AAOS
American Association of Orthopaedic Surgeons

September 14, 2026

Mehmet Oz, MD, MBA
Administrator
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Attention: CMS-1848-P
P.O. Box 8010
Baltimore, MD 21244-8010

Dear Administrator Oz:

On behalf of the more than 39,000 orthopaedic surgeons and residents represented by the American Association of Orthopaedic Surgeons (AAOS), I write to share our feedback on the Calendar Year (CY) 2027 Medicare Physician Fee Schedule (MPFS) proposed rule (CMS-1848-P). In response to these proposals, AAOS recommends:

- **As CMS develops the CY 2027 final rule, AAOS urges the Agency to prioritize three actions:**
    - **Maintain CY 2026 work RVUs for CPT codes 23470, 23472, 27130, and 27447;**
    - **Withdraw the proposed 50% reduction for separately identifiable same-day office or outpatient evaluation and management (E/M) and procedural services; and**
    - **Refrain from finalizing additional practice-expense methodology changes without sufficient data and analysis of their impact on independent physician practices.**
- **Payment:** AAOS is deeply concerned that CMS has proposed a negative conversion factor for CY2027. For Advanced Alternative Payment Model (APM) Qualifying Participants (QPs), there will be a 1.19% decrease to $33.17, and for non-APM QPs, there will be a 1.68% decrease to $32.84.
- **Practice Expense Methodology:** AAOS requests that CMS reconsider its proposed practice expense (PE) methodology changes, including phasing out the Indirect Practice Cost Index (IPCI). AAOS therefore urges CMS not to finalize the proposed elimination of the IPCI or other significant changes to the indirect PE methodology until the Agency has provided sufficient data and transparent modeling at the code and specialty levels, evaluated the effects of the CY 2026 PE changes, and meaningfully engaged affected specialties.
- **Modifier 25/Global Surgery Code Reform:** AAOS strongly urges CMS to withdraw the proposed payment reduction for separately identifiable office or outpatient E/M services furnished on the same day as procedures with 0-, 10-, or 90-day global periods. If CMS believes that payment for particular services does not accurately reflect physician work, AAOS encourages the agency to work collaboratively with physicians using specialty-specific evidence and appropriate valuation processes to develop payment policies that reflect clinical reality, preserve patient access, and maintain Medicare's long-term fiscal responsibility.
- **E/M Visit Complexity Add-on Code (HCPCS G2211):** AAOS urges CMS to ensure that any changes to G2211 are supported by current utilization data, appropriately targeted to the services and resources the Agency intends to recognize, and implemented in a manner that does not create unintended consequences.
- **Valuation of Specific Codes:** AAOS strongly opposes the proposed over 20% reduction in relative value units (RVUs) for shoulder hemiarthroplasty (CPT 23470), total shoulder arthroplasty (CPT 23472), total hip

arthroplasty (CPT 27130) and total knee arthroplasty (CPT 27447). We urge CMS not to finalize these reductions and instead maintain the CY 2026 work RVUs for these four services for CY 2027 while working with physicians to develop a more stable and sustainable approach to Medicare physician payment for these services before finalizing the values.

- **CPT Request for Information:** AAOS believes that code valuations should be transparent, structured processes involving rigorous clinical review by physician experts and the healthcare community.
- **Remote Patient Monitoring and Remote Therapeutic Monitoring Codes:** AAOS strongly requests that CMS pause changes to the valuation of the RPM and RTM codes and not establish new G-codes until the AMA RUC re-examines the RPM and RTM codes in January 2027. AAOS also cautions CMS from finalizing the other proposed changes to remote monitoring, which could significantly reduce patient access to care and increase burden on practitioners.
- **Merit-Based Incentive Payment System Value Pathways (MVP) Implementation:** Given the ongoing gaps in the applicability of MVPs to specialists and subspecialists, AAOS opposes mandatory MVP participation. It is critical that CMS maintains the traditional MIPS framework, allowing clinicians whose patient populations do not align neatly with an MVP to continue selecting measures, improvement activities, and participation strategies that are most relevant and feasible for their specific practices.
- **Ambulatory Specialty Model (ASM):** AAOS continues to believe the ASM, as designed for orthopaedic surgeons treating low back pain, is deeply flawed and, therefore, we cannot support its implementation as proposed. Our concerns are wide-ranging, from problems with the attribution and scoring methodologies to the model's limited ability to meaningfully improve care systems. While we wholeheartedly support CMS's broader strategy of creating specialist-led models to advance high-value musculoskeletal care, starting with ASM will be both unsuccessful in achieving CMS's goals and will likely hinder future attempts to push these important goals forward. For these reasons, we urge CMS to delay the implementation of ASM for at least one year.

We provide additional details on these recommendations and additional topics below.

