Coding Challenges in Common Pediatric Sports Surgeries of the Knee

*Emily L. Niu, MD[1]; Sarah Wiskerchen, MBA, CPC[2]; Jennifer J. Beck, MD[3]; Aristides I. Cruz, Jr., MD, MBA[4], POSNA QSVI Sports Committee**

[1]Children's National Medical Center, Washington, DC; [2]Karen Zupko & Associates, Inc., Chicago, IL; [3]Orthopaedic Institute for Children/UCLA, Los Angeles, CA; [4]Hasbro Children's Hospital, Providence, RI

Introduction

Is the MPFL a real ligament? Discoid meniscus—Am I resecting, repairing, or both? OCD/OATS/Microfracture/OCA/—Does CPT know the lingo?

Significant variability exists in how pediatric orthopaedic surgeons code and bill for sports medicine surgeries. As a relatively young subspecialty, the surgical techniques and approaches are constantly evolving and outpacing the development and establishment of corresponding CPT codes. This article presents case scenarios for common knee pathologies often treated surgically by pediatric orthopaedic surgeons. The intent is to clarify some discrepancies in coding for these procedures and aid the surgeon in proper billing. It is important to note that the following scenarios are hypothetical and therefore ultimate code selection should always reflect the operative report documentation. *Please see the table on pages 5–6 for a concise summary and to consider for future coding choices.*

Case 1. Patellar Instability

A 13-year-old female presents with lateral patellar instability, undergoing a stabilization procedure.

- What is the correct billing for medial patellofemoral ligament (MPFL) reconstruction vs. MPFL repair vs. medial retinacular plication?
- If MPFL reconstruction or repair is performed in addition to a medial retinacular plication, are these billed separately?
- If hamstring autograft is harvested and used for MPFL reconstruction, is the harvest a billable procedure?

Coding for this scenario depends on the timing of the dislocation and subsequent repair or reconstruction. For open treatment of an **acute, traumatic patellar dislocation**, code 27566 (*Open treatment of patellar dislocation, with or without partial or total patellectomy*) would be appropriate. Under AAOS global service data guidelines, code 27566 includes repair of the medial patellofemoral ligament and release of the lateral retinaculum.

- If a **traumatic osteochondral fracture** secondary to the patellar dislocation is found and open reduction internal fixation is performed, how is this billed—for the patella and the lateral femoral condyle, respectively?

For a traumatic fracture, code 27524 (*Open treatment of patellar fracture, with internal fixation and/or partial or complete patellectomy and soft tissue repair*) could be used if open reduction and internal fixation or patellectomy is performed. Code 27514 (*Open treatment of femoral fracture, distal end, medial or lateral condyle, includes internal fixation, when performed*) could be used if only the lateral femoral condyle is fractured, and open reduction is performed.

For **chronic instability or recurrent dislocation of the patella**, apply codes in the range 27405-27427. Challenges for coding these procedures include:

Copyright @ 2021 JPOSNA

—By definition, code 27405 (*Repair, primary, torn ligament and/or capsule, knee; collateral*) is used for repair of the medial and lateral collateral ligaments. Because the MPFL is part of the medial patellar retinaculum and the intermediate medial capsular layer, it is also an appropriate code for this ligament.

—The CPT guidelines for closed treatment of patellar dislocation direct users to codes 27420-27424 when coding for recurrent dislocation. None of these codes specifically cite reconstruction of the MPFL, but they do describe reconstruction of a dislocating patella: 27420 (*Reconstruction of dislocating patella; (e.g., Hauser-type procedure*), 27422 (*Reconstruction of dislocating patella; with extensor realignment and/or muscle advancement or release (e.g., Campbell, Goldwaite-type procedure*), and 27424 (*Reconstruction of dislocating patella; with patellectomy)*. The use of "e.g." in the definitions indicates these are examples only. None of these codes have CPT vignettes that describe the procedures beyond their stated definitions. Lay descriptions in commercially available software programs describe procedures involving the patellar tendon and vastus medialis.

—Because the MPFL is an extra-articular ligament, code 27427 (*Ligamentous reconstruction (augmentation), knee; extra-articular*) might also be considered. **However, it would not be reportable with 27420-27424.**

• If MPFL reconstruction is performed along with a diagnostic knee arthroscopy, is the knee arthroscopy billed separately?

No—Under AAOS global service data guidelines, diagnostic arthroscopy is included in all open knee procedures.

In summary, final code selection for MPFL reconstruction may vary depending on the documentation present and the diagnosis.

• Can knee arthroscopy with chondroplasty be billed separately?

No—Under AAOS global service data guidelines, chondroplasty of the patella is included in codes 27420 and 27422. According to the guidelines, codes 27424 and 27427 include the work of 27422, so indirectly also includes this procedure.

