

Operating Room Setup

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I. Operating room environment

1. Adequate space with adequate light
2. Available patient's records and imaging studies
3. Arthroscopy equipment cart: monitor, camera box, light source, shaver motor, video recorder, radiofrequency
4. Arthroscopic pump and fluid bags
5. Anesthesiologist: monitor for vital signs, especially BP
6. Foot pedals
7. Operation tables (low-profile), Mayo stand and back table for scrub nurse with instruments for open surgery
8. Absorbent mat or floor suction

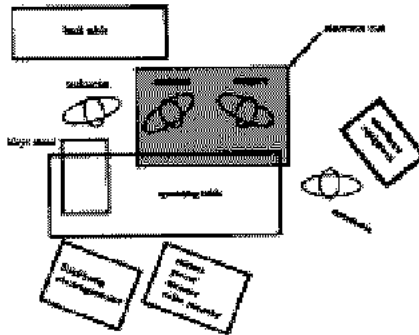


Fig. 1.

II. Anesthesia

1. Interscalene block
2. Interscalene block with general anesthesia: hypotensive (max. SBP: 90-100 mmHg)
 - 1) decrease pain responses and maintain stable vital signs, especially BP
 - 2) immediate postoperative pain control
3. Continuous interscalene block with general anesthesia

III. Patient position

1. Lateral decubitus position

- 1) Suspension without need for an assistant, easy access to inferior GH joint
- 2) Nerve injury, reposition for open surgery, IR position of arm
- 3) Beanbag, kidney rest, axillary roll or 1L bag of saline with tower, pad for peroneal nerve, bony protuberances of lower & upper extremities, etc
- 4) Posterior tilt 20 degrees for parallel glenoid
- 5) Support for cervical spine & head
- 6) Preparation of entire arm & hemi-thorax
- 7) U-drape, routine shoulder drapes, pouches for fluid collection, small pouch for instruments
- 8) Suspension: STaR sleeve with padding, 10 lb, 60° abduction & 20° flexion, adjust rotation (not to be internally rotated)
- 9) Additional vertical traction for instability surgery

2. Beach-chair (sitting) position

- 1) Thorax: placed 70-80° perpendicular to the floor for parallel acromion
- 2) Hip & knee flexion 30° with pillow
- 3) Easy to covert to open surgery, anterior shoulder is more approachable, familiar orientation, minimal neurologic injury
- 4) Assistant for distraction or arm holder (expensive), facial nerve
- 5) Head & neck position
- 6) Pillows and pads
- 7) Easy to arthroscopic rotator cuff repair

IV. Equipment

1. Arthroscope: 4.0 mm, 30 degree arthroscope with 5.5 mm sheath is enough for shoulder arthroscopy

2. Fluid management

- 1) arthroscopic pump system: pressure & flow rate
- 2) 1: 300,000 epinephrine - 1ml of 1:1000 dilution in 3L bag
- 3) lactated Ringer's solution or normal saline

3. Cannulas and transfer rods

- 1) metal & plastic cannula
- 2) 5 mm, 5.5 mm, 6 mm, 8 mm
- 3) Wissinger rod for inside-out technique and switching stick

4. Suture through soft tissues with hand instruments

- 1) Indirect: transfer suture (2-0 PDS or nylon)
- 2) Direct
- 3) Various angles of shuttle relay system, suture hook, penetrator, Caspari suture punch (Cuff-Stitch, Arthropierce etc), etc
- 4) ExpreSew, Scorpio etc

5. Soft tissue management

- 1) grasper: regular & locking
- 2) blunt probe with measuring guide marking
- 3) dissector & rasp: upward & downward, sharp & blunt
- 4) punch: several direction

6. Suture and suture management

- 1) Nonabsorbable braided suture(Ethibond)
- 2) Absorbable monofilament suture (PDS etc) for suture or transfer suture
- 3) Fiberwire, ultra-braided suture etc
- 4) crochet hook, retriever
- 5) knot pusher: single lumen, double lumen,
- 6) arthroscopic scissor and end-cutting scissors

7. Power instrument

- 1) 4.0 mm shaver for glenohumeral joint, 5.0 mm shaver for subacromial space: oscillating, with suction
- 2) 4.0 mm round burr for instability, SLAP lesion or footprint preparation
- 3) 5.5 mm burr for acromioplasty: reverse
- 4) power drill for holes for suture anchor

8. Thermal instrument

- 1) radiofrequency for coagulation or ablation of soft tissues
 - 2) various probe with attached suction device
- * * Methods for bleeding control for nice viewing
1. Infusion pump system
 2. 1ml of 1:1000 epinephrine per 3L saline bag
 3. hypotensive anesthesia
 4. electrocautery

9. Images of arthroscopy

- 1) intraoperative photography: printed or saved in the PC
- 2) videos: 6mm tape, MPEG file, DVD recorder: editing

10. Instruments for open surgery

- 1) Gelpi retractor
- 2) Fukuda retractor
- 3) Curved Cobb s elevator
- 4) Toothed Hohmann retrator

V. Arthroscopic portal

surface landmark (acromion, clavicle, AC joint, coracoid process etc) with marking pen, 18G spinal needle

1. posterior portal
2. anterior portal
3. anterior inferior portal
4. anterior superior portal
5. lateral portal
6. posterolateral portal
7. Nevaiser portal

VI. Team work

1. Shoulder arthroscopy is a team event!!!
2. trained dedicated team is important: scrub & circulating nurse, assistant
3. fully aware of use of instruments and procedures step by step from patient-in to patient-out

4. preparation of next procedures

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