## Scope it Out! Arthroscopic Procedures

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#### **Topics**

- Correct Coding Concepts
- History of Arthroscopic Procedures
- Anatomy of the Shoulder Joint
- Shoulder Pathology
- Arthroscopic Procedures on the Shoulder
- Anatomy of the Knee Joint
- Knee Pathology
- Arthroscopic Procedures on the Knee

#### **Correct Coding Concepts**

- Surgical Package Concept
  - CPT® definition
  - CMS NCCI
  - AAOS Global Service Data
- Separate Procedures
- Diagnostic vs. Therapeutic Procedures
- Arthroscopic vs. Open Procedures



#### CPT® Surgical Package Definition

- Local infiltration, metacarpal/metatarsal/digital block or topical anesthesia
- Subsequent to the decision for surgery, one related E/M encounter on the date immediately prior to or on the date of procedure (including history and physical)
- Immediate postoperative care, including dictating operative notes, talking with the family and other physicians
- Writing orders
- Evaluating the patient in the post-anesthesia recovery area
- Typical postoperative follow-up care

### **CMS Surgical Package**

- All procedures on the Medicare Physician Fee Schedule are assigned a Global period of 000, 010, 090, XXX, YYY, or ZZZ.
- Procedures with zero or ten day global period are considered minor.
- Procedures with a 90 day global period are considered major procedures.
  - Decision for surgery E/M is separately payable
- Follow-up care, including treatment for complications, is not separately payable, unless it requires a return to the operating room.

#### CPT® vs. CMS

- Global package concept, but no defined number of days
- "Typical" postoperative follow-up care
- Major procedures include 90 days post-op
- Minor procedures include 0 or 10 days post-op
- Follow-up care includes pain management and care for complications, unless they require a return to the operating room



#### AAOS Global Service Data Guide

- American Academy of Orthopaedic Surgeons
  - Coding, Coverage, and Reimbursement Committee
  - Includes procedures commonly performed by Orthopaedic surgeons
  - Lists the services which are included and which are excluded for each procedure
  - Available electronically through vendors



#### Separate Procedure Designation

- Per CPT®, procedures or services that are commonly carried out as an integral component of a total service or procedure.
- When carried out independently or considered to be unrelated or distinct from other procedures/services provided at that time, it may be reported by itself, or in addition to other procedures/services.
- 29870 Arthroscopy, knee, diagnostic; with or without synovial biopsy (separate procedure)

#### Separate Procedure Designation

- Per NCCI, If a CPT code descriptor includes the term "separate procedure", the CPT code may not be reported separately with a related procedure. CMS interprets this designation to prohibit the separate reporting of a "separate procedure" when performed with another procedure in an anatomically related region often through the same skin incision, orifice, or surgical approach.
- Modifier 59 or a more specific modifier (e.g., anatomic modifier) may be appended to the "separate procedure" CPT code to indicate that it qualifies as a separately reportable service.



#### Other NCCI Instructions

- CPT® codes 29874 (Surgical knee arthroscopy for removal of loose body or foreign body) and 29877 (Surgical knee arthroscopy for debridement/shaving of articular cartilage) should not be reported with other knee arthroscopy codes (29866-29889).
- HCPCS code G0289 (Surgical knee arthroscopy for removal of loose body, foreign body, debridement/shaving of articular cartilage at the time of other surgical knee arthroscopy in a different compartment of the same knee) may be reported.
- Fluoroscopy is an integral component of arthroscopic procedures and when performed, CPT® codes 76000 and/or 76001 should not be reported separately with an arthroscopic procedure.

# Diagnostic and Therapeutic Procedures

- CPT® is explicit:
  - Surgical arthroscopy always includes a diagnostic arthroscopy.
- Per NCCI:
  - Surgical arthroscopy includes diagnostic arthroscopy which is not separately reportable. If a diagnostic arthroscopy leads to a surgical arthroscopy at the same patient encounter, only the surgical arthroscopy may be reported.
  - If an arthroscopy is performed as a "scout" procedure to assess the surgical field or extent of disease, it is not separately reportable.

#### Arthoscopic and Open Procedures

- Per CPT®:
  - When arthroscopy is performed in conjunction with arthrotomy, add modifier -51.
- Per NCCI:
  - If an arthroscopic procedure is converted to an open procedure, only the open procedure may be reported.
     Neither a surgical arthroscopy nor a diagnostic arthroscopy code should be reported with the open procedure code when a surgical arthroscopic procedure is converted to an open procedure.



# The History of Arthroscopic Procedures



# Scope Procedures are Nothing New

- Proctoscopes discovered in the ruins at Pompeii
- "Lichtleiter" used a candle to reflect light through a tube into the bladder in the early 1800's.
- Carbon filament light bulb invented by Edison in 1880.
- Laparoscope developed in 1910.