• Can knee arthroscopy with loose body removal be billed separately?

No—The global service guidelines for codes 27420-27424 list 27331(*Arthrotomy, knee; including joint exploration, biopsy, or removal of loose or foreign bodies*) as an included procedure, so removal of a loose body would not be reported as a separate procedure. According to the guidelines, code 27427 includes the work of 27422, so indirectly would also include this procedure.

• If a lateral retinacular lengthening or lateral release is performed in addition to MPFL repair/reconstruction, is this billed separately?

No—Under AAOS global service data guidelines, release of the lateral retinaculum is included in codes 27420- 27424. According to the guidelines, code 27427 includes the work of 27422, so indirectly would also include this procedure.

• What is the correct billing for a **tibial tubercle osteotomy/transfer**? If MPFL reconstruction or repair is performed along with tibial tubercle osteotomy, is this billed separately?

27418 (*Anterior tibial tubercleplasty (e.g., Maquet-type procedure*) is used to report this procedure. 27418 may be used in conjunction with codes 27420-27424 or 27427 (for MPFL reconstruction or repair).

• If a lateral release or retinacular lengthening is performed with tibial tubercle osteotomy, can it be billed separately?

It depends. During revisions to the global service data guidelines in 2021, the AAOS moved lateral release code 27425 (*Lateral retinacular release, open*) to the list of not included procedures, which previously included 29873 (*Arthroscopy, knee, surgical; with lateral release*). However, if 27418 is used in conjunction with codes 27420-27424 or 27427 (for MPFL reconstruction

or repair), the lateral release procedure would become unreportable. If 27418 is used in isolation, the lateral release procedure is separately reportable.

• If a **patella tendon transfer** (Grammont or Roux-Goldthwait) procedure is performed, what is the correct billing?

Codes 27420 or 27422, defined above, would be used for this procedure, depending on the work performed.

Case 2. Unstable Osteochondritis Dissecans (OCD) of the Knee

A 15-year-old female is treated for unstable medial femoral condyle OCD of the knee. She presents with the OCD as a loose body, completely detached from the femoral condyle.

• If **arthroscopic vs. open repair of the unstable/loose fragment** is performed, how is this billed? If bone graft (autograft) is obtained and used to backfill the defect prior to repair, how is this billed?

The arthroscopic code used for this type of repair would depend upon the technique used. Code 29885 (*Arthroscopy, knee, surgical; drilling for osteochondritis dissecans with bone grafting, with or without internal fixation (including debridement of base of lesion*)) describes arthroscopic drilling to promote bleeding and subsequent healing, the use of bone graft, and internal fixation if it is used. Code 29887 (*Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion with internal fixation)* describes arthroscopic drilling to promote healing with internal fixation but without bone grafting. Code 29886 (*Arthroscopy, knee, surgical; drilling for intact osteochondritis dissecans lesion*) describes arthroscopic drilling only, without the use of bone graft or internal fixation. Codes 29887 and 29886 would not be used in this specific scenario described above as they require an intact OCD.

If an osteochondral fragment is removed in conjunction with codes 29885, 29886, or 29887, CPT guidelines introduced in 2021 would allow reporting of code 29874 (*Arthroscopy, knee, surgical; for removal of loose body or foreign body (e.g., osteochondritis dissecans fragmentation, chondral fragmentation)*) only if the loose body is equal to or larger than the diameter of the arthroscopic cannula(s) used for the specific procedure, is removed through a separate incision, or is removed through a portal that has been enlarged to allow removal of the loose or foreign bodies. CMS's NCCI (National Correct Coding Initiative) guidelines are more restrictive and would not allow separate reporting when the loose body is removed from the same compartment as the other knee procedure, even if one of the CPT criteria were met.

There are no CPT codes for an open technique of OCD drilling, bone grafting, and/or internal fixation; it would be appropriate to use code 27599 (*Unlisted procedure, femur, or knee*) for this procedure.

• If arthroscopy is performed and it was determined that open repair is necessary, can a diagnostic arthroscopy be billed separately?

If the comparison CPT code for an unlisted procedure includes a diagnostic arthroscopy, then it is not appropriate to additionally report code 29870 (*Arthroscopy, knee, diagnostic, with or without synovial biopsy (separate procedure)*). Under AAOS global service guidelines, codes 29885, 29886, and 29887, possible comparison codes, all include diagnostic arthroscopy.

• If the fragment is deemed irreparable arthroscopically and **osteochondral autograft transplant surgery (OATs)** is performed, what is the correct billing for arthroscopic vs. open OATs of the knee? If the OCD fragment is removed arthroscopically prior to OATs, can this be billed separately as arthroscopic loose body removal? If arthroscopy is performed first and the decision is made to perform an open OATs, can a diagnostic arthroscopy be billed separately?

