

Shoulder Instrumentation

for Soft Tissue and Joint Repair



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BUXTON BIOMEDICAL, INC.



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Table of Contents

Primary Retraction	1
Secondary Retraction	2
Delto Pectoral Retraction	3-5
Capsule Resection	6-7
Humeral Head Retraction	8
Bone Preparation	9
Bone Tunneling	10
Suture Passing	11
Additional Instrumentation	12-13
Cases and Trays	14
Instrument Sets	15-16
Accessories	17
Splints	18

About The Surgical Procedure

The surgical steps described in this brochure are neither comprehensive nor definitive and are only intended to show how the instruments offered might be used in the course of performing a variety of shoulder procedures. Information provided herein was compiled from several sources including the published materials listed on the following page. The surgeon is urged to consult these and other references for a more rigorous review of the indications, precautions and descriptions before attempting any repairs.



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Rowe CR, Patel D, Southmayd WW: The Bankart procedure. *J Bone Joint Surg* 1978; 60A:1-16.

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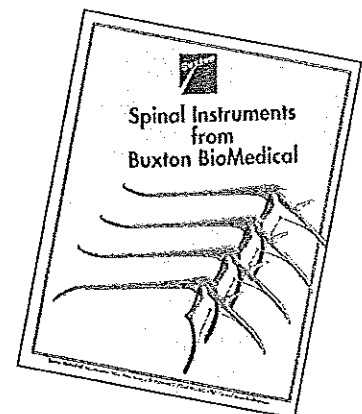
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Buxton BioMedical offers a growing range of surgical instruments and related products with particular emphasis in the subspecialties of hand, spine and shoulder surgeries. For more specific information about us or our products, we may be reached by e-mail, snail-mail, FAX or phone at the addresses or numbers listed below.



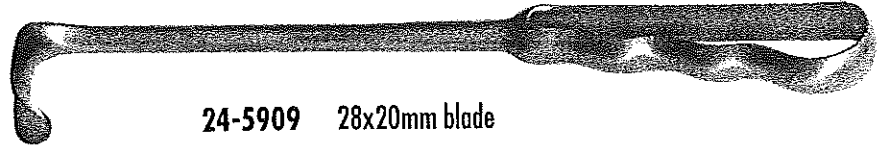
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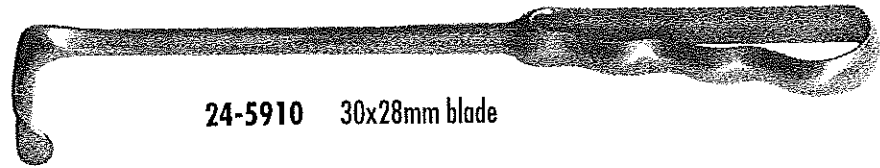
Primary Retraction

Richardson Retractors, 240mm

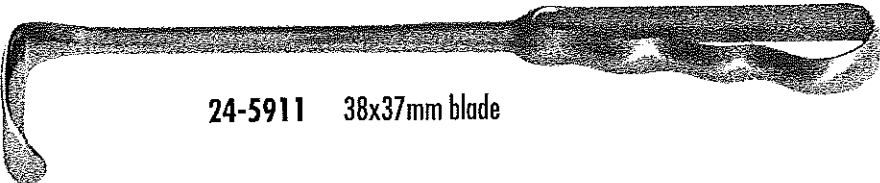
Whether applied individually or in pairs, the Buxton Richardson retractors are a ready and versatile means of manual soft tissue retention. A Hapsburg-like lip at the distal-most end of each blunt, bulbous blade reaches under soft tissue to support the retraction effort. Strength of these lightweight hollow handled retractors is derived as much from the geometries of their design as from the inherent firmness of the cold rolled, thin-metal stainless steel used in their crafting.



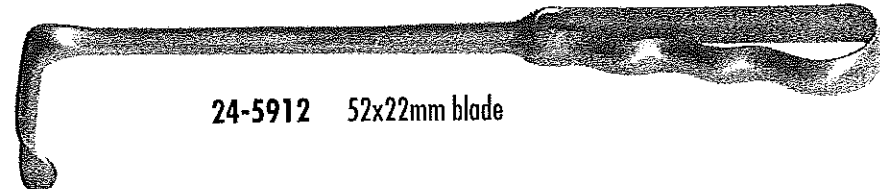
24-5909 28x20mm blade



24-5910 30x28mm blade



24-5911 38x37mm blade



24-5912 52x22mm blade

Amazin' Retractor, 250mm

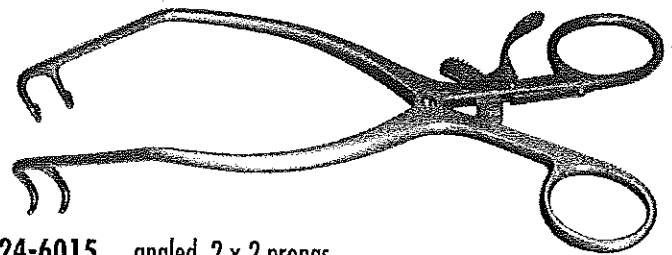
Smooth, flat surfaces and soft rolled edges establish a truly benign interface with the retracted tissue. This is an instrument of sturdy construction with a solid shaft that is deep rooted in an easy-to-hold cylindrical handle of linen phenolic.



24-5945 85x20mm blade

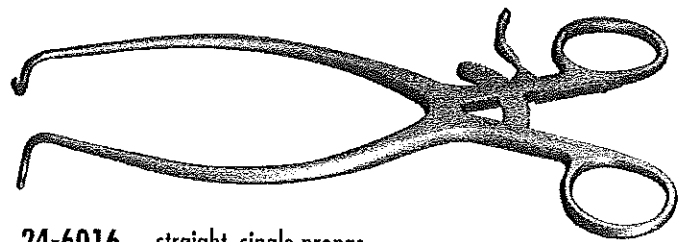
Secondary Retraction

Kölbel Soft Tissue Retractors, 180mm

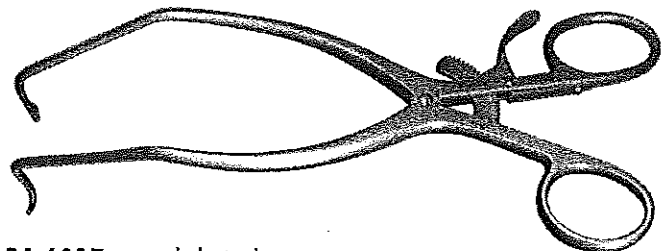


24-6015 angled, 2 x 2 prongs

Shallow, atraumatic self retainers are especially useful early in the exposure phase while peeling away those structures comprising the glenohumeral joint. Their use paves the way for the larger retractors with deeper penetration which will be required for adequate visualization of the glenoid, acromium and rotator cuff. Three styles offer accommodation for the variety of conditions which may be encountered in shoulder surgery. Also available is a cost-saving set comprised of all three styles.



