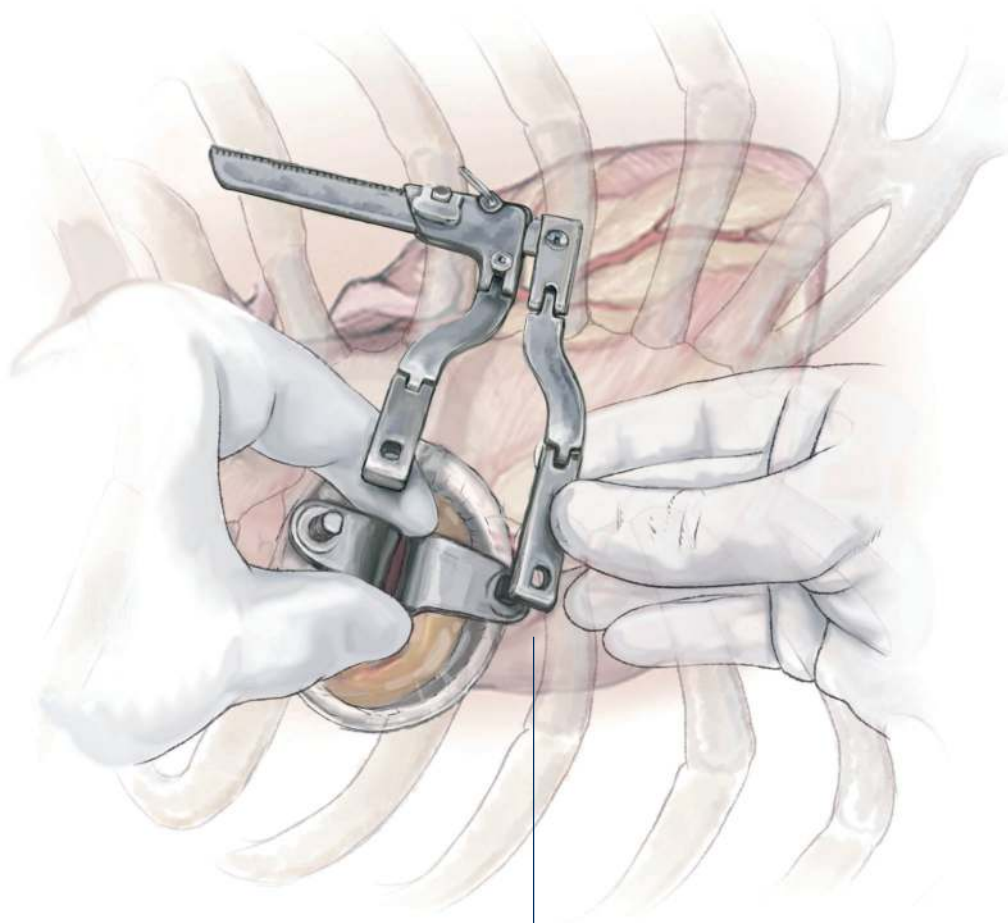
Mini Aortic Valve Replacement
Mini Aortic Valve Repair

Aortic Surgery

Mini Access Aortic Root Surgery
Mini Access Ascending Aortic Replacement
Mini Access Proximal Arch Surgery

01 ——— Right Anterior Mini-Thoracotomy ———

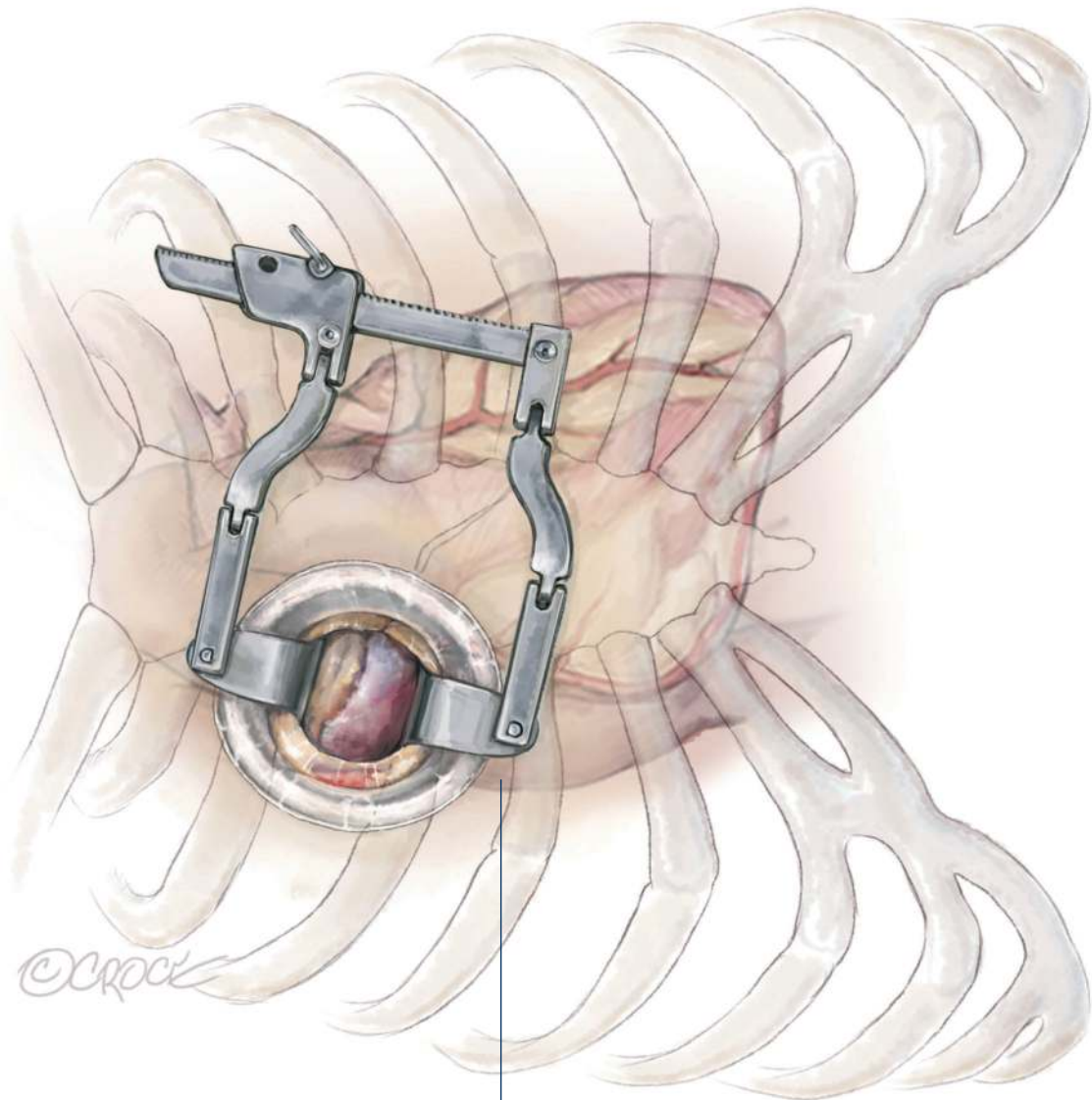
Following a 3-4 cm right anterior mini-thoracotomy incision, the mini-access retractor blades are inserted. The retractor blades are narrow at the top, which reduce the stress on the skin edges.



