



# 54. Incomplete Compliance With Federal Regulations for Price Transparency in Arthroscopic Procedures

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## Disclosures

- Joseph N Liu reports a relationship with Stryker Orthopaedics that includes speaking and lecture fees. Joseph N Liu reports a relationship with Innocoll Biotherapeutics NA Inc that includes travel reimbursement.
- Frank A Petrigliano reports a relationship with Exactech Inc that includes consulting or advisory. Frank A Petrigliano reports a relationship with Stryker Orthopaedics that includes consulting or advisory. Frank A Petrigliano reports a relationship with OSSIO Inc that includes consulting or advisory.
- The other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.



# Background

Beginning January 2021, the United States (US) Centers for Medicare and Medicaid Services (CMS) introduced federal regulations regarding hospital price transparency requiring hospitals to:

- 1) provide an online price estimator for 300 key “shoppable services”
- 2) publish a “machine-readable” plain text file containing price data for all “items and services provided by the hospital” with each subject to additional stipulations

Specific to orthopaedic sports medicine procedures hospitals must create and maintain an online price estimator tool for arthroscopic subacromial decompression and arthroscopic meniscectomy.



# Objective

This abstract aims to present hospital compliance with federal price transparency regulations for sports medicine procedures.



## Methods

Online price estimator and machine-readable files were recovered for U.S. News and World Report's (USNWR) top 100 orthopedic hospitals. From June to November 2023, compliance and monetary values were recorded for each of Centers for Medicare and Medicaid Services (CMS) price transparency regulations. Price estimator data was assessed based on hospital placement in the bottom and top 50 of the 100 institutions under review, as well as by region (Northeast, South, Midwest, West). Statistical analyses included two-sample t-tests and Kruskal Wallis tests with significance defined as  $p < 0.05$ .



# Hip and knee machine-readable CPT codes

CPT Code	Description
<b>Hip and Knee</b>	
27427	Ligamentous reconstruction (augmentation), knee; extra-articular
27457	Osteotomy, proximal tibia, including fibular excision or osteotomy (includes correction of genu varus)
27556	Open treatment of knee dislocation, with or without internal or external fixation; without primary ligamentous repair or augmentation/reconstruction
27557	Open treatment of knee dislocation, with or without internal or external fixation; with primary ligamentous repair
29862	Arthroscopy, hip, surgical; with debridement/shaving of articular cartilage (chondroplasty), abrasion arthroplasty, and/or resection of labrum
29877	Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)
29880	Arthroscopy, knee, surgical; with meniscectomy (medial AND lateral, including any meniscal)
29882	Arthroscopy, knee, surgical; with meniscus repair (medial OR lateral)
29883	Arthroscopy, knee, surgical; with meniscus repair (medial AND lateral)
29888	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction
29861	Arthroscopy, hip, surgical; with removal of loose body or foreign body
29863	Arthroscopy, hip, surgical; with synovectomy
29860	Arthroscopy, hip, diagnostic with or without synovial biopsy (separate procedure)



## Shoulder and elbow machine-readable CPT codes

CPT Code	Description
<b>Shoulder and Elbow</b>	
23120	Claviculectomy; partial
23410	Repair of ruptured musculotendinous cuff (e.g., rotator cuff) open; acute
23412	Repair of ruptured musculotendinous cuff (e.g., rotator cuff) open; chronic
23430	Tenodesis of long tendon of biceps
23470	Shoulder Hemi-arthroplasty
23472	Total Shoulder Arthroplasty
29806	Arthroscopy, shoulder, surgical; capsulorrhaphy
29824	Arthroscopy, shoulder, surgical; distal claviculectomy including distal articular surface (Mumford)
29827	Arthroscopy, shoulder, surgical; with rotator cuff repair
29830	Arthroscopy, elbow, diagnostic, with or without synovial biopsy (separate procedure)
29837	Arthroscopy, elbow, surgical; debridement, limited
29838	Arthroscopy, elbow, surgical; debridement, extensive



## Results

95% of hospitals analyzed had a price estimator tool for both subacromial decompression (CPT: 29826) and meniscectomy (CPT: 29881).

Only 38% were fully compliant for subacromial decompression and 39% for meniscectomy.

Hospitals most often fell short of full compliance with CMS price estimator regulations by not including minimum and maximum payer prices for the specific procedure.