24-6016 straight, single prongs

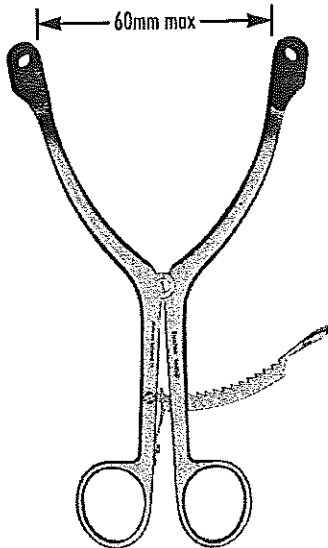


24-6017 angled, single prongs

24-6018 Set of three Kölbl Soft Tissue Retractors

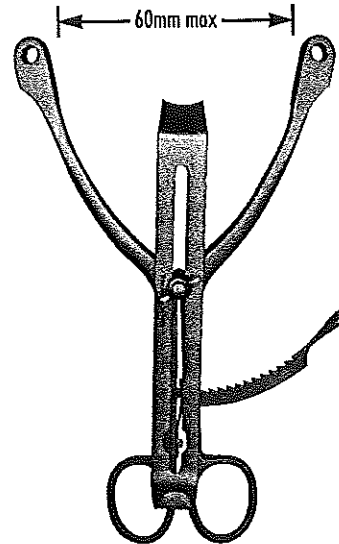
Delto-Pectoral Retraction

Kölbel Retractor



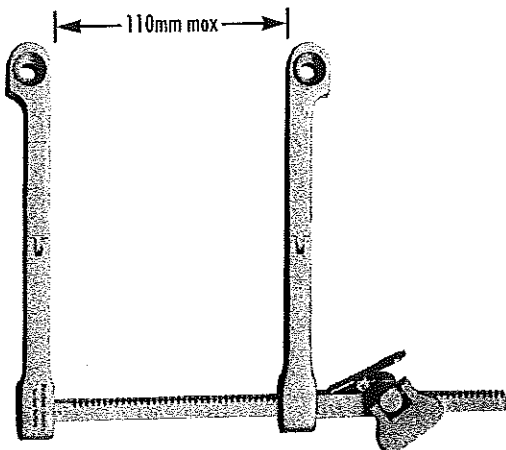
- 24-6101 Base Set, frame with 4 blades
- 24-6102 Frame only
- 24-6110 Standard Set, frame with 6 blades
- 24-6120 Deluxe Set, frame with 12 blades

Modified Kölbel Retractor



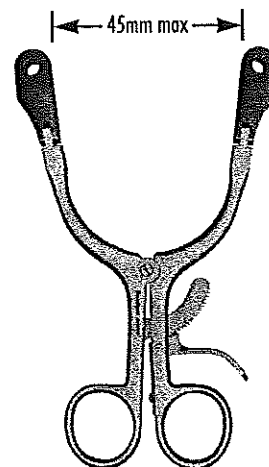
- 24-6160 Base Set, frame with 1 middle blade
- 24-6162 Frame only
- 24-6163 Middle arm for 24-6162 retractor, 50x18mm

Buxton Shoulder Retractor



- 24-6201 Base Set, frame with 4 blades
- 24-6202 Frame only
- 24-6210 Standard Set, frame with 6 blades
- 24-6220 Deluxe Set, frame with 12 blades

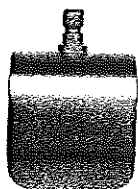
Mini-Open Retractor



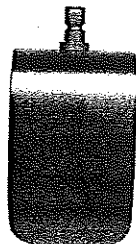
- 24-6301 Base Set, frame with 2 blades
- 24-6302 Frame only
- 24-6310 Standard Set, frame with 6 blades

Delto-Pectoral Retraction

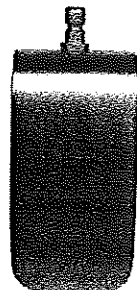
Blades for Kölbel-Buxton Retractor Systems



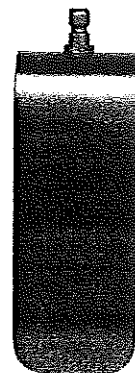
24-6103 36x36mm



24-6104 36x53mm



24-6105 36x68mm



24-6106 36x85mm



24-6113 20x36mm



24-6114 20x53mm



24-6115 20x68mm

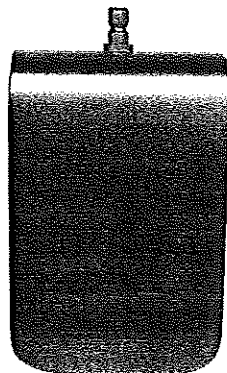


24-6116 20x85mm

Accessories for the Kölbel-Buxton Retractor System



24-6112 20x20mm blade for
knee /elbow surgery



24-6236 55x85mm blade for
hip surgery



74-3199 Blade Ejecting Forceps

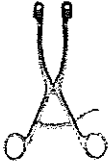


Delto-Pectoral Retraction

Kölbel-Buxton Retractor Sets

An expanded line of interchangeable blades enhances the already popular retractor systems. Additions include longer lengths and narrower widths. A total of four depths are offered for

shoulder work in the original 36mm and the more recent 20mm widths. Extra long lengths are sometimes necessary for very large, muscular patients. Narrow blades are often an advantage in the early stages

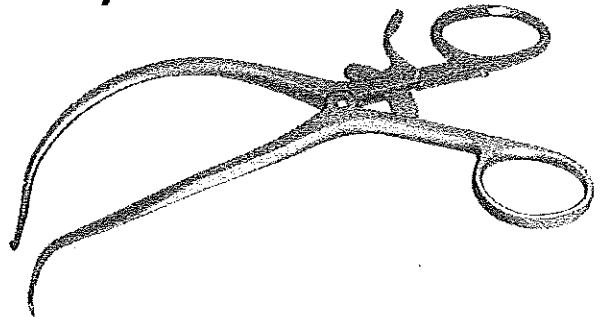
of traditional open repairs as well as for small incision procedures involving suture anchors. The chart below indicates which blades are standard with the various sets currently offered.