DC82160-00
YAN Mini-Access Retractor

02 ————— YAN Mini-Access Retractor

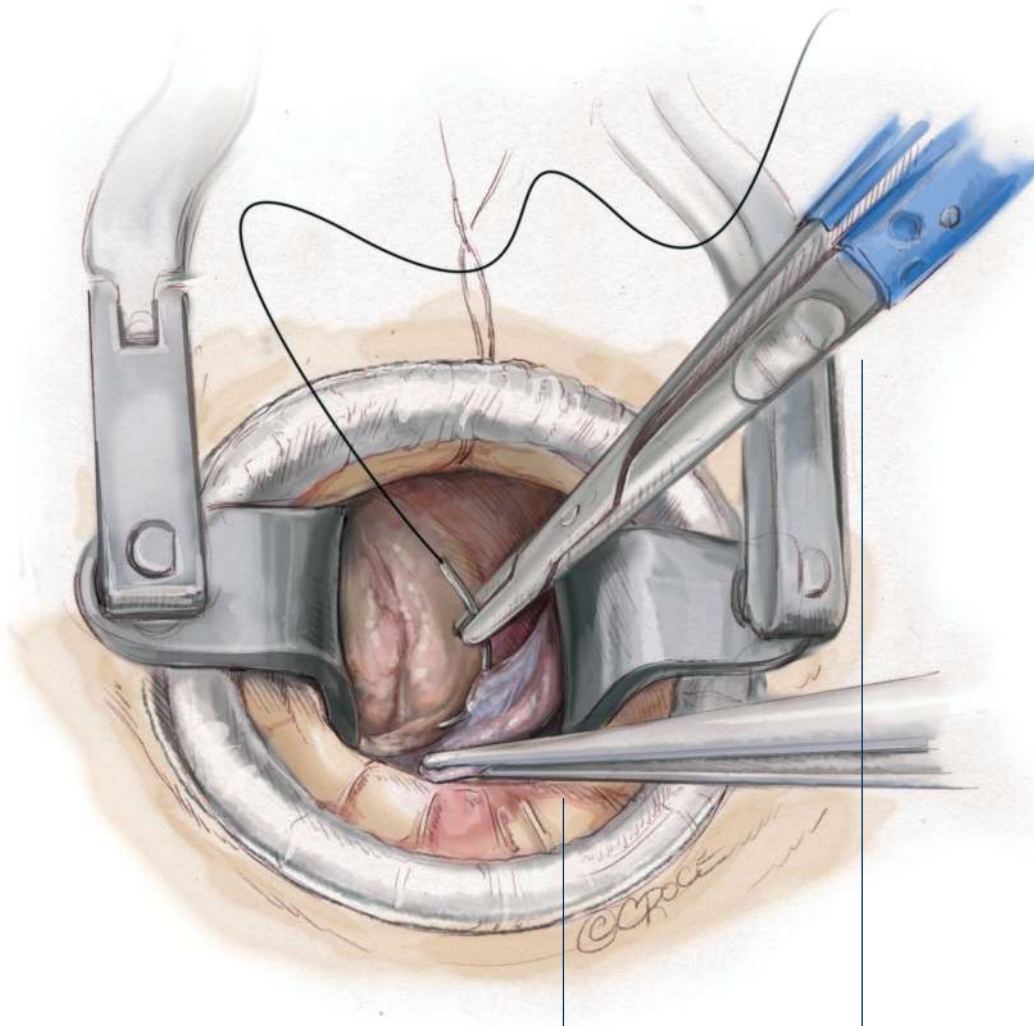
The retractor blades have a specially designed latch system and a textured surface, which ensure the retractor's stability. The retractor handle can be detached to avoid catching sutures.



DC82160-00
YAN Mini-Access Retractor

03 Pericardium Retraction

Three pericardial retraction sutures are pulled up to the skin edge to provide an excellent exposure of the aortic root.

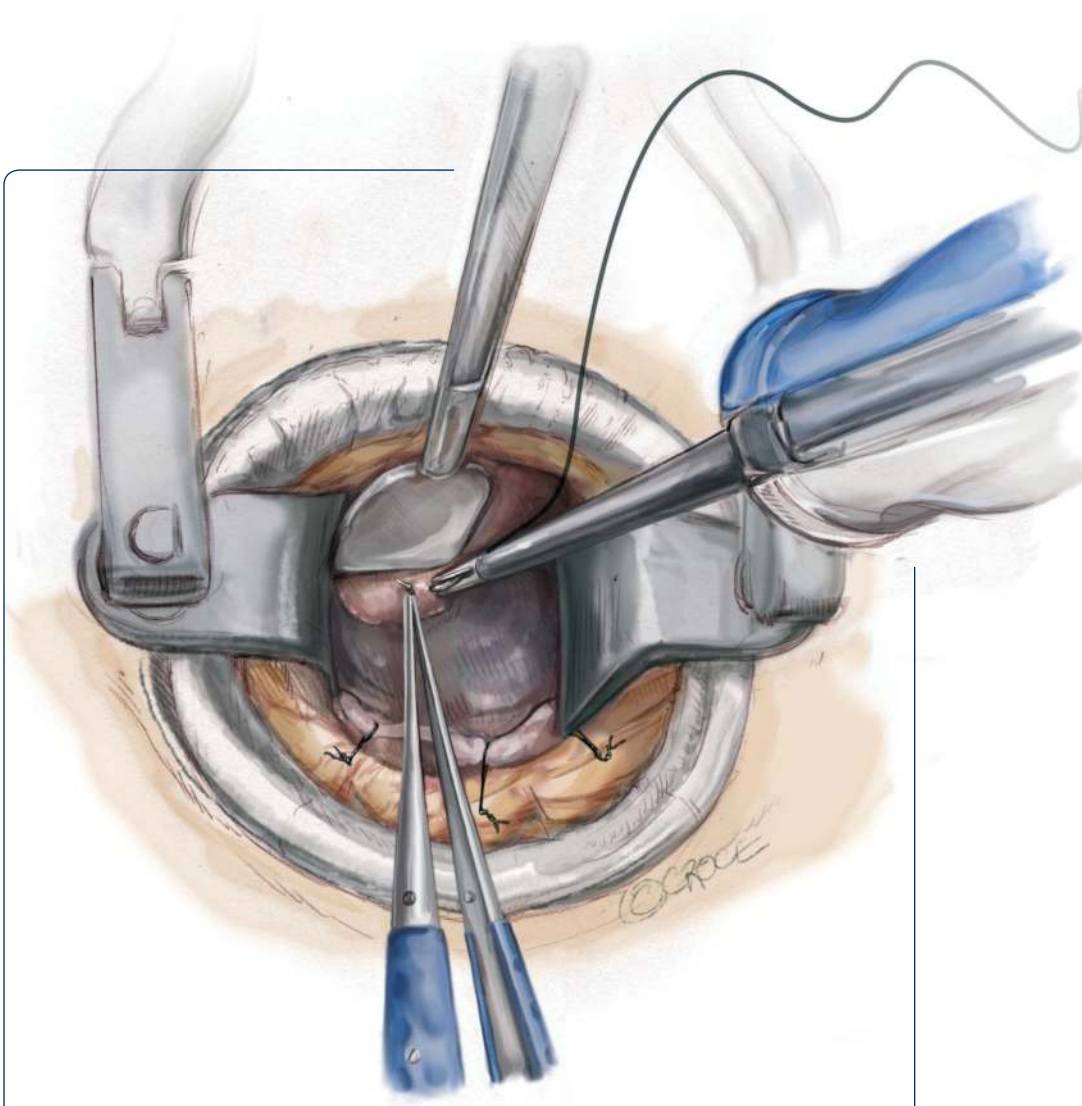


DC13030-21S
Strong Hybrid Forceps

DC50644-23S
YAN Heavy Style SuperGrip Needle Holder

04 — Right Superior Pulmonary Vein Vent —

By retracting the ascending aorta and the superior vena cava medially with an adjustable aortic retractor, the right superior pulmonary vein is exposed. A left ventricular vent is inserted through the right superior pulmonary vein with ease.