## Percent compliance with each requirement for price estimator tool reporting and associated monetary values.

	Price estimator on website?	Payer specific prices	Description of procedure?	Cash Price	Gross Price	Minimum Price	Maximum Price	Full Compliance
<b>Subacromial Decompression (CPT: 29826)</b>								
<b>Percent compliance</b>	95	92	92	85	81	38	38	38
<b>Mean</b>				\$26,910	\$37,333	\$31,608	\$61,525	
<b>Standard Deviation</b>				\$18,406	\$24,255	\$15,061	\$28,893	
<b>Meniscectomy (CPT: 29881)</b>								
<b>Percent compliance</b>	95	92	92	84	79	39	39	39
<b>Mean</b>				\$14,880	\$56,892	\$19,166	\$52,010	
<b>Standard Deviation</b>				\$12,377	\$316,896	\$12,456	\$32,581	



## Price estimator tool comparison between top 50 and bottom 50 of top 100 orthopedic hospitals

	Top Half Mean (Standard Deviation)	Bottom Half Mean (Standard Deviation)	p-value	Hospital Rank vs Price Correlation Coefficient	p-value
Subacromial decompression (CPT: 29826)	\$30,445 (\$19,053)	\$23,058 (\$16,848)	0.040	-0.277	0.010
Meniscectomy (CPT: 29881)	\$17,973 (\$13,239)	\$11,634 (\$10,617)	0.009	-0.317	0.003



## Compliance with machine-readable file requirements for hip and knee procedures

CPT code	Percent reporting cash price	Percent reporting gross price	Percent reporting minimum and maximum price
<b>Hip and Knee</b>			
27427	15	15	27
27457	4	6	13
27556	3	4	13
27557	2	4	12
29862	10	9	21
29877	19	17	30
29880	21	19	31
29882	19	17	29
29883	14	14	25
29888	20	18	32
29860	5	7	13
29861	5	6	13
29863	5	5	14



## Compliance with machine-readable file requirements for shoulder and elbow procedures

CPT code	Percent reporting cash price	Percent reporting gross price	Percent reporting minimum and maximum price
<b>Shoulder and Elbow</b>			
23120	18	9	29
23410	18	18	29
23412	18	18	29
23430	20	19	32
23470	11	14	23
23472	19	18	31
29806	18	18	30
29824	18	18	29
29827	19	18	31
29830	2	6	17
29837	6	9	19
29838	10	13	23



## Mean prices with standard deviation for machine-readable file data for hip and knee

CPT code	Mean Cash Price (SD)	Mean Gross Price (SD)	Mean Minimum Price (SD)	Mean Maximum Price (SD)
<b>Hip and Knee</b>				
<b>27427</b>	\$14,863 (\$14,705)	\$30,522 (\$34,118)	\$2,423 (\$1,940)	\$21,286 (\$24,944)
<b>27457</b>	\$8,021 (\$11,682)	\$24,190 (\$50,145)	\$2,284 (\$1,848)	\$17,985 (\$27,350)
<b>27556</b>	\$1,129 (\$600)	\$2,150 (\$318)	\$1,975 (\$1,774)	\$9,648 (\$7,833)
<b>27557</b>	\$1,056 (\$713)	\$2,777 (\$392)	\$2,473 (\$1,749)	\$10,406 (\$7,683)
<b>29862</b>	\$11,640 (\$17,606)	\$20,115 (\$24,469)	\$2,170 (\$2,236)	\$12,471 (\$12,397)
<b>29877</b>	\$6,003 (\$7,202)	\$11,473 (\$10,727)	\$1,510 (\$1,059)	\$9,687 (\$7,454)
<b>29880</b>	\$5,249 (\$5,956)	\$10,488 (\$9,884)	\$1,571 (\$1,110)	\$10,890 (\$9,427)
<b>29882</b>	\$8,419 (\$11,529)	\$19,025 (\$22,076)	\$1,573 (\$1,103)	\$12,061 (\$10,176)
<b>29883</b>	\$13,911 (\$17,297)	\$28,137 (\$35,754)	\$1,969 (\$1,373)	\$14,511 (\$16,364)
<b>29888</b>	\$12,059 (\$13,888)	\$24,044 (\$27,466)	\$3,708 (\$4,850)	\$16,310 (\$12,511)
<b>29860</b>	\$9,157 (\$11,652)	\$9,365 (\$10,138)	\$4,708 (\$7,997)	\$13,484 (\$15,007)
<b>29861</b>	\$2,093 (\$1,408)	\$4,342 (\$4,225)	\$2,336 (\$2,216)	\$8,123 (\$6,451)
<b>29863</b>	\$1,612 (\$1,827)	\$3,821 (\$2,554)	\$1,848 (\$1,732)	\$6,829 (\$5,702)