Set Item Numbers ↓		◆ Sets include <u>pairs</u> of these blades.							
		24-6103 36x36mm	24-6104 36x53mm	24-6105 36x68mm	24-6106 36x85mm	24-6113 20x36mm	24-6114 20x53mm	24-6115 20x68mm	24-6116 20x85mm
 Kölbel Retractor Sets	24-6101 frame & 4 blades	◆	◆						
	24-6110 frame & 6 blades	◆	◆	◆					
	24-6120 frame & 12 blades	◆	◆	◆		◆	◆	◆	
 Buxton Retractor Sets	24-6201 frame & 4 blades	◆	◆						
	24-6210 frame & 6 blades	◆	◆	◆					
	24-6220 frame & 12 blades	◆	◆	◆		◆	◆	◆	
 Mini-Open Retractor Sets	24-6301 frame & 2 blades					◆			
	24-6310 frame & 6 blades					◆	◆	◆	
Blade Upgrade Kits (no retractor)	24-6119 6 Narrow blades					◆	◆	◆	
	24-6219 "Lineman" 4 blades				◆				◆
Complete Shoulder Surgery Sets (see page 16)	24-6001 Basic Set	◆	◆	◆	◆				
	24-8001 Deluxe Set	◆	◆	◆	◆	◆	◆	◆	◆
	24-8010 Upgrade Kit					◆	◆	◆	◆

Capsule Resection

Subscapularis Spreader, 150mm

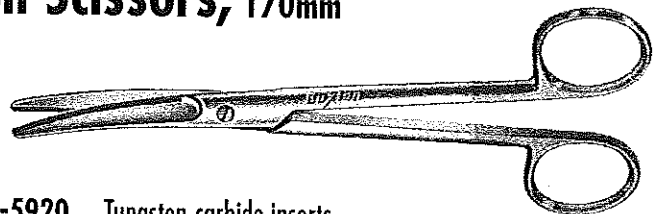
Short, blunt tips diverge at the ends of long sweeping arms, enabling this self retaining retractor to reach deep and separate the split subscapularis in a Jobe-type approach. This instrument has also been useful for retracting the split deltoid in small incision rotator cuff procedures.



24-5914 blunt tips

Capsule and Tendon Scissors, 170mm

Here are a pair of sturdy, lightly curved scissors built in proportion to the task intended. Serrations lining the leading edge of the outer blade assure a tenacious grip on capsular membrane.



24-5920 Tungsten-carbide inserts

Kölbel Tissue Forceps, 200mm

A firm grasp on tough capsule is achieved with these hardy Kölbel Tissue Forceps.

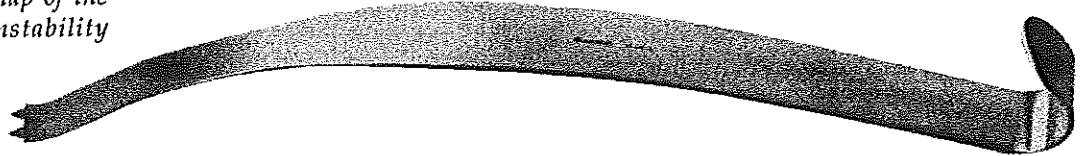


24-5922 serrated platforms and 1 x 2 teeth

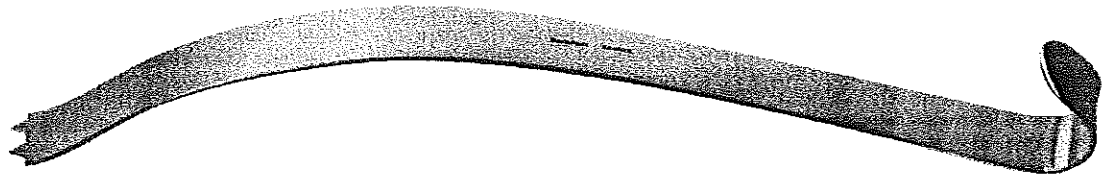
Capsule Resection

Kölbel Glenoid Levers, 300mm

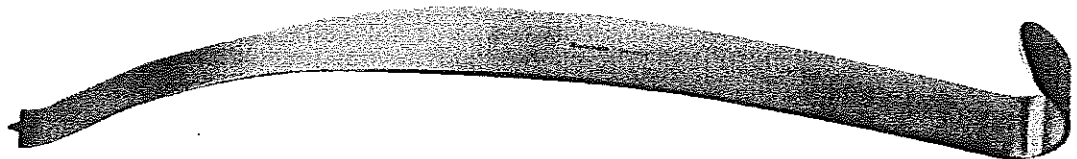
Sharp, fork-like prongs of the Kölbel levers sit firmly in the glenoid neck to provide medial retraction of the subscapularis. They are also effective tacking down the medial flap of the incised capsule during instability repairs.



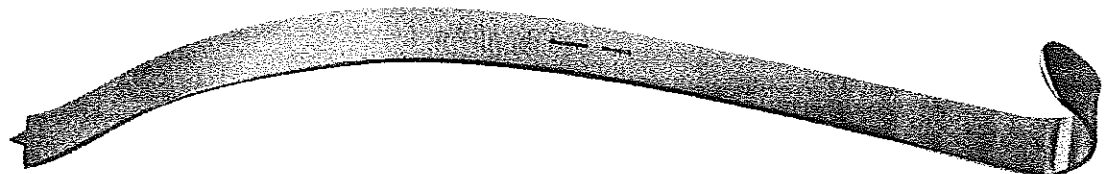
24-6012 15mm wide blade, double prong



24-6013 22mm wide blade, double prong



24-6022 15mm wide blade, single prong



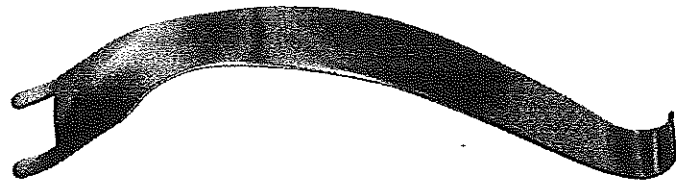
24-6023 22mm wide blade, single prong

24-6020 Set of Four Kölbel Glenoid Levers

Humeral Head Retraction

Humeral Head Retractors

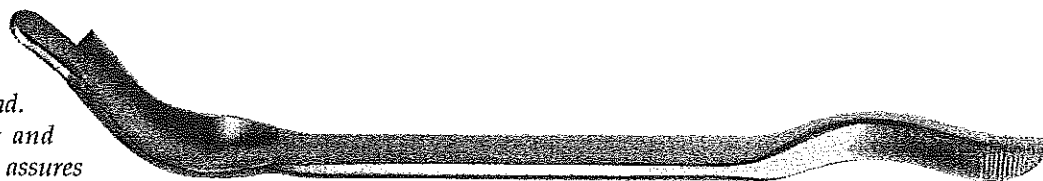
The slim blade with its falciform surfaces slips readily between the glenoid and humeral head. Two widely spaced blunt protuberances reach out beyond the cup to finger their way around the posterior rim and help distribute force to the glenoid neck once lateral distraction has begun.