AAOS strongly opposes the proposed over 20% reduction in relative value units (RVUs) for shoulder hemiarthroplasty (CPT 23470), total shoulder arthroplasty (CPT 23472), total hip arthroplasty (CPT 27130) and total knee arthroplasty (CPT 27447). We urge CMS not to finalize these reductions and instead maintain the CY 2026 work RVUs for these four services for CY 2027. We further urge CMS to work with physicians to develop a more stable, evidence-based approach to valuation of major orthopaedic surgeries that appropriately accounts for physician time, intensity, complexity, and the evolution of clinical practice.

As CMS develops the CY 2027 final rule, AAOS urges the Agency to prioritize three actions: (1) maintain CY 2026 work RVUs for CPT codes 23470, 23472, 27130, and 27447; (2) withdraw the proposed 50% reduction for separately identifiable same-day office or outpatient evaluation and management (E/M) and procedural services; and (3) refrain from finalizing additional practice-expense methodology changes without sufficient data and analysis of their impact on independent physician practices.

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President Trump, his leadership team at the Department of Health and Human Services (HHS), and congressional leaders on both sides of the aisle have emphasized the importance of protecting independent physician practices, promoting competition, and preventing further consolidation in health care. Orthopaedic surgeons are the last frontier of independent medical practice, with about 50% of orthopaedic surgeons practicing independently. These practices provide an important competitive alternative to hospital-owned and vertically integrated systems and, for clinically appropriate cases, have shifted care into lower-cost settings while delivering the same, if not greater, patient satisfaction.

The proposed cuts to the total and partial joint replacement procedures are exacerbated by years of general Medicare physician payment instability. The real dollar cuts that CMS and Congress have made have all been magnified by the following factors and policies implemented by the Agency:

- The lack of an inflationary update to physician reimbursement while the costs of running a practice continue to rise and CMS, as required by statute, continues to significantly raise the payments it makes to hospitals and health system employers who compete for the same staff as physician practices;
- The CY2026 MPFS cuts that went into effect on January 1st under the misguided -2.5% so called "efficiency adjustment" to all non-time-based codes; and
- The CY2026 MPFS 50% reduction CMS made in indirect practice expense RVUs for procedures performed in a hospital or ambulatory surgery center (ASC), including major procedures like total joints that cannot be performed in an office (even when performed by surgeons who are not employed at the facility where the service is furnished).

These outright cuts are further compounded by proposals included by CMS in CY2027 rulemaking:

- The proposed policy to reduce payment when a separately identifiable office/outpatient E/M visit is furnished by the same physician (or a physician in the same practice) on the same day as a 0-, 10-, or 90-day global procedure using modifier 25. This policy will incentivize surgeons to perform the E/M visit and in-office procedure on separate days, causing unnecessary strain for senior patients, especially those in rural communities with limited transportation options. Some seniors may not get the full treatment they require.
- New updates to the practice expense methodology further create instability for independent practices to stay afloat.

CMS must recognize that this year's proposed cuts are not reductions from a historically stable payment baseline. Medicare's payment for the delivery of these procedures has already failed to keep pace with the costs of maintaining a medical practice. Against that backdrop, reductions approaching 20% or more in work RVUs and further cuts to practice expense reimbursements for joint replacement services are consequential. AAOS implores CMS to recognize that this is not happening after years of increases. CMS is proposing an outright, massive reduction of the actual dollar amount Medicare reimburses for these important services provided to Medicare patients. As illustrated in the graphs in **Appendix A**, if you review CMS's reimbursement going back to 2005 (in order to capture the number of recent times that these procedures have been reviewed, re-surveyed, and revalued), if CMS finalizes these cuts,

- CMS would be executing an over 30% reduction in total payment for shoulder hemiarthroplasty
- CMS would be executing an over 31% reduction in total payment for total shoulder arthroplasty
- CMS would be executing an almost 35% reduction in total payment for total hip arthroplasty

- CMS would be executing a nearly 40% reduction in total payment for total knee arthroplasty

Further, for more than a decade, AAOS and orthopaedic surgeons have been leaders in advancing value-based care and have been committed partners with CMS in identifying cost efficiencies that deliver greater value for patients and the Medicare program. This partnership has been especially evident in lower extremity joint replacements, where orthopaedic surgeons drove the success of payment models, such as the Comprehensive Care for Joint Replacement (CJR), which is being expanded nationwide in 2028, and the Bundled Payments for Care Improvement (BPCI) Advanced models. Continued payment cuts undermine that collaboration and jeopardize the meaningful impact orthopaedic surgeons can deliver through future value-based care initiatives.