Repair using open osteochondral autograft would be reported using code 27416 (*Osteochondral autograft(s), knee, open (e.g.,* mosaicplasty) (includes harvesting of autograft[s])).

Arthroscopic osteochondral autograft of the knee is reported using code 29866 (*Arthroscopy, knee, surgical;*

osteochondral autograft(s) (e.g., mosaicplasty) (includes harvesting of the autograft[s])).

CPT guidelines for 27416 restrict reporting services including diagnostic arthroscopy (29870) during the same session, and services including arthroscopic removal of loose/foreign bodies (29874), chondroplasty (29877), abrasion arthroplasty/microfracture (29879), or arthroscopic drilling for osteochondritis dissecans (29885-29887) when performed in the same compartment of the knee.

If allograft is used to achieve the repair, codes 27415 (*Osteochondral allograft, knee, open*) or 29867 (*Arthroscopy, knee, surgical; osteochondral allograft (e.g., mosaicplasty)*) are used instead.

Case 3. Lateral Discoid Meniscus

A 10-year-old male presents with a symptomatic lateral discoid meniscus causing a mechanical block to extension and MRI suggesting a tear with displacement of the meniscus tissue.

- What is the appropriate code if **arthroscopic discoid meniscus saucerization with repair/stabilization** of an unstable meniscus is performed? Can both 29881 *(arthroscopy, knee, surgical; with meniscectomy (medial or lateral, including any meniscal shaving)* and 29882 *(arthroscopy, knee, surgical; with meniscal repair (medial or lateral))* be reported concurrently?

Discoid lateral meniscus saucerization with and without repair would normally be coded 29881 for meniscectomy/saucerization alone and 29882 if a meniscus repair was included. If the meniscal procedure is performed in the same compartment (e.g., lateral compartment for discoid lateral meniscus), 29881 would not be coded in addition to 29882 since debridement is inclusive to any meniscus repair; therefore, both meniscectomy and repair on the lateral side would only be reportable using 29882.

This scenario is an example where the use of modifier-22 may be considered. Modifier-22 is defined in CPT as an increased procedural service. The definition of modifier-22 explains that it is used "*when the work required to provide a service is substantially greater than typically required*" and uses examples for increased intensity, time, technical difficulty of the procedure, severity of the patient's condition, and physical and mental effort required. If a procedure meets this definition, it is acceptable to apply modifier-22. It is expected that the operative note would detail the factors that make the work substantially greater than typically required; payors commonly require submission of the operative note and review this explanation when considering additional payment.

The operative report should indicate that due to the thickness and extra width of the discoid meniscus, the procedure is more time consuming and technically demanding than a normal meniscectomy, in order to justify modifier-22.

Similarly, because of the different quality of the meniscus tissue, more complex and often larger tear patterns, and more instability of the meniscus, the discoid meniscus repair is technically more difficult, takes more time, and requires more mental effort than a standard meniscus repair. This should be noted in the operative report to justify use of modifier-22.

Summary

Table 1 summarizes the key coding sequences preferred for these common pediatric sports medicine surgeries. The chronicity of the patellar instability is a key distinguisher in the coding selection for patellar stability cases. Further, it is important to note that a number of open knee procedures are inclusive of many knee arthroscopy CPT codes. And for discoid meniscus cases: saucerization = meniscectomy; stabilization of the unstable discoid meniscus = meniscus repair (saucerization included). Don't forget to document and code for the modifier-22 in this scenario given the added complexity a discoid meniscus.

***POSNA QSVI Sports Committee:** Jennifer Beck, MD; Andrew Pennock, MD; Sasha Carsen, MD, FRCSC; Allison E. Crepeau, MD; Aristides I. Cruz Jr., MD, MBA; Matthew Ellington, MD; Henry Bone Ellis Jr., MD; Stephanie Watson Mayer, MD; Emily Niu, MD; Zachary Stinson, MD; Curtis Daniel VandenBerg, MD; Kelly Vanderhave, MD; Brian K. Brighton, MD, MPH

Table. CPT Codes and Associated Relative Value Units (RVUs)