24-6011 blunt, strong curve, 180 mm
24-6021 blunt, strong curve, 300 mm

Skid Lever, 280mm

This variant of the Murphy Bone Skid features a strongly curved blade to better contour the humeral head. Serrations prevent slipping and heavy gauge steel construction assures years of reliable service.



24-6014 double ended, 30mm and 20mm wide blades

Bhattman Humeral Head Retractor, 255mm

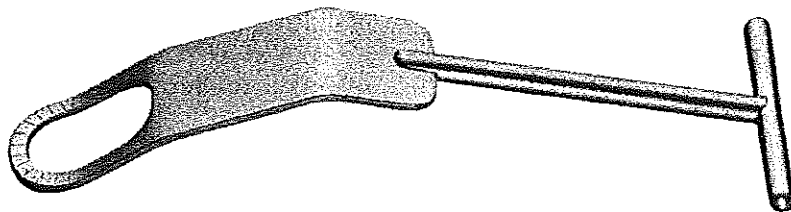
The Bhattman Retractor seats itself with two widely spaced semi-sharp prongs. The humeral head is cradled by a circular indent in the retractor blade.



24-6151 30mm head

Kujat-Fukuda Humeral Head Retractors, 255mm

Modification to the original Fukuda design incorporates an additional forward bend at the distal 15mm. This allows the retractor to sit firmly on the posterior neck of the glenoid and reduces the chance of glenoid rim fractures. A series of shallow atraumatic grooves around the rim of the fenestration improves traction.

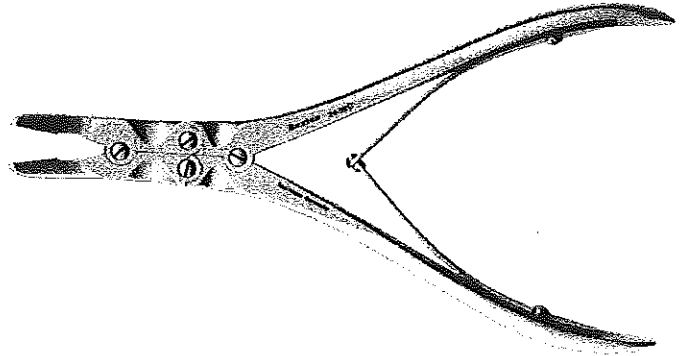
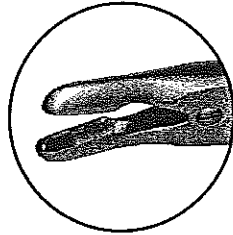


24-6500 35mm wide blade
24-6505 30mm wide blade

Bone Preparation

Bone Nibbling Rongeur, 180mm

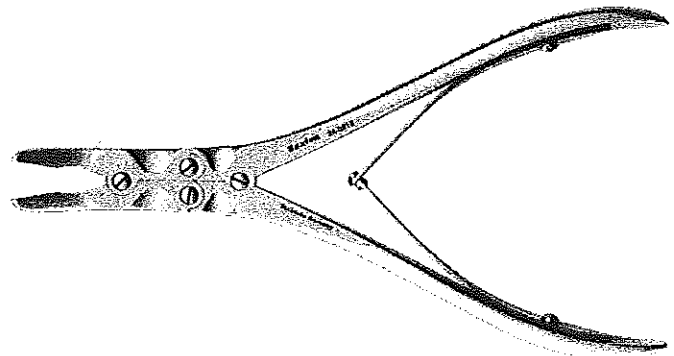
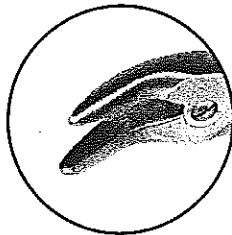
Roughen the corticalis with this rongeur to promote a strong bone-tendon interface. In rotator cuff procedures, a trough is sometimes made in the humeral head using a cupped rongeur to assure a low profile repair.



24-5917 light angle, 5mm wide bite

Kölbel Tenectomy Rongeur, 180mm

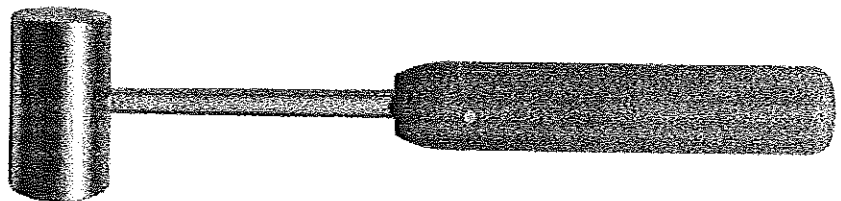
The tapered jaws of this uncommon rongeur are particularly useful for freeing the anterior edge of the glenoid and scapula from any soft tissue residue which may remain after the capsule has been peeled back.



24-5918 strong angle, jaws tapered 5.0 - 2.5mm wide

Mallet with phenolic handle, 240mm

Used for striking the percussion awl. Head and supporting shaft are bonded stainless steel for strength and durability. Linen phenolic sleeve on the handle reduces weight, improves balance and provides the surgeon with a sure and comfortable grip.



24-5919 300gm, 25mm Ø head

Bone Tunneling

Percussion Awl, 220mm

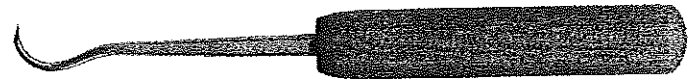
Initiate tunneling in tough cortical bone during rotator cuff repairs or Bankart-type procedures using this awl. The tip is sometimes wedged in the underside of the glenoid rim with the inferior portion of the curve resting against a humeral head lever. A striking force upon the head of this awl is thus transferred in a lateral direction.



24-6005 retrograde curve

Penetrating Awls with phenolic handles

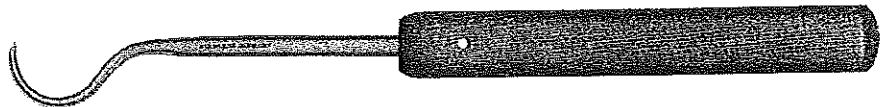
Hand manipulated, rather than mallet driven, these awls are offered in two curvatures for placing tunnels. They are most often used for clearing and expanding tunnels in either the glenoid or the humerus. Note the matching suture passers on the facing page.