Taken together, these policies risk pushing independent orthopaedic practice past a tipping point. CMS estimates orthopaedic surgeons would face a 7% reduction in total allowed charges in CY 2027 before accounting for the additional decrease in the conversion factors. Continued reductions in physician payment would accelerate consolidation and undermine the Administration's stated goals of strengthening competition, preserving independent practice, promoting value-based care initiatives, and lowering costs for patients. In the process, Medicare beneficiaries will face fewer physician options, longer wait times, and delayed access to care.

Conversion Factor

AAOS is deeply concerned that CMS has proposed a negative conversion factor for CY2027. For Advanced Alternative Payment Model (APM) Qualifying Participants (QPs), there will be a 1.19% decrease to $33.17, and for non-APM QPs, there will be a 1.68% decrease to $32.84. These conversion factors remain historically low and certainly insufficient to relieve the compounding, substantial financial pressures that have been building on physician practices for over two decades. With the expiration of the 2.5% update to the CY2026 Conversion Factor included in H.R. 1, there is no end in sight to mitigate the financial pressures that practices have felt as a result of Medicare's flawed physician annual update methodology.

Unlike nearly every other major Medicare payment system, physician payment does not receive an annual inflationary update that reflects the actual cost of delivering care. At the same time, physician practices continue to face rising costs for clinical and administrative staff, rent, medical supplies, professional liability coverage, health information technology, cybersecurity, and regulatory compliance. As a result, even years in which the Conversion Factor appears relatively stable can represent a meaningful reduction in real purchasing power. Continued negative updates only widen the growing gap between Medicare reimbursement and the cost of maintaining a physician practice.

This persistent, downward trend in the Conversion Factor is especially problematic for independent physicians dedicated to providing high-quality care in their local communities. Many independent physicians have already agreed to be acquired by larger hospital systems, health insurers, or private equity. AAOS is committed to advancing policies that slow further consolidation by advocating for an environment where independent medical practices can thrive and compete. Ensuring stable, adequate reimbursement that encourages competition is essential for sustaining practice viability, investing in practice improvements, and ultimately ensuring that Medicare beneficiaries have choices and access to the high-quality care.

AAOS urges CMS to use all available administrative authorities to mitigate further reductions in physician payment and to work with Congress toward a permanent, inflation-based annual update that provides physicians with the predictable, sustainable reimbursement needed to continue caring for Medicare beneficiaries. Particularly, as CMS considers other significant changes to physician payment in CY2027, the Agency should evaluate the cumulative impact of these policies on physician practices rather than considering each reduction in isolation. Further erosion of Medicare physician payment risks accelerating consolidation, undermining independent practice, and ultimately jeopardizing beneficiary access to care.

Practice Expense Methodology

AAOS requests that CMS reconsider its proposed practice expense (PE) methodology changes, including phasing out the Indirect Practice Cost Index (IPCI). Changes of this magnitude warrant a full and reasoned explanation of the proposed methodology, the basis for departing from prior approaches, and data sufficient to support the proposed approach. The proposed rule does not provide that foundation. There is no explanation as to why this would be appropriate, how much of the projected reduction for orthopaedic surgery is attributable specifically to the proposed change, or why this significant change should be overlaid simultaneously with other recent PE changes. CMS needs to provide data validating its contention that the existing methodology is producing inaccurate payment outcomes and clearly identify the impact of each proposed change on orthopaedic services. Before fundamentally altering the PE methodology, CMS should provide specialty- and code-level modeling that allows stakeholders to understand both the individual and cumulative effects of eliminating the IPCI, modifying the indirect PE allocator, and other recent changes to PE methodology. Without this information, physicians cannot meaningfully evaluate the accuracy of the proposed methodology or its potential consequences for patient access and practice viability.

AAOS is particularly concerned that CMS is proposing another substantial change to PE methodology only one year after implementing significant changes to indirect PE allocation in the facility setting. Physician practices have had insufficient time to absorb—and CMS has had insufficient time to fully evaluate—the effects of the CY2026 policy before layering additional methodological changes onto the PFS. CMS itself acknowledges concerns that the CY2026 changes may adversely affect facility-based physicians in independent practices and contribute to further consolidation. Against that backdrop, CMS should proceed cautiously before adopting additional policies that could further reduce reimbursement to those same practices.

The proposed PE stabilization adjustment does not resolve these concerns. A 5% annual limitation on PE RVU changes may moderate the immediate magnitude of a reduction, but it does not address whether the underlying methodology is accurate or appropriate; it merely phases in the consequences of that methodology over time. Nor does it protect practices from the cumulative effects of PE reductions when combined with the proposed negative Conversion Factor, code-level valuation changes, and other payment policies proposed for CY 2027.