Procedure	CPT Code	Work RVU	MP RVU	PE RVU	Facility Total RVU*
MPFL repair/medial plication/VMO advancement					
Acute injury	27566	12.71	2.53	11.13	26.37
Chronic/Recurrent Injury	27405 (*Repair torn ligament*)	9.08	1.76	9.16	20
	27420 (*Hauser-type procedure*)	10.26	1.98	9.73	21.97
	27422 (Campbell, Goldwaite-type procedure)	10.21	1.99	9.79	21.99
MPFL reconstruction	27427	9.79	1.88	9.4	21.07
w/ knee arthroscopy diagnostic	Included				
w/ knee arthroscopy chondroplasty	Included				
w/ knee arthroscopy loose body removal	Included				
w/ lateral retinacular release or lengthening	Included				
Tibial tubercle osteotomy	27418	11.6	2.22	10.74	24.56
w/lateral retinacular release or lengthening	Add 27425	5.39	1.07	6.96	13.42
w/open reduction and repair of traumatic patellar osteochondral fracture	Add 27524	10.37	2.04	9.85	22.26
w/open reduction and repair of traumatic lateral femoral condyle osteochondral fracture	Add 27514	14.6	2.88	11.06	28.54
MPFL Reconstruction + Tibial Tubercle Osteotomy	27418 + 27427				
Arthroscopic repair of unstable OCD	29885	10.21	2.04	10.07	22.32
w/ knee arthroscopy removal of loose body	Add 29874†	7.19	1.41	7.3	15.9
Open repair with internal fixation of unstable OCD with and without bone graft	27599 (*Unlisted procedure, femur or knee*)	--	--	--	--
w/ knee arthroscopy diagnostic	Included				
w/ knee arthroscopy removal of loose body	Add 29874†	7.19	1.41	7.3	15.9
w/ bone autograft	Included				
Arthroscopic autograft osteochondral autograft transplant surgery (OATs) for treatment of unstable OCD	29866	14.67	2.91	13.43	31.01
Arthroscopic removal of loose bodies, chondroplasty or microfracture, arthroscopic drilling for OCD	All included when performed in same compartment				
w/ arthroscopic chondroplasty (different compartment from OCD)	Add 29877	8.3	1.62	8.45	18.37
w/ arthroscopic abrasion arthroplasty or microfracture (different compartment)	Add 29879	8.99	1.76	8.8	19.55
w/ arthroscopic drilling for OCD (different compartment – in the case of multiple OCD in same knee)	Add codes based on procedure performed				

(continued on next page)

Procedure	CPT Code	Work RVU	MP RVU	PE RVU	Facility Total RVU*
Open autograft OATs for treatment of unstable OCD	27416	14.16	2.81	11.94	28.91
Diagnostic arthroscopy, arthroscopic removal of loose bodies, chondroplasty or microfracture, arthroscopic drilling for OCD	All included when performed in same compartment of knee				
w/ arthroscopic chondroplasty (different compartment from OCD)	Add 29877	8.3	1.62	8.45	18.37
w/ arthroscopic abrasion arthroplasty or microfracture (different compartment)	Add 29879	8.99	1.76	8.8	19.55
w/ arthroscopic drilling for OCD (different compartment – in the case of multiple OCD in same knee)	Add based on procedure performed				
Arthroscopic osteochondral allograft transplant for treatment of unstable OCD	29867	18.39	3.68	15.64	37.71
Diagnostic arthroscopy, arthroscopic removal of loose bodies, chondroplasty or microfracture, arthroscopic drilling for OCD	All included when performed in same compartment of knee				
w/ arthroscopic chondroplasty (different compartment from OCD)	Add 29877	8.3	1.62	8.45	18.37
w/ arthroscopic abrasion arthroplasty or microfracture (different compartment)	Add 29879	8.99	1.76	8.8	19.55
w/ arthroscopic drilling for OCD (different compartment – in the case of multiple OCD in same knee)	Add based on procedure performed				
Open osteochondral allograft transplant for treatment of unstable OCD	27415	20	4.04	16.46	40.47
Diagnostic arthroscopy, arthroscopic removal of loose bodies, chondroplasty or microfracture, arthroscopic drilling for OCD	All included when performed in same compartment of knee				
w/ arthroscopic chondroplasty (different compartment from OCD)	Add 29877	8.3	1.62	8.45	18.37
w/ arthroscopic abrasion arthroplasty or microfracture (different compartment)	Add 29879	8.99	1.76	8.8	19.55
w/ arthroscopic drilling for OCD (different compartment – in the case of multiple OCD in same knee)	Add based on procedure performed				

**Total Facility RVU is made up of three RVU areas:*
- *Work RVUs = account for the provider's work when performing a procedure or service*
- *Practice Expense (PE) RVUs = reflect the cost of clinical and nonclinical labor and expenses of the practice*
- *Malpractice (MP) RVUs = reflect the cost of professional liability insurance based on an estimate of relative risk associates with each CPT code*

†*Subject to CPT (current procedural terminology) and NCCI (National Correct Coding Initiative) policies. Refer to your institution's billing specialist for specific guidelines.*

Copyright @ 2021 JPOSNA