24-6006 185mm length, retrograde curve, 25mm diameter



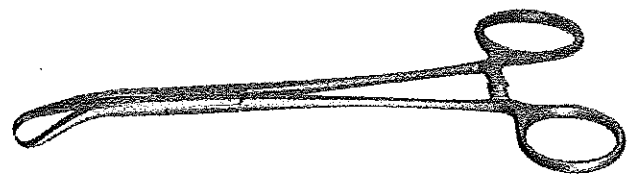
24-6026 235mm length, retrograde curve, 25mm diameter



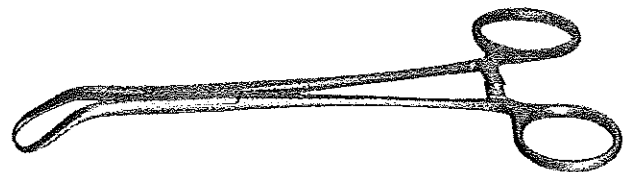
24-6036 235mm length, retrograde curve, 30mm diameter

Bone Perforating Tenaculum, 170mm

The precisely curved arms leading to the tips are ground to sharp edges to facilitate the hole reaming process. These instruments are offered with two angles in anticipation of various anatomical conditions which may be encountered intra-operatively.



24-6009 light angle

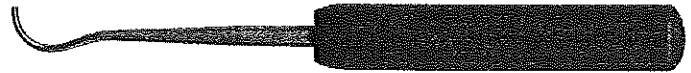


24-6010 strong angle

Suture Passing

Hollow Lumen Suture Passer, 185mm

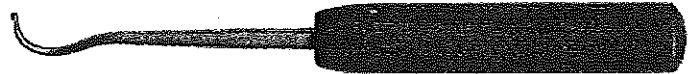
A small hole, located near the blunted tip, passes through the central axis of the shaft. This "eye" is threaded with suture which may be either pushed or pulled through a previously prepared bone tunnel.



24-6008 retrograde curve, 25mm diameter

Crochet Hook Suture Passers

A notch at the distal end enables looped suture to be lead through tunnels drilled or bored through bone. Note the matching awls on the facing page.



24-6007 185mm, retrograde curve, 25mm diameter



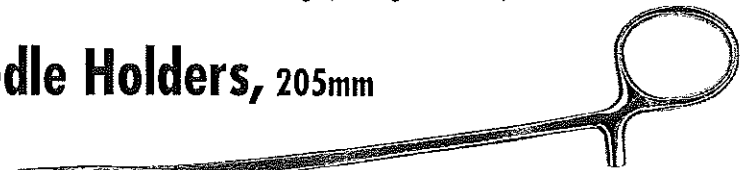
24-6027 235mm length, retrograde curve, 25mm diameter



24-6037 235mm length, retrograde curve, 30mm diameter

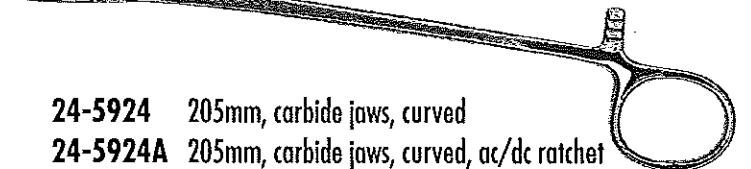
Heaney Needle Holders, 205mm

Heaney and New Orleans Needle Holders are popular choices for shoulder surgery. Buxton offers the standard patterns for right handed use, as well as the new ambidextrous models. The "AC/DC" versions feature ratchets which can be disengaged simply by further squeezing the ring handles together.



24-5924 205mm, carbide jaws, curved

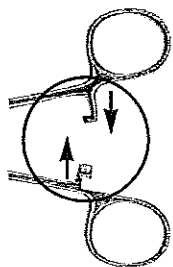
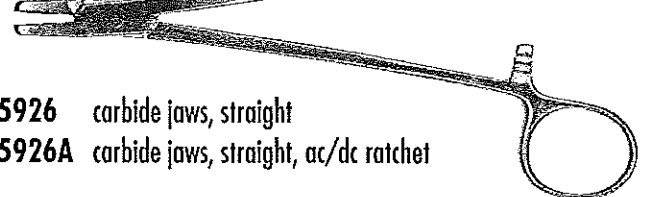
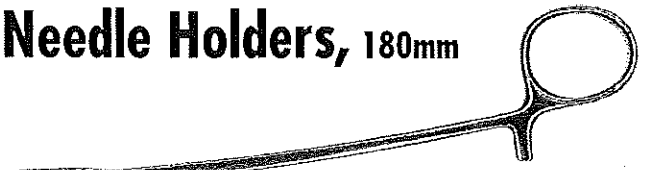
24-5924A 205mm, carbide jaws, curved, ac/dc ratchet



New Orleans Needle Holders, 180mm

24-5926 carbide jaws, straight

24-5926A carbide jaws, straight, ac/dc ratchet

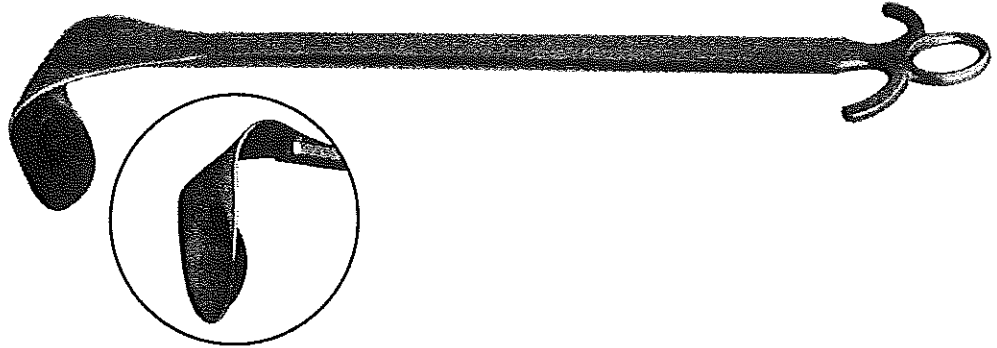


AC/DC Ratchet Detail

Additional Instrumentation

Browne Deltoid Retractor, 275mm

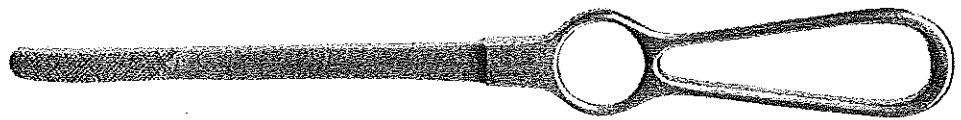
Hemi-arthroplasties and total shoulder replacements are made easier with the Browne Deltoid Retractor. Its deeply cupped, back-angled blade allows retraction of the deltoid and extensile exposure when using a delto-pectoral approach.