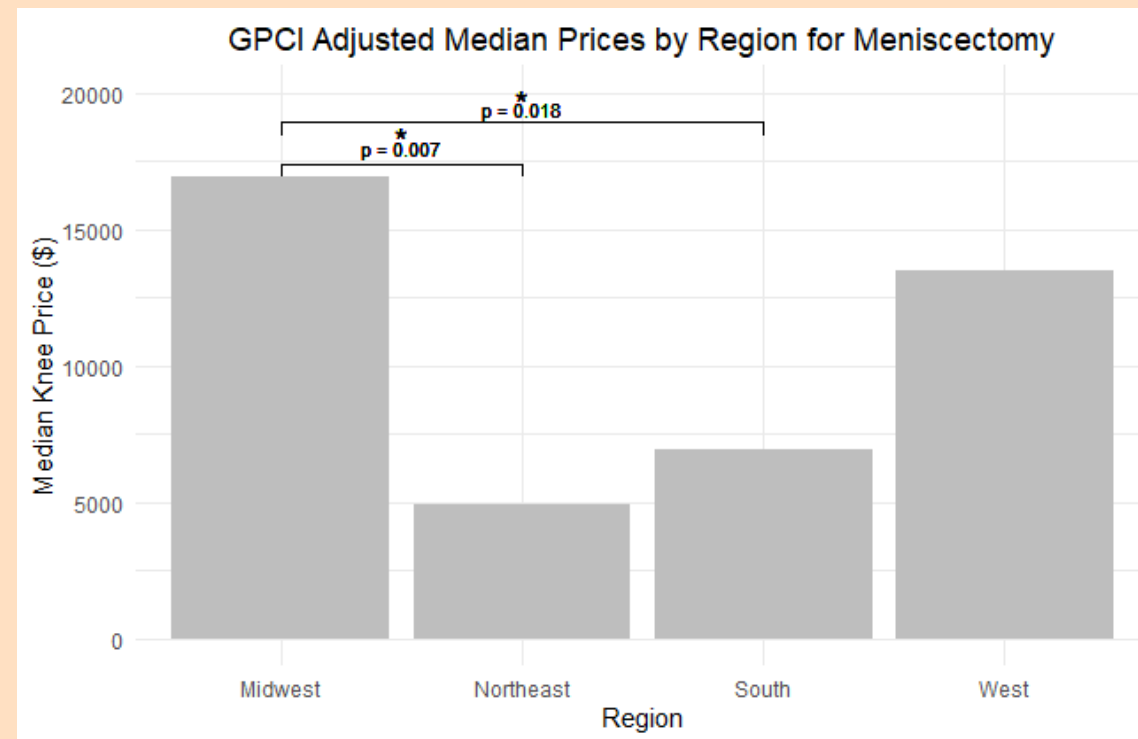


## Mean prices with standard deviation for machine-readable file data for shoulder and elbow

CPT code	Mean Cash Price (SD)	Mean Gross Price (SD)	Mean Minimum Price (SD)	Mean Maximum Price (SD)
<b>Shoulder and Elbow</b>				
<b>23120</b>	\$7,070 (\$8,723)	\$14,874 (\$17,961)	\$1,703 (\$1,200)	\$10,419 (\$9,549)
<b>23410</b>	\$9,936 (\$9,861)	\$17,302 (\$17,643)	\$2,267 (\$2,133)	\$14,073 (\$10,727)
<b>23412</b>	\$11,812 (\$12,292)	\$20,451 (\$18,804)	\$2,553 (\$2,243)	\$15,507 (\$11,847)
<b>23430</b>	\$9,504 (\$8,284)	\$18,572 (\$19,021)	\$2,340 (\$2,119)	\$15,092 (\$10,917)
<b>23470</b>	\$15,019 (\$17,737)	\$30,332 (\$28,088)	\$3,474 (\$4,075)	\$30,759 (\$24,651)
<b>23472</b>	\$17,899 (\$21,148)	\$41,179 (\$44,689)	\$4,058 (\$4,134)	\$31,409 (\$23,818)
<b>29806</b>	\$12,292 (\$12,380)	\$21,720 (\$24,209)	\$3,430 (\$6,193)	\$14,374 (10,214)
<b>29824</b>	\$8,957 (\$12,013)	\$18,222 (\$21,067)	\$1,444 (\$1,076)	\$11,524 (\$9,879)
<b>29827</b>	\$10,723 (\$9,353)	\$19,774 (\$17,750)	\$2,394 (\$1,867)	\$16,092 (\$10,510)
<b>29830</b>	\$2,002 (\$1,856)	\$7,733 (\$12,267)	\$1,299 (\$1,296)	\$8,471 (\$8,235)
<b>29837</b>	\$8,293 (\$12,042)	\$12,004 (\$15,264)	\$1,427 (\$1,143)	\$10,354 (\$10,643)
<b>29838</b>	\$7,588 (\$8,921)	\$12,931 (\$12,937)	\$1,380 (\$1,105)	\$10,654 (\$9,627)