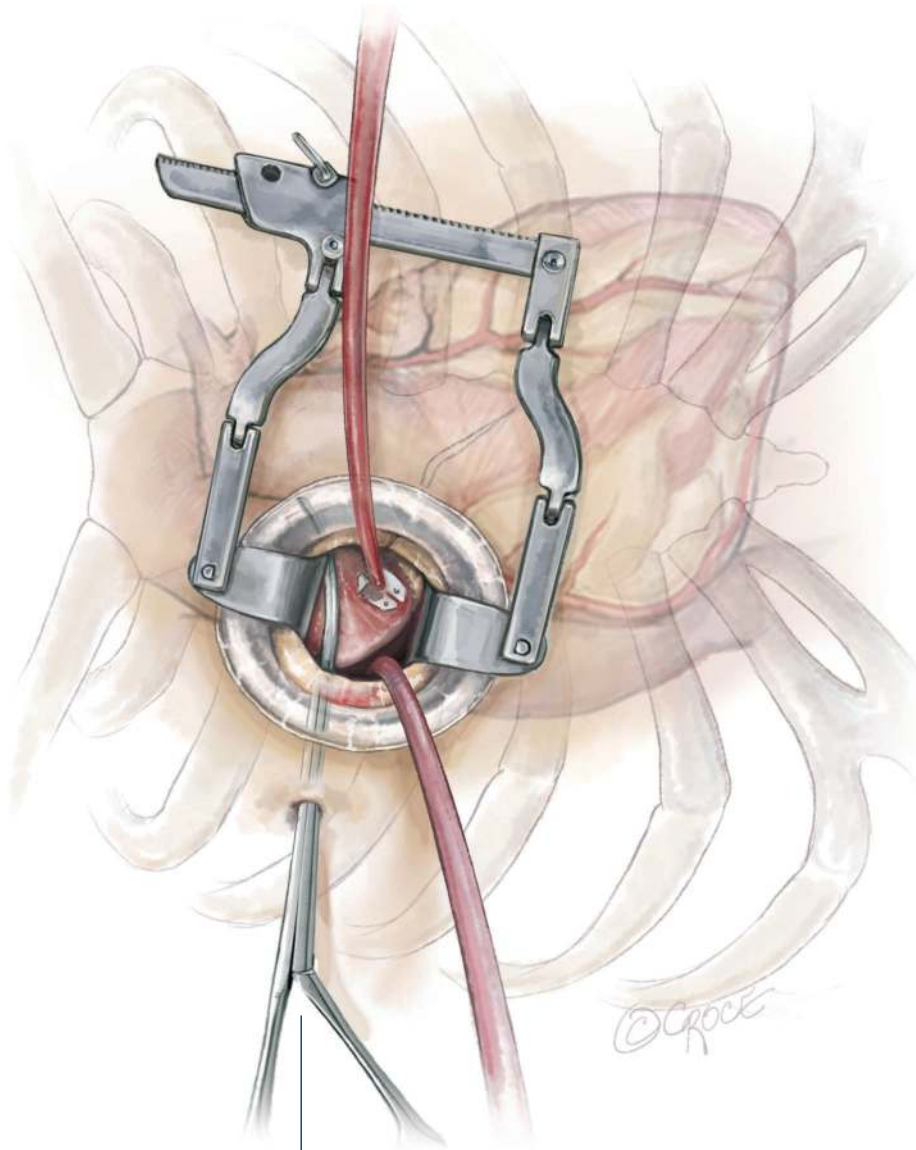
DC33020-20
Handheld Aortic Retractor

DC50203-23S
Fine SuperGrip Micro Needle Holder

DC80012-25
MIS Curved Needle Holder

05 Aortic Cross-Clamp

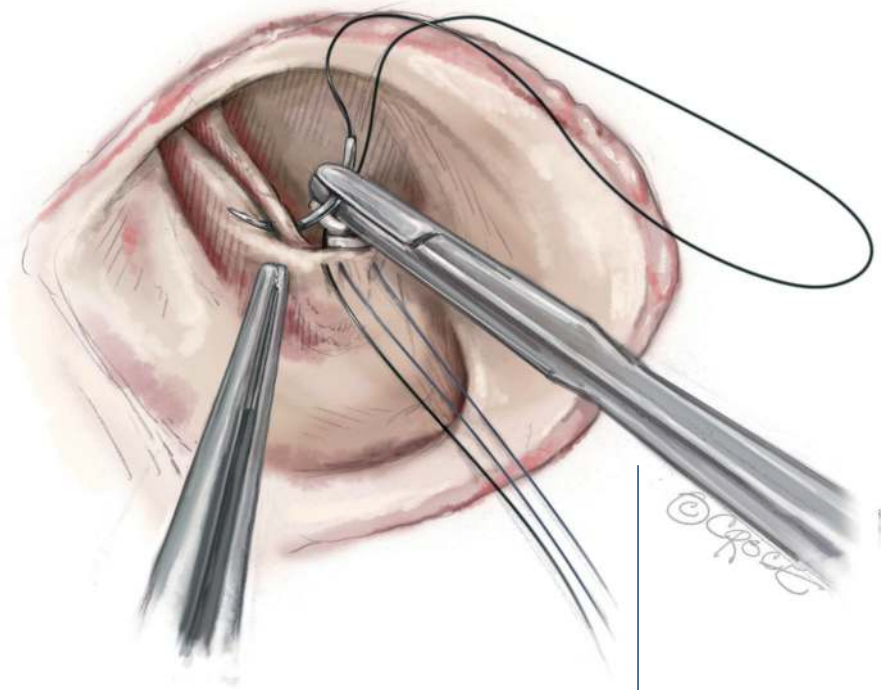
The aorta is carefully separated from the right pulmonary artery posteriorly. A Chitwood cross-clamp is inserted through a separate stab incision lateral to the mini-thoracotomy. The Chitwood cross-clamp is applied and antegrade cardioplegia is given.



DC80402-26
Chitwood Cross-Clamp

06 ——— “Looking Down the Barrel” View ———

By using an endoscope, the aortic root and aortic annulus are clearly visualized. The single shaft MIS needle holder has a low profile, which is ideal for this approach. The hybrid forceps have Resano tips and Debaquey jaws, which are designed to pick up calcified tissues and needles, respectively.