24-6121 60x65mm

Darrach Acromial Levers

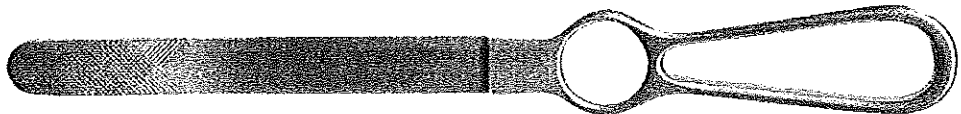
The blunt tips of these versatile instruments may be used to lever the humeral head distally, exposing the elusive underside of the acromion. Serrations prevent slippage, while minimizing trauma to the surrounding structures. Sweep them under the rotator cuff to free adhesions in blunt dissections. Use of acromial levers provides access to the rotator cuff, the subacromial bursa and the coracoacromial ligaments. Sold individually or as a set of four.



24-6131 260x9mm



24-6133 260x12mm



24-6135 260x16mm



24-6137 360x25mm

24-6130 Set of Four Darrach Levers

Additional Instrumentation

Brand Tendon Strippers

Various lengths of wire handles mate with circular cutting heads in a choice of diameters. Excellent for harvesting tendon grafts.



3mm Ø

54-1012 285mm
54-1014 350mm
54-1018 600mm



4mm Ø

54-1022 350mm
54-1028 600mm



5mm Ø

54-1032 285mm
54-1034 350mm
54-1036 500mm
54-1038 600mm

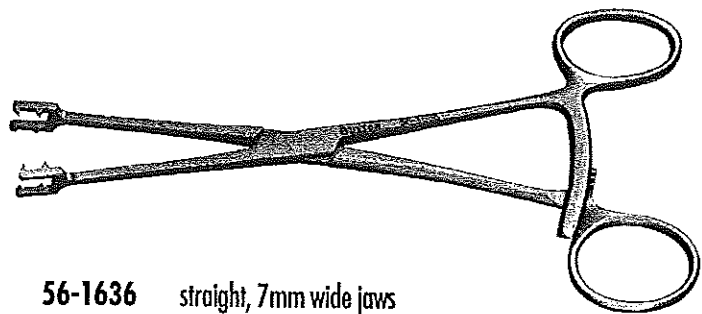


6mm Ø

54-1042 350mm
54-1048 600mm

Modified Ikuta Bone Clamps, 160mm

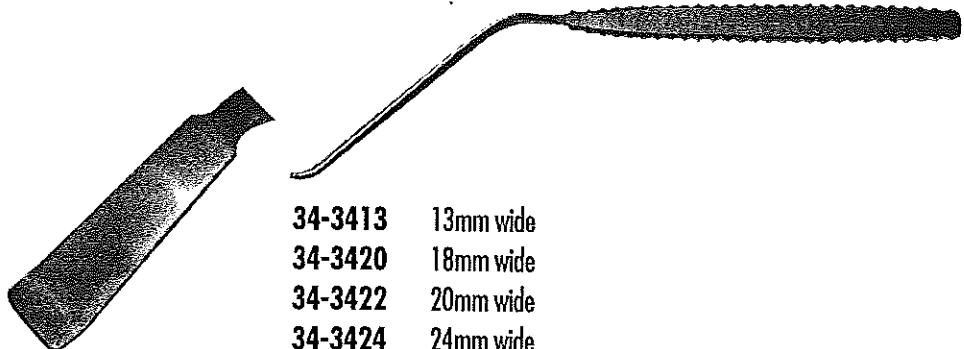
Ikuta Bone Clamps allow passage of K-wires and bone screws through the jaws with fractures held securely. They have also been used to grasp tissue during rotator cuff repairs while screw-in type suture anchors are implanted.



56-1636 straight, 7mm wide jaws
56-1646 angled, 7mm wide jaws

Reverse Cloward Retractors, 175mm

The contoured blade falls off from its ribbed handle at a 45° angle. A strongly curved lip located 15mm from the distal end of the blade helps hold a secure footing. Handy for elbow and knee procedures.

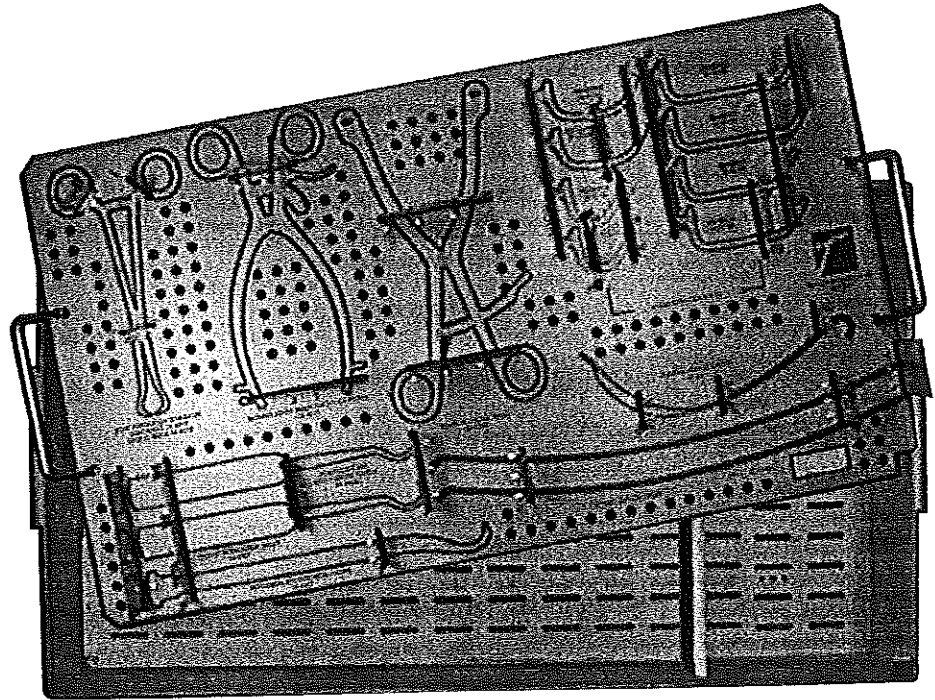


34-3413 13mm wide
34-3420 18mm wide
34-3422 20mm wide
34-3424 24mm wide

Cases and Trays

Shoulder Instrument Case

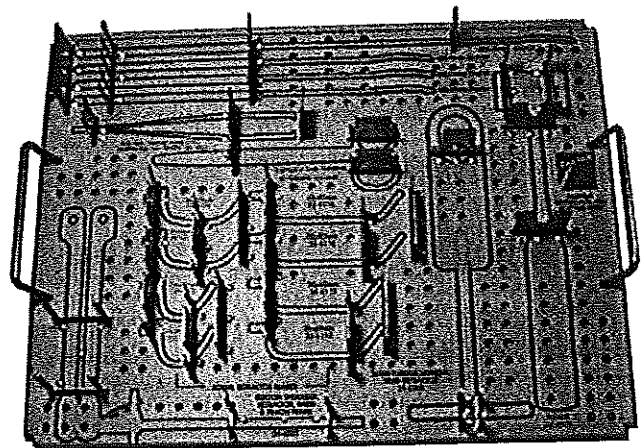
Buxton's Shoulder Instrument Case is a container system of generous proportions. The upper tray is a collection of carefully arranged instrument racks sitting above "crime-scene" style body outlines and descriptions of the instruments they are intended to hold. The lower level also contains racks for a few specific instruments, but with plenty of open space to accommodate ancillary items which inevitably customize almost every shoulder set.