# Development of Arthroscopic Procedures

- In 1918, at Tokyo University, Dr. Kenji Takagi used a cystoscope to view the interior of a cadaver knee
- In 1936, Dr. Takagi and associates developed a scope that:
  - enabled performance of a biopsy under arthroscopic visualization, and
  - produced color photos and 16mm black and white film

# Development of Arthroscopic Procedures

- In 1958, Takagi's protégé, Dr. Masaki Watanabe, developed arthroscope # 21, which produced clear views of the meniscus.
- In 1962, Dr. Watanabe and associates performed the first arthroscopic meniscectomy on a 17-yr old basketball player.



# Development of Arthroscopic Procedures

- In 1921, Swedish surgeon, Dr. Eugen Bircher, described performance of "arthroendoscopy", use of a laparoscope on a knee joint filled with gas.
- In 1912, "Trokart-Endoscope" constructed by Danish surgeon, Dr. Severin Nordentoft, used not only for arthroscopic procedures, but for cystocopic and laparoscopic procedures.
- Credited with the term "arthroscopy", Dr.
  Nordentoft is considered the first arthroscopist.



# Development of Arthroscopic Procedures

- Television was introduced into arthroscopic procedures in 1975.
- More recently, a small camera and charge-coupled device, CCD
- Now, magnifying lens and fiberoptic light, in addition to a miniature camera



Anatomy of the Shoulder



### Shoulder Anatomy - Bones

- Clavicle
  - Medial end articulates with the sternum = sternoclavicular joint
  - Lateral end articulates with the acromion process of the scapula = acromioclavicular joint



### Shoulder Anatomy - Bones

- Scapula
  - Posterior to the ribs, has no bony attachment to the axial skeleton
  - Acromion process
  - Coracoid process
- Coracoacromial ligament connects the coracoid process with the acromion process
- Coracoclavicular ligament unites the clavicle with the acromion process



### Shoulder Anatomy - Bones

- Glenohumeral joint attachment of the humerus to the scapula at the glenoid
- Glenoid fossa depression on the lateral scapula, provides articulation for the head of the humerus with the scapula.
- Labrum collar-like structure that surrounds the glenoid fossa



# Shoulder Anatomy – Muscles and Tendons

- Trapezius thin sheet of muscle covering the upper back, helps form the contour of the neck
- Deltoid so-named as it resembles the Greek letter, Delta, stretches from the clavicle and the scapula to the deltoid tuberosity of the humerus.



# Shoulder Anatomy – Muscles and Tendons

- Rotator cuff composed of the tendons for four muscles:
  - Subscapularis
  - Supraspinatus
  - Infraspinatus
  - Teres minor



# Shoulder Anatomy – Muscles and Tendons

- Coracobrachialis originates at the tip of the coracoid process and inserts on the medial surface, mid-humerus
- Biceps brachii anterior of the arm
- Triceps brachii posterior of the arm
- Most commonly dislocated joint in the body



### Pathology of the Shoulder



## **Shoulder Pathology**

- Shoulder instability weakening of the glenohumeral joint by subluxation or dislocation
  - Bankart lesions 840.8
  - SLAP tears 840.7
  - Rotator cuff tear 840.4
    - Infraspinatus (muscle or tendon) 840.3
    - Supraspinatus (muscle or tendon) 840.6
    - Subscapularis (muscle) 840.5



## Shoulder Pathology

- Impingement Syndrome 726.2
- Rotator cuff tendinopathy
  - Degenerative 726.10
  - Nontraumatic rupture 727.61
- Biceps tendinopathy
  - Degenerative 726.12
  - Nontraumatic rupture 727.62



# Arthroscopic Procedures of the Shoulder



#### Arthroscopic SLAP Repair

- The SLAP tear is identified and a small ball burr may be used to remove excess tissue and prepare the bony bed (glenoid)
- A small hole is drilled into the bone where the labrum has torn off
- An anchor with suture attached is placed into this hole
- The suture is used to tie the torn labrum snugly against the bone

### Arthroscopic Biceps Tenodesis

- 29828 Arthroscopy, shoulder, surgical; biceps tenodesis
- A procedure that cuts the biceps tendon (long head) from where it attaches to the the upper rim of the glenoid (labrum), and reinserts it in another area.



### Arthroscopic Rotator Cuff Repair

- 29827 Arthroscopy, shoulder, surgical; with rotator cuff repair
  - One or more of the SITS tendons are repaired with suture and/or bone anchors
  - Mini-open repair is reported with 23412, per CPT



### Arthroscopic Rotator Cuff Repair

- 29827 Arthroscopy, shoulder, surgical; with rotator cuff repair
  - Bundling issues per NCCI
    - 29820 bundles, but not 29821 (limited vs complete synovectomy)
    - 29822 bundles, but not 29823 (limited vs. extensive debridement)
    - 29825 bundles- lysis and resection of adhesions



### Arthroscopic Acromioplasty

- 29826 Arthroscopy, shoulder surgical, decompression of subacromial space with partial acromioplasty, with or without coracoacromial release
- Does not bundle into rotator cuff repair code, per NCCI
- Required when the mechanism for rotator cuff tendinopathy is weakening due to bone spur(s)

Small stab incisions were made in the creation of the anterior, posterior and port of Wilmington arthroscopic portals. The scope was introduced. The labral defect was reattached, anchored, and sutured to the articular surface of the glenoid using the suture anchor fixation. The repair was at the 12 o'clock to 3 o'clock position on the glenoid . . . The inferior capsule of the acromioclavicular joint was resected. The distal clavicle was resected using the high speed burr. 1.5 cm of the distal clavicle was a 1.5 cm space between the distal clavicle and the acromion . . .