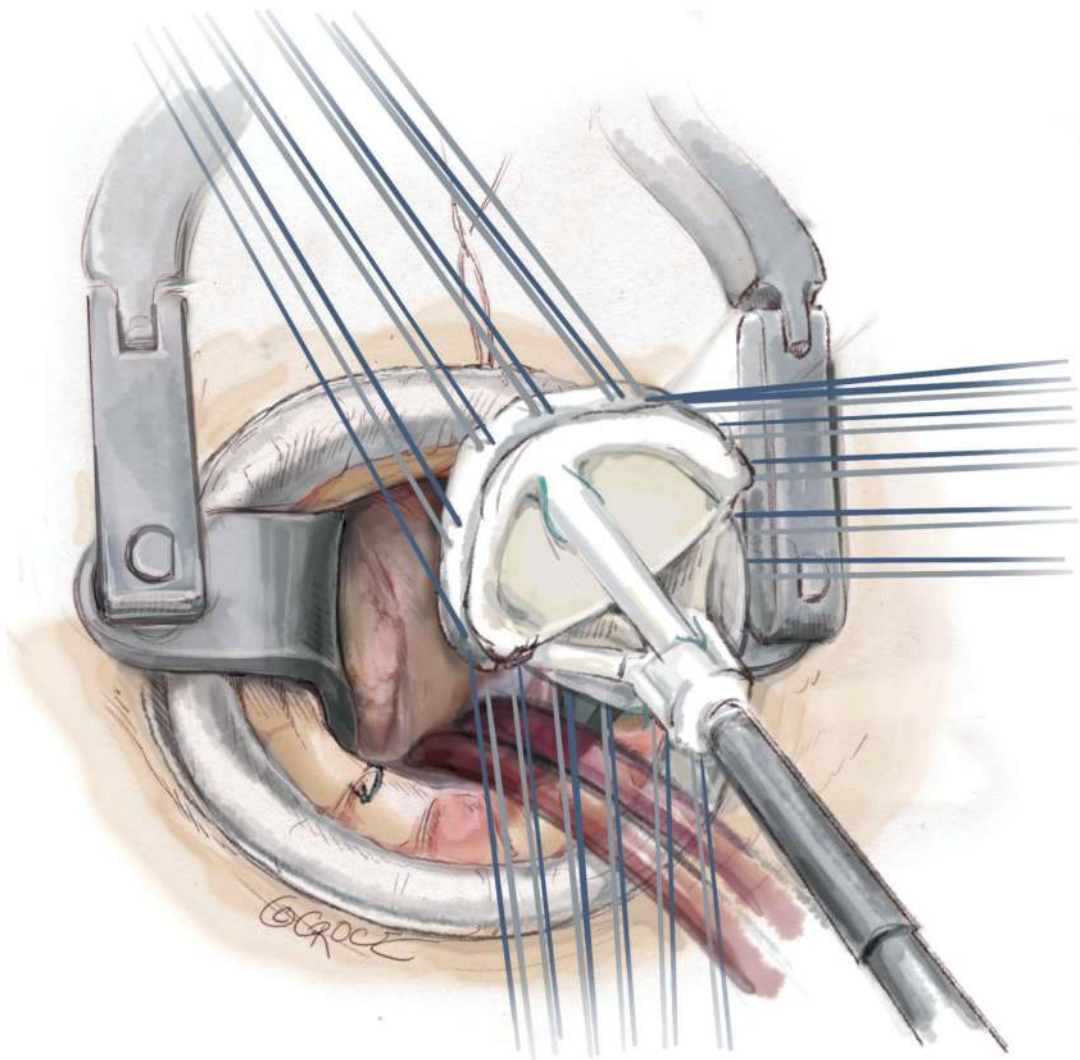


DC13030-21S
Strong Hybrid Forceps

DC80113-25
MIS Straight Needle Holder

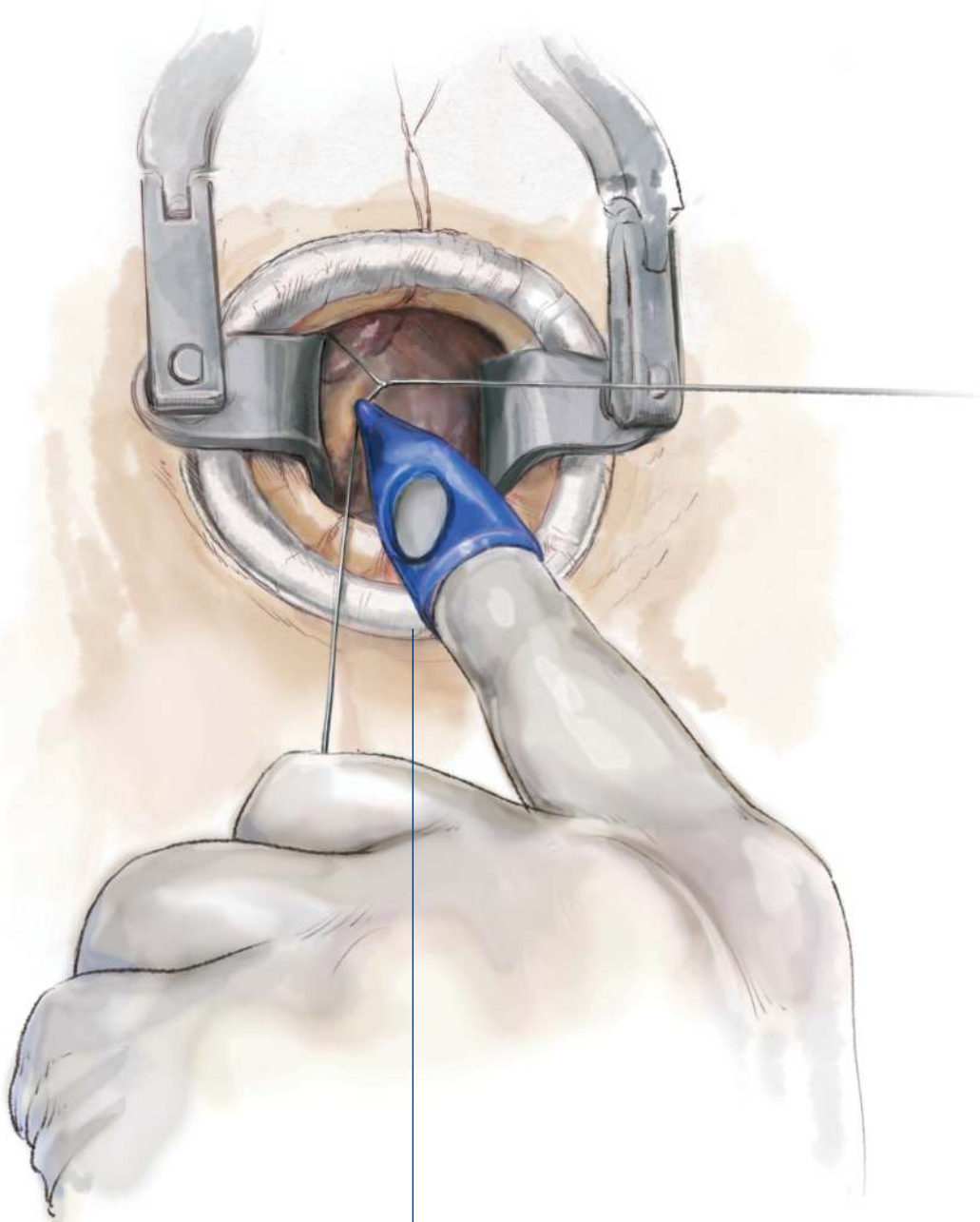
07 — Aortic Valve Prosthesis Implantation —

The aortic valve prosthesis is parachuted down to the aortic annulus.