24-5905 550x320x100mm

Lower Insert Tray

The lower insert tray for the sterilizing case holds many of the more recently introduced instruments from our shoulder surgery line. Owners of early model Link® or Buxton brand Bankart Sets will be pleased to know that with a few simple modifications, their sterilizing cases can be made to accommodate the new tray. Conversion is free of charge with the purchase of the tray.



24-5907 400x300x40mm, fits inside 24-5905 case

Instrument Sets

24-6001 Shoulder Repair Set

1	24-5905	Sterilizing Case	1	24-6010	Bone Perforating Tenaculum, strong angle
1	24-5912	Richardson Retractor, 52x22mm blade	1	24-6011	Humeral Head Retractor
1	24-5914	Subscapularis Spreader, 150mm, 90° arc	1	24-6012	Kölbels Glenoid Lever, 15mm
1	24-5917	Bone Nibbling Rongeur	1	24-6013	Kölbels Glenoid Lever, 20mm
1	24-5919	Mallet, 300 gm, 25mm head	1	24-6015	Kölbels Soft Tissue Retractor, 2x2 prongs
1	24-5922	Kölbels Tissue Forceps, grooved jaws, 1x2 teeth	1	24-6102	Kölbels Retractor Frame
1	24-6005	Percussion Awl with metal handle	2	24-6103	Kölbels Retractor Blade, 36x36mm
1	24-6006	Penetrating Awl with phenolic handle	2	24-6104	Kölbels Retractor Blade, 36x53mm
1	24-6007	Crochet Hook Suture Passer	2	24-6105	Kölbels Retractor Blade, 36x68mm
1	24-6009	Bone Perforating Tenaculum, light angle	2	24-6106	Kölbels Retractor Blade, 36x85mm

24-8001 Deluxe Shoulder Repair Set

1	24-5905	Sterilizing Case	1	24-6015	Kölbels Soft Tissue Retractor, 2x2 prongs
1	24-5907	Lower Insert Tray for 24-5905 Sterilizing Case	1	24-6102	Kölbels Retractor Frame
1	24-5912	Richardson Retractor, 52x22mm blade	2	24-6103	Kölbels Retractor Blade, 36x36mm
1	24-5914	Subscapularis Spreader, 150mm, 90° arc	2	24-6104	Kölbels Retractor Blade, 36x53mm
1	24-5917	Bone Nibbling Rongeur	2	24-6105	Kölbels Retractor Blade, 36x68mm
1	24-5919	Mallet, 300 gm, 25mm head	2	24-6106	Kölbels Retractor Blade, 36x85mm
1	24-5920	Capsule & Tendon Scissors	2	24-6113	Kölbels Retractor Blade, 20x36mm
1	24-5922	Kölbels Tissue Forceps, grooved jaws, 1x2 teeth	2	24-6114	Kölbels Retractor Blade, 20x53mm
1	24-6005	Percussion Awl with metal handle	2	24-6115	Kölbels Retractor Blade, 20x68mm
1	24-6006	Penetrating Awl with phenolic handle	2	24-6116	Kölbels Retractor Blade, 20x85mm
1	24-6007	Crochet Hook Suture Passer	1	24-6202	Buxton Shoulder Retractor Frame
1	24-6009	Bone Perforating Tenaculum, light angle	1	24-6131	Darrachs Acromial Lever, 260x9mm
1	24-6010	Bone Perforating Tenaculum, strong angle	1	24-6133	Darrachs Acromial Lever, 260x12mm
1	24-6011	Humeral Head Retractor	1	24-6135	Darrachs Acromial Lever, 260x16mm
1	24-6012	Kölbels Glenoid Lever, 15mm	1	24-6137	Darrachs Acromial Lever, 360x25mm
1	24-6013	Kölbels Glenoid Lever, 20mm	1	24-6500	Kujat-Fukuda Humeral Head Retractor