### Anatomy of the Knee



### Knee Anatomy - Bones

- Femur articulates with the acetabulum proximally and with the tibia and patella distally
- Patella a sesamoid bone, serves as a fulcrum and as protection for the underlying structures
- Tibia the weight-bearing, medial bone in the lower leg
- Fibula thin, lateral bone in the lower leg, primarily for muscle attachment

## Knee Anatomy – Ligaments

- ACL Anterior Cruciate Ligament
- PCL Posterior Cruciate Ligament
- MCL Medial Collateral Ligament
- LCL Lateral Collateral Ligament



# Knee Anatomy – Muscles and Tendons

- Quadriceps
  - Rectus femoris
  - Vastus lateralis
  - Vastus intermedius
  - Vastus medialis
- Hamstrings
  - Biceps femoris
  - Semitendinosus
  - Semimembranosus



## Knee Anatomy - the Meniscus

- Medial meniscus is C-shaped
- Lateral meniscus is more circular in shape and covers a larger portion of the tibial plateau
- Thick at the edges and thin in the center
- Avascular, except for 10-30% at the periphery



Pathology of the Knee



### Knee Pathology

- Sprains and strains of the knee
  - Lateral collateral ligament 844.0
  - Medial collateral ligament 844.1
  - Cruciate ligament 844.2
- Testing for ACL injury
  - Lachman's
  - Anterior Drawer
  - Pivot shift



### Knee Pathology

- Degeneration/old disruption of the knee
  - -Lateral collateral ligament 717.81
  - -Medial collateral ligament 717.82
  - -Anterior cruciate ligament 717.83
  - -Posterior cruciate ligament 717.84



## Knee Pathology

- Tear of medial cartilage or meniscus of knee, current 836.0
- Tear of lateral cartilage or meniscus of knee, current 836.1
- Current meniscal injury, not specified as medial or lateral 836.2



#### **Knee Pathology**

- Derangement of medial meniscus
  - Old bucket handle tear 717.0
  - Derangement of anterior horn 717.1
  - Derangement of posterior horn 717.2
- Derangement of lateral meniscus
  - Old bucket handle tear 717.41
  - Derangement of anterior horn 717.42
  - Derangement of posterior horn 717.43



### **Meniscal Tears**

- Vertical longitudinal
  - Complete/incomplete longitudinal
  - Bucket handle
  - Displaced bucket handle
- Oblique
  - Parrot beak
  - Flap
  - Displaced Flap



#### **Meniscal Tears**

- Radial transverse tear that follows the radial fibers
- Horizontal
- Complex
  - Double flap
  - Degenerative



#### **Meniscal Tears**

- MRI classifications of meniscal change
  - Grade 0 normal with homogeneous signal intensity
  - Grades I & II high signal intensity within the meniscus, does not go to the surface
  - Grade III high signal intensity that does go to the surface of the meniscus
- Approximately one third of meniscal injuries occur in tandem with ACL tears

# Arthroscopic Procedures of the Knee



Parameter	Likelihood for Successful Repair		
Tear acuity	Acute	Subacute	Chronic
Distance from periphery	<3 mm	3-5 mm	>5 mm
Tear pattern	Vertical		Horizontal, radial, complex
Tissue quality	Good		Degerative
Tear length	1-4 cm		>4 cm



## Arthroscopic Meniscectomy

- 29880 Arthroscopy, knee, surgical; with meniscectomy (medial AND lateral, including any meniscal shaving)
- 29881 Arthroscopy, knee, surgical; with meniscectomy (medial OR lateral, including any meniscal shaving)



### Arthroscopic Meniscus Repair

- 29882 Arthroscopy, knee, surgical; with meniscus repair (medial OR lateral)
- 29883 Arthroscopy, knee, surgical; with meniscus repair (medial AND lateral)
- 29868 Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral

### Arthroscopic Meniscus Repair

- Three basic options
  - Inside-Out Suture large bucket-handle and longitudinal tears
  - Outside-In Suture tears of the anterior and middle thirds of the meniscus and for radial tears
  - All-Inside Repair posterior horn tears
    - Meniscal Arrow



# Arthroscopic Ligament Repair

- 29888 Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
- 29889 Arthroscopically aided posterior cruciate ligament repair/augmentation or reconstruction
- Bundled procedures: 27427-27429, 27407, 27408, and 29877



Thank you!