08 — Finger-Extension Knot Pusher —

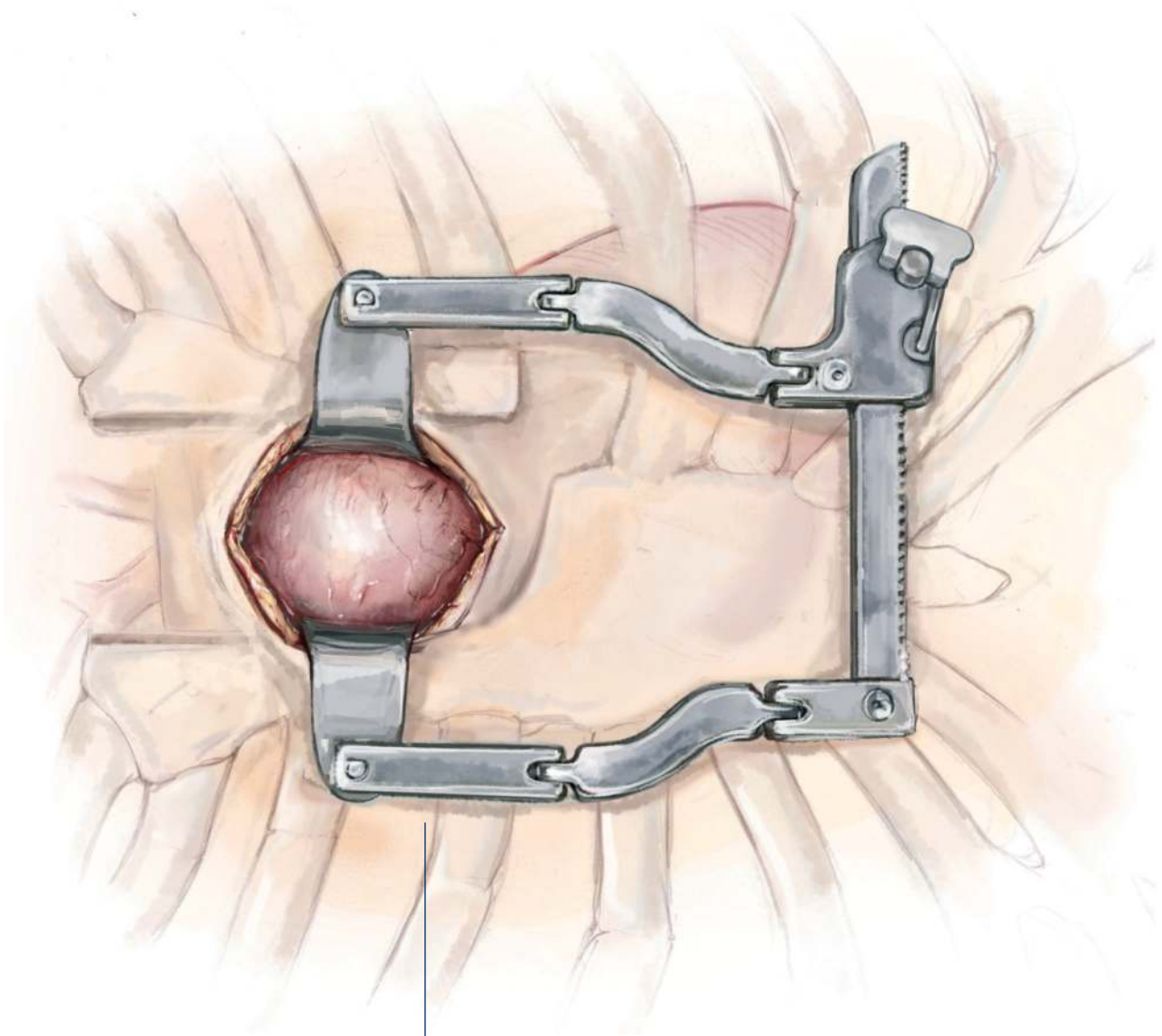
Using the one-handed knot tying technique, this knot pusher is designed to provide an additional phalanx length, enough to reach the aortic annulus or right superior pulmonary vein.



DC71710-50
Finger Extension Knot Pusher

01 Mini-Sternotomy

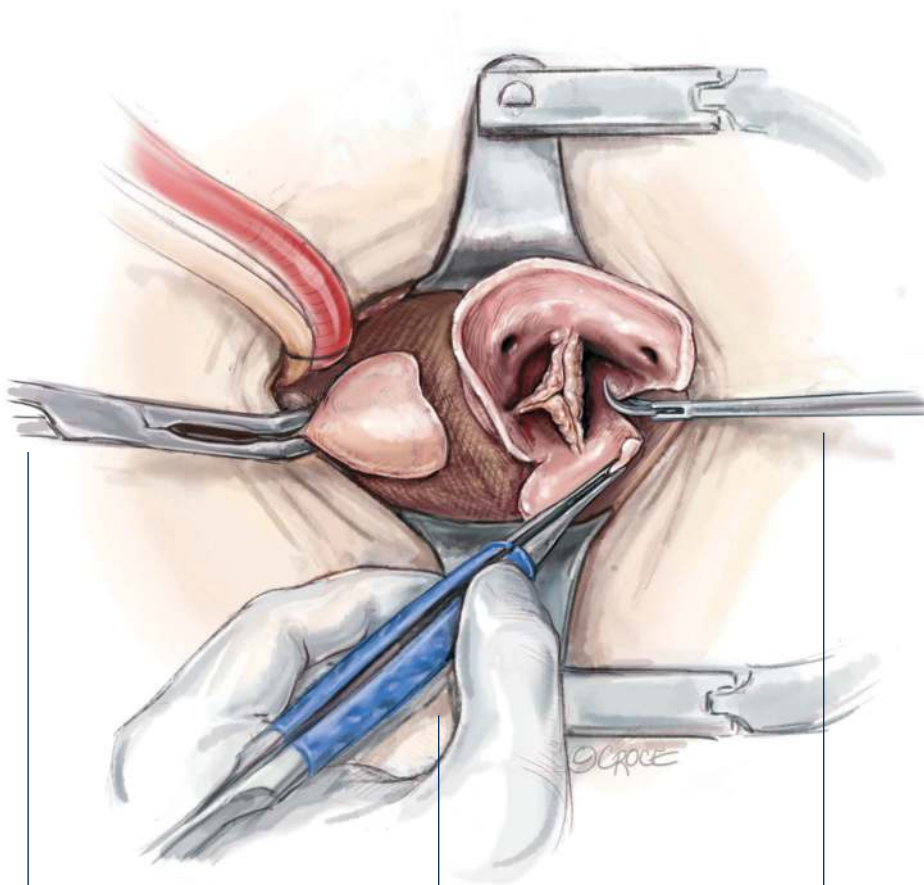
Following a 5 cm mini-sternotomy incision, the retractor blades are inserted. The sternal division is made to the left side, which is important for aortic root replacement, aortic valve sparing root procedure and hemi-arch replacement.



DC82160-00
YAN Mini-Access Retractor

02 ————— Aortic Root Exposure —————

Under a low-flow condition, the atraumatic aortic cross-clamp is applied to the distal ascending aorta and antegrade cardioplegia is given. Once the aorta is opened and the heart is decompressed, the aortic root can be visualized clearly.



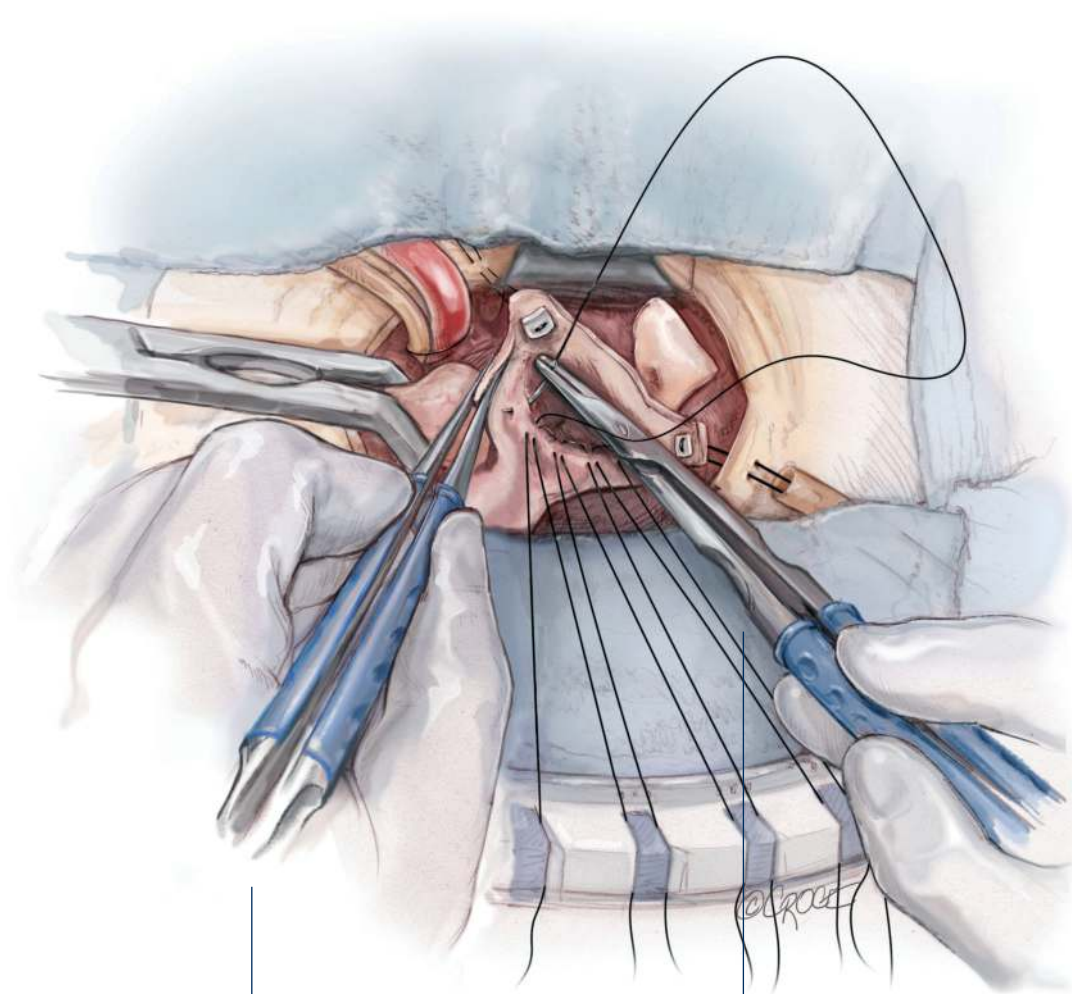
DC40087-26
Atraumatic Aortic Cross Clamp

DC12550-24S
SuperGrip Micro Forceps

DC80112-25
MIS Strongly Curved Scissors

03 — Aortic Annular Suture Placement —

By pulling on the commissure retraction sutures, the aortic annulus can be brought closer to the skin. This is an important maneuver to expose the entire aortic annulus for root replacement, via the mini-access approach.

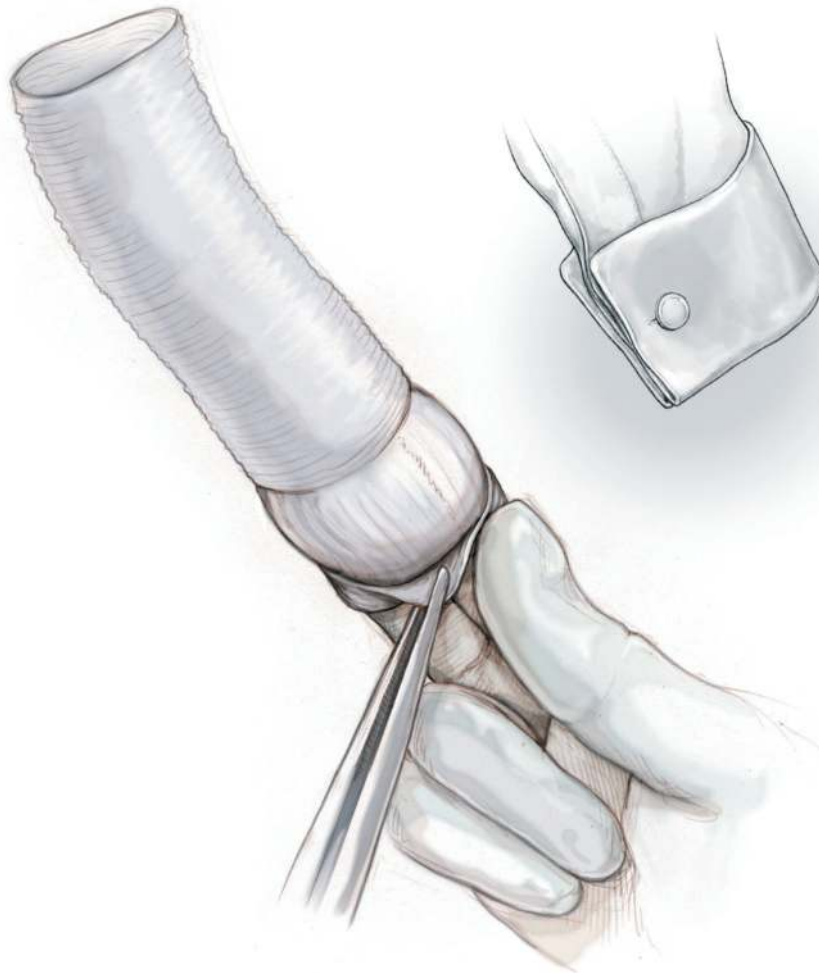


DC13030-21S
Strong Hybrid Forceps

DC50644-23S
YAN Heavy Style SuperGrip Needle Holder

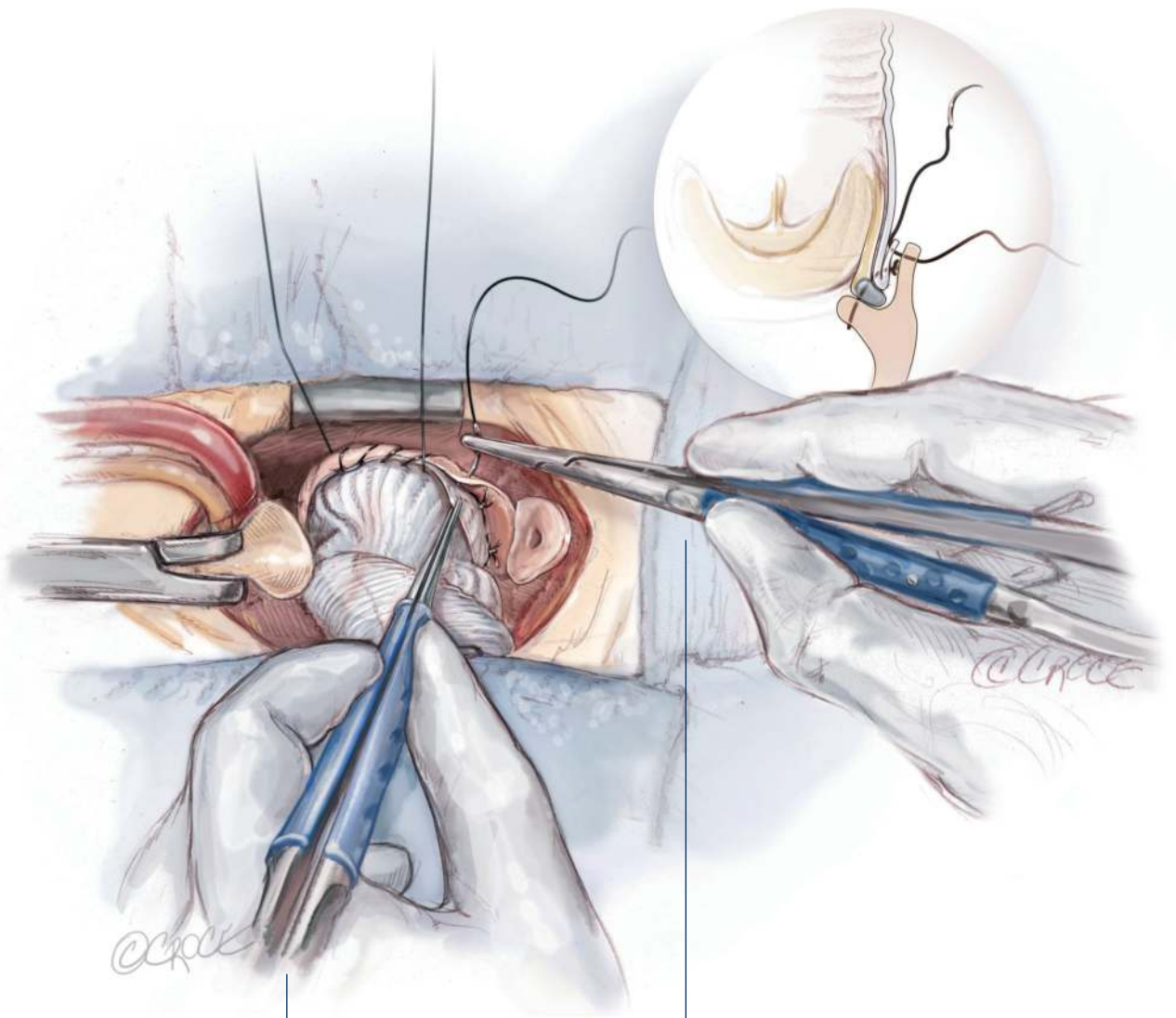
04 — The "French Cuff" Technique —

The proximal cuff of the Valsalva graft is folded back over the outside of Valsalva portion of the graft to make a double cuff, hence the name "French Cuff" technique. Valsalva graft size = Aortic valve size + 5 mm.



05 Double-Layer Anastomosis

The annular sutures are passed through the sewing ring of the valve first and then through the folded proximal edge of the Valsalva graft. The sutures are tied and cut sequentially. The second "hemostatic" layer is performed using a 4-0 running Prolene suture incorporating the remnant of aortic wall and the everted French cuff edge.

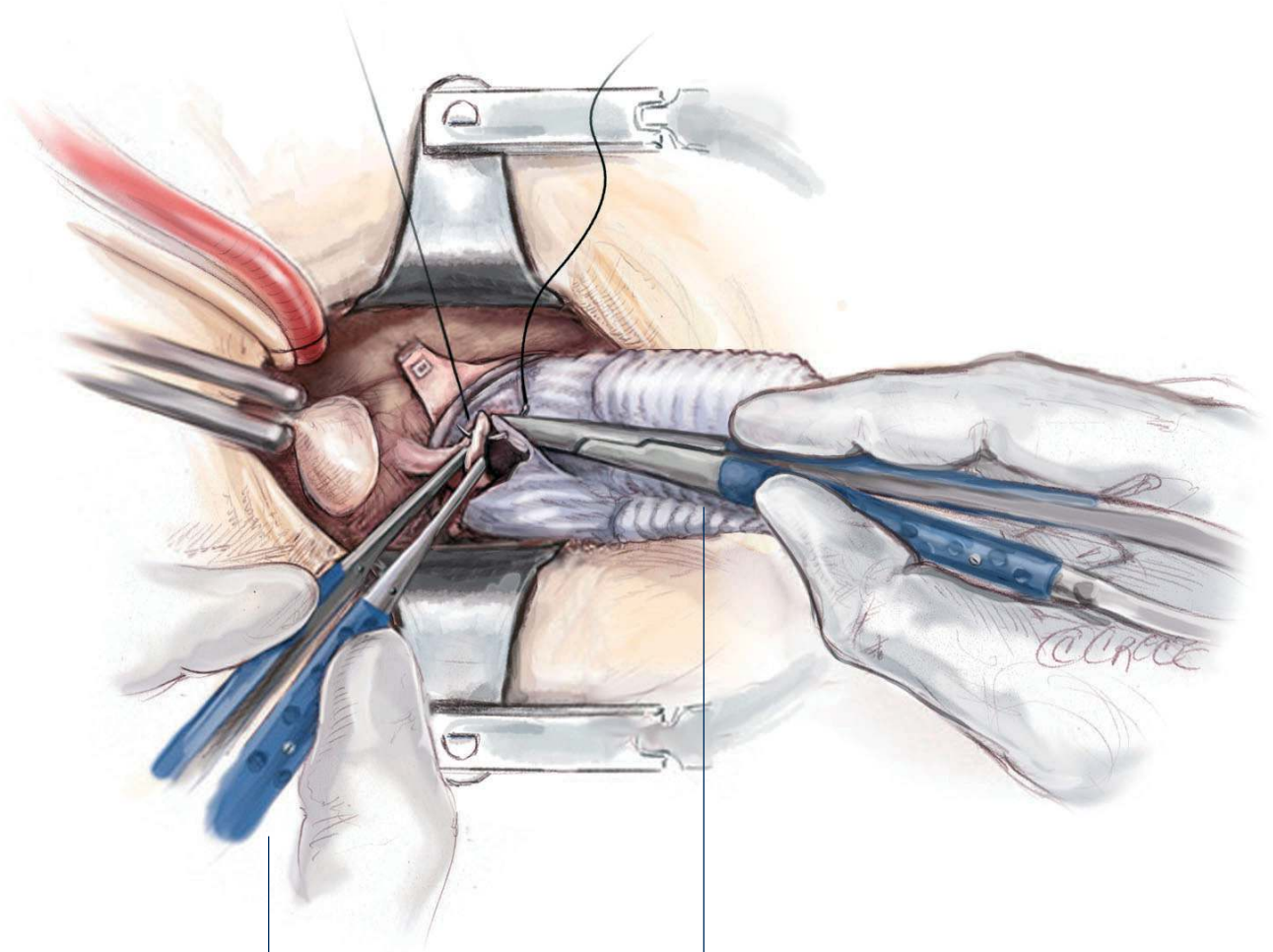


DC13030-21S
Strong Hybrid Forceps

DC50644-23S
YAN Heavy Style SuperGrip Needle Holder

06 ——— Coronary Button Reimplantation ———

The appropriate sites on the Valsalva graft for coronary button reimplantation are determined with the heart fully loaded. The coronary buttons are reimplanted using the SuperGrip Micro Needle Holder and Forceps.