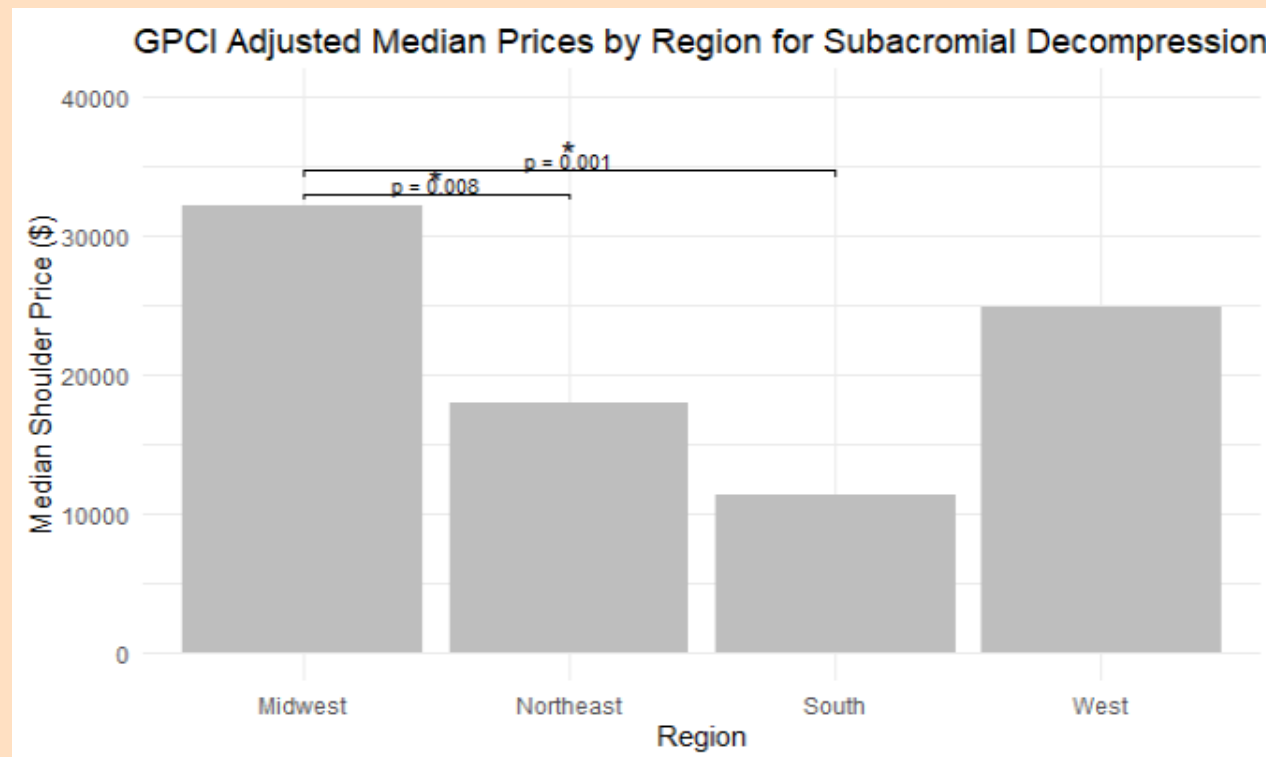


## Regional variation in median price for meniscectomy after adjusting for geographic practice cost index (GPCI)





## Regional variation in median price for subacromial decompression after adjusting for geographic practice cost index (GPCI)







## Conclusions

This study demonstrates that USNWR top 100 orthopedic hospitals exhibit poor overall compliance with federal price transparency regulations for sports medicine procedures.

Most often they lack full compliance by not reporting minimum or maximum prices as part of their price estimator tool or do not report procedure prices in their machine-readable files.

Hospitals also exhibit wide variation in prices reported for specific procedures.



# Significance

Improved price transparency is an important, patient-centered goal of health care regulation.

Hospitals can improve their compliance with federal price transparency regulations by ensuring they report minimum or maximum negotiated prices as part of their price estimator tool.

Ultimately, price transparency regulation may necessitate strict enforcement to accomplish its goal of consumer empowerment and a stronger link relationship between price and quality.