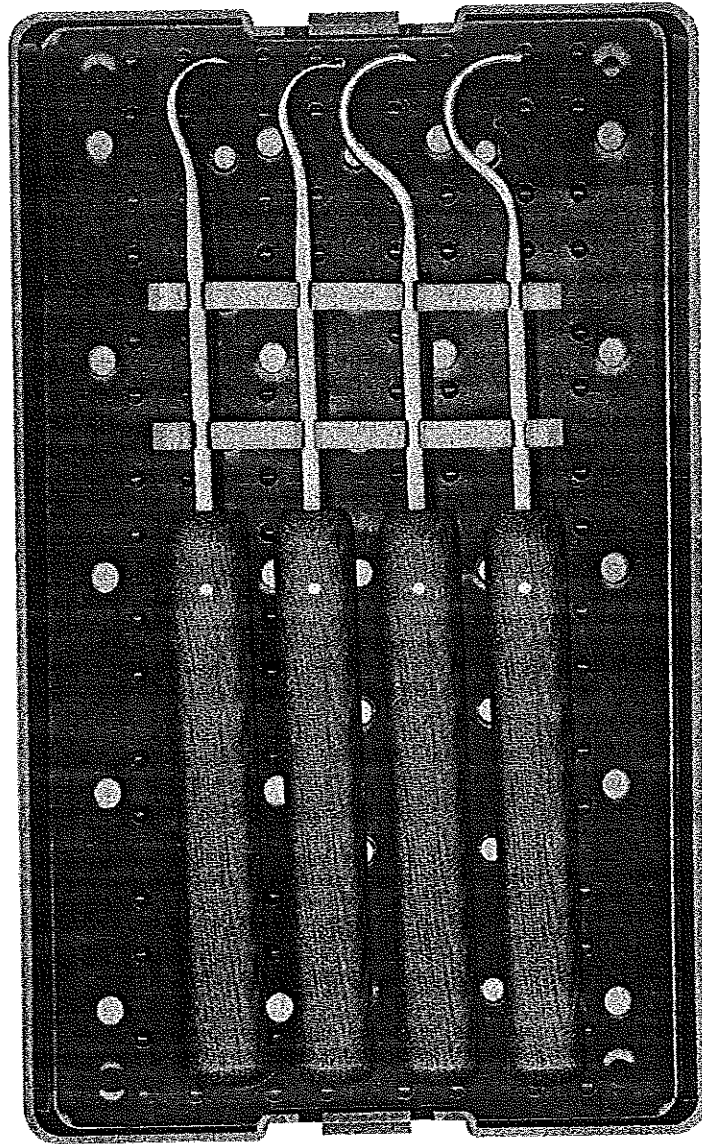
24-8010 Standard to Deluxe Upgrade Kit

1	24-5907	Lower Insert Tray for 24-5905 Sterilizing Case	1	24-6202	Buxton Shoulder Retractor Frame
1	24-5920	Capsule & Tendon Scissors	1	24-6131	Darrachs Acromial Lever, 260x9mm
2	24-6113	Kölbels Retractor Blade, 20x36mm	1	24-6133	Darrachs Acromial Lever, 260x12mm
2	24-6114	Kölbels Retractor Blade, 20x53mm	1	24-6135	Darrachs Acromial Lever, 260x16mm
2	24-6115	Kölbels Retractor Blade, 20x68mm	1	24-6137	Darrachs Acromial Lever, 360x25mm
2	24-6116	Kölbels Retractor Blade, 20x85mm	1	24-6500	Kujat-Fukuda Humeral Head Retractor

Instrument Sets

Transosseous Rotator Cuff Repair Kit

This kit consists of curved awls for perforating the humeral head and matching crochet hooks to pull suture back through the holes created. Extra long handles and a choice of two curves provide flexibility in establishing ideal tunnel locations. This option can be especially appreciated in cases where bone stock is not particularly good. Tunnels may be started more distally, thus taking advantage of the usually thicker cortical bone, just beyond the greater tuberosity.



24-4001 Transosseous Rotator Cuff Repair Kit

24-6026 Rotator Cuff Awl, 25mm diameter

24-6027 Rotator Cuff Suture Passer, 25mm diameter

24-6036 Rotator Cuff Awl, 30mm diameter

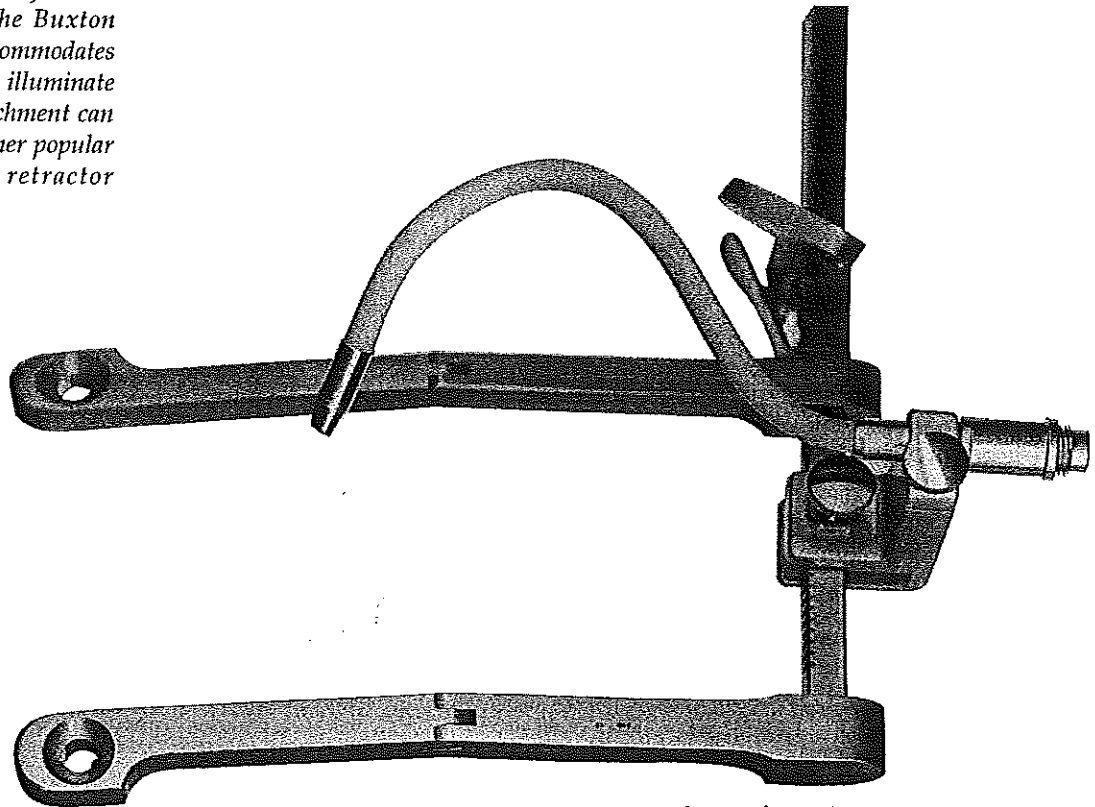
24-6037 Rotator Cuff Suture Passer, 30mm diameter

24-4002 Plastic Sterilizing Case for the Transosseous Rotator Cuff Repair Kit

Accessories

Fiberoptic Illumination Attachment

An anodized aluminum fixture mounts on the rack of the Buxton Shoulder retractor and accommodates a flexible, fiber optic rod to illuminate the wound site. The attachment can also be used with many other popular rack & pinion based retractor systems.



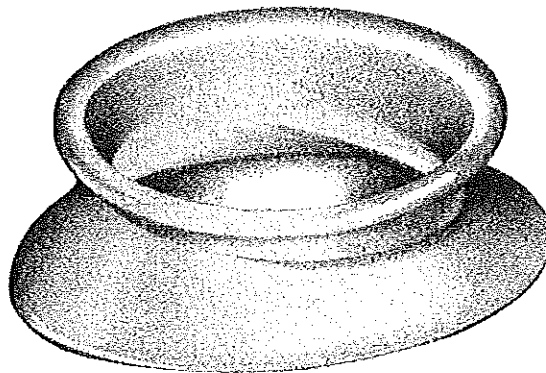
Retractor frame sold separately.

- 190-110** Clamp for fiberoptic illumination system
- 190-121** Fiberoptic rod, 150x6mm

Splints

THUMKINS Thumb Rings

Soft, supple rings of Kratron thermoplastic encircle the base of the thumb, protecting it from chafing and providing the slight abduction desired when setting a forearm fracture. Latex free.



- 58-1010 petite (pediatric)
- 58-1020 small
- 58-1030 average
- 58-1040 huge

THUMKINS Set

The Thumkins Set contains 24 rings in four popular sizes, packed into a convenient see-through polypropelene box. This box features individual sections to keep sizes separated and inventory under control.



58-1005