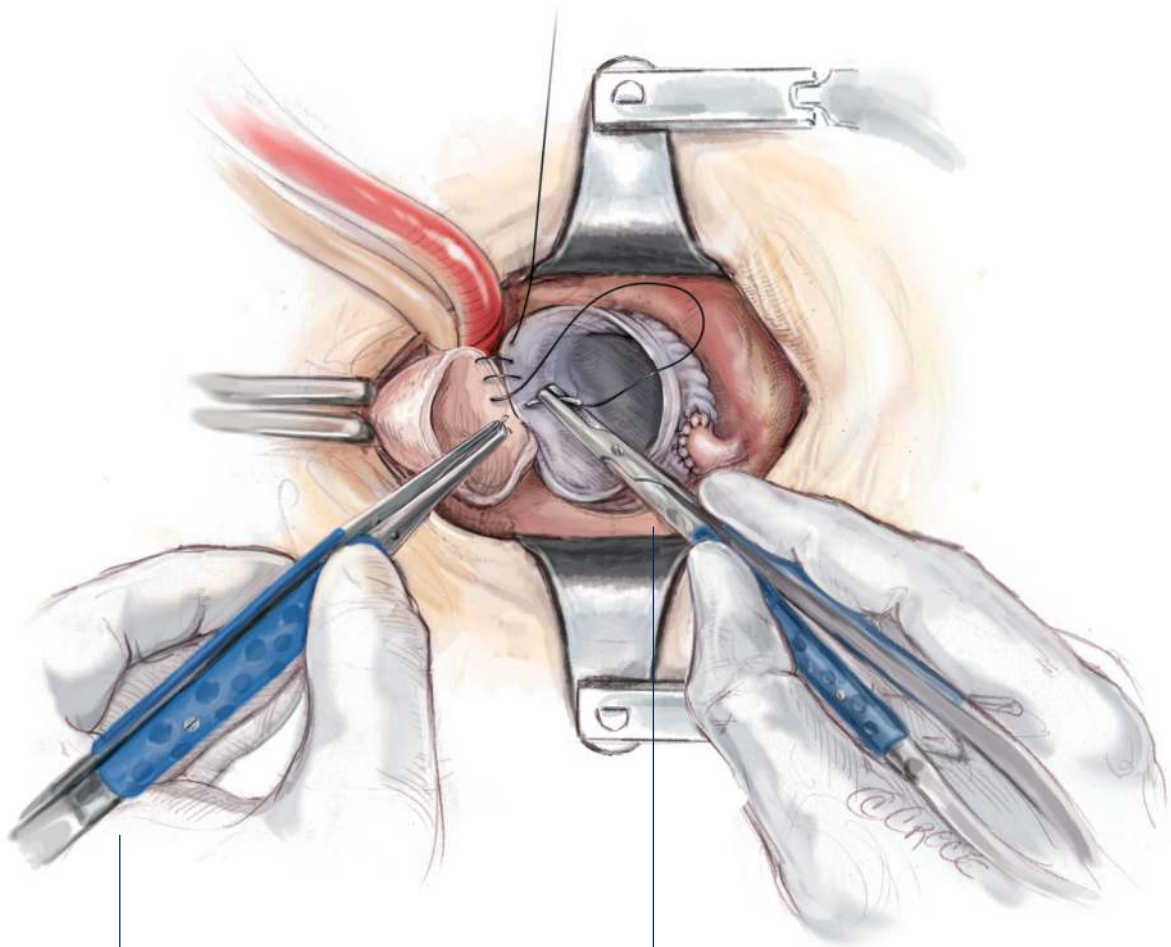


DC12550-24S
SuperGrip Micro Forceps

DC50203-23S
Fine SuperGrip Micro Needle Holder

07 ————— Distal Anastomosis —————

The graft is trimmed to an appropriate length and anastomosed to the distal ascending aortic cuff with a 3-0 running polypropylene suture. The back wall is anastomosed first.

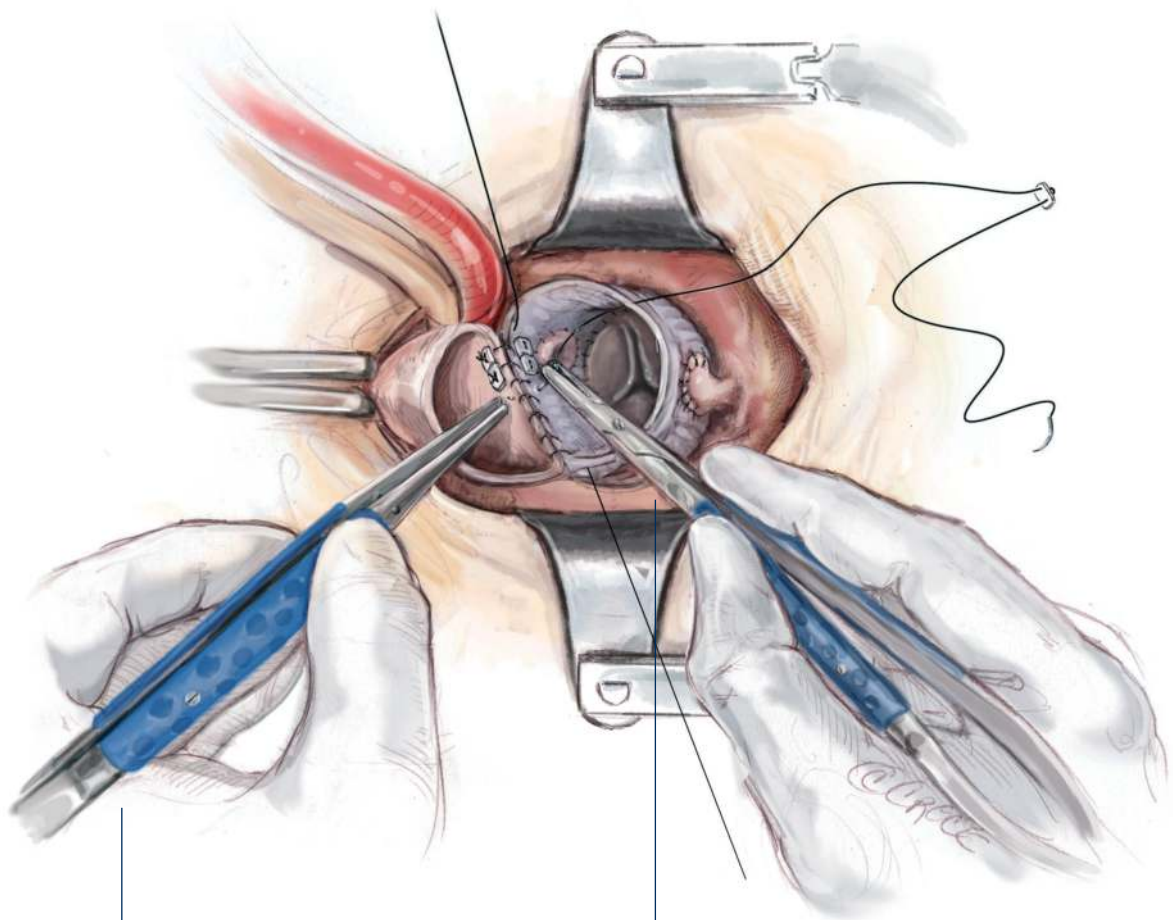


DC13030-21S
Strong Hybrid Forceps

DC50644-23S
YAN Heavy Style SuperGrip Needle Holder

08 Ensuring Hemostasis

The back wall of the anastomosis is reinforced with pledgetted 4-0 Prolene sutures from the inside, which greatly improves the hemostasis.



DC13030-21S
Strong Hybrid Forceps

DC50644-23S
YAN Heavy Style SuperGrip Needle Holder

Prof. Tristan D. Yan's Recommended Set

Surgical Approach and Aortic Valve Exposure



DC82160-00: Yan Mini-Access Retractor



DC81330-01: Scalpel Blade Handle - From 180 to 250mm



DC33010-25: Mammary Artery Protector - 230mm



DC33020-20: Narrow Hand-held Aortic Retractor - From 230 to 300mm



DC33020-30: Broad Hand-held Aortic Retractor - From 230 to 300mm



DC71337-33-S: MIS Straight Sucker - 260mm



DC71337-33-C: MIS Curved Sucker - 260mm



DC40087-26: Atraumatic Aortic Cross Clamp - 260mm

Aortic Valve and Aortic Replacement



DC13030-21S: Strong Hybrid Forceps - 210mm



DC13030-24S: Strong Hybrid Forceps - 240mm



DC80710-23: Straight Aortic Valve Rongeur - 230mm



DC80711-23: 45° Upper-cut Aortic Valve Rongeur - 230mm



DC21120-22: Aortic Leaflets Supercut Scissors - 220mm



DC80462-22: Single Shaft Supercut Scissors - 220mm



DC81301-01: MIS Suture Hook - From 200 to 270mm



DC12550-24S: SuperGrip Micro Forceps - 240mm



DC50203-23S: Fine SuperGrip Micro Needle Holder - 230mm



DC50644-23S: Yan Heavy Style SuperGrip Needle Holder - 230mm



DC50644-25S: Yan Heavy Style SuperGrip Needle Holder - 250mm



DC80012-25: MIS Curved Needle Holder - 250mm



DC80013-25: MIS Straight Needle Holder - 250mm



DC80419-36: Chest Tube Passer - 355mm



DC80420-24: Chest Tube Passer - 240mm



DC71710-50: Finger-Extension Knot Pusher - 50mm

Coronary Button Reimplantation



DC80111-25: MIS Curved Scissors - 250mm

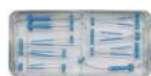


DC80112-25: MIS Strongly Curved Scissors - 250mm

Sterilization Trays



DC81912-01: Sterilization Trays - 540x250x70mm



DC81912-02: Sterilization Trays - 540x250x70mm



DC81912-03: Sterilization Trays - 540x250x70mm

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