AAOS, therefore, urges CMS not to finalize the proposed elimination of the IPCI or other significant changes to the indirect PE methodology until the Agency has provided sufficient data and transparent modeling, evaluated the effects of the CY 2026 PE changes, and meaningfully engaged affected specialties. At a minimum, CMS should provide code- and specialty-level impact analyses and consider the cumulative impact of its CY 2026 and CY 2027 policies on independent physician practices and beneficiary access to care before proceeding with

further changes. Further, given that CMS has determined that a 5% fluctuation in PE RVUs is a disruption worthy of intervention, CMS should extend the PE stabilization adjustment to all codes without exception to ensure independent medical practices can sufficiently manage wild, CMS-generated swings in reimbursement from year-to-year.

Modifier 25/ Global Surgery Code Reform

AAOS strongly opposes CMS's proposal to reduce Medicare payment when a separately identifiable office or outpatient E/M service is furnished on the same day as a procedure with a 0-, 10-, or 90-day global period by the same physician or another physician in the same group practice. Under the proposal, the highest-paid service furnished that day would continue to receive full payment, while all remaining covered surgical procedures or E/M services would be reimbursed at 50% of the applicable fee schedule amount. The reduction would apply even when the E/M service is separately identifiable, medically necessary, fully documented, and appropriately reported with Modifier 25.

AAOS supports CMS's goals of ensuring accurate Medicare payment and safeguarding the program against unnecessary or duplicative payments. CMS has not demonstrated that separately identifiable E/M services reported with Modifier 25 contain a uniform amount of duplicative physician work, practice expense, and professional liability that would justify an across-the-board reduction, nor that the amount of that reduction should be 50%. Indeed, the premise of Modifier 25 is that the E/M service represents significant, separately identifiable work beyond what is associated with the procedure.

CMS cites "likely overlap and duplication of payment" as its rationale for the proposal but does not present empirical evidence quantifying that overlap, identifying the specific work or resources it believes are duplicative, or demonstrating that physician work or resources overlap by 50%. CMS analogizes the proposal to efficiencies recognized under the Multiple Procedure Payment Reduction (MPPR) policy. That comparison is misplaced. The MPPR generally recognizes efficiencies when multiple similar services are furnished during the same encounter. Here, CMS proposes to apply a uniform reduction across fundamentally different services: a cognitive E/M service and a surgical procedure. These services involve distinct physician activities and resources, including medical decision-making and evaluation on the one hand and procedural work on the other. The fact that they occur during the same encounter does not establish that half of the resources associated with either service are duplicative. Unlike the MPPR policies, which were supported by extensive study and recommendations from the U.S. Government Accountability Office (GAO) and Medicare Payment Advisory Commission (MedPAC), CMS has not identified a comparable evidentiary basis for the proposed 50% reduction or explained why that reduction reasonably reflects the actual degree of overlap across such disparate services and clinical circumstances.

Importantly, the existing valuation process already accounts for overlap when E/M services and procedures are typically furnished together. The valuation process is designed to exclude duplicative physician work and practice expense, including overlapping pre-service and post-service activities, and CMS has authority to review and adjust individual service values when it determines that overlap has not been adequately addressed. CMS itself acknowledges this principle in the proposed rule, noting that its longstanding adjustments assume that a portion of work in the preservice evaluation and post-service periods may overlap with work furnished during an E/M visit when these services evolve over time to being typically furnished together. Imposing an additional across-the-board reduction, therefore, discounts payment a second time for overlap already recognized and

removed through the established valuation process and the 50% reduction rate risks paying for the services below the cost of delivering the care.

CMS's proposal is particularly concerning because existing mechanisms address inappropriate billing and ensure accurate valuation of physician services. Modifier 25 is subject to longstanding coding guidance, Medicare policy, targeted medical review, comparative billing reports, Medicare Administrative Contractor audits, and other program integrity tools. Physician services also undergo continual refinement through the Relative Value Scale Update Committee (RUC) process and CMS's review of work, practice expense, and malpractice RVUs. If CMS believes certain services contain duplicative physician work or no longer reflect contemporary clinical practice, those concerns should be addressed through existing valuation and program integrity processes rather than through uniform 50% payment reduction that assumes the same level of overlap across every service, specialty, and clinical circumstance.

The proposed policy conflicts with the clinical realities of orthopaedic practice and common-sense continuity of care. Orthopaedic surgeons routinely evaluate patients, review imaging, establish diagnoses, discuss treatment options, obtain informed consent, and perform medically necessary procedures during a single visit. The physician's evaluation is not incidental to the procedure; it determines whether a procedure is appropriate, what intervention should be performed, and whether non-operative management remains the better course. These distinct, medically necessary services are appropriately reported using Modifier 25.

The RUC's recent review of CPT code 20550 illustrates that the existing valuation process is already capable of identifying and addressing potential overlap between E/M services and procedures on a code-specific basis. In 2026, CMS re-ran the screen for high-expenditure services across specialties with Medicare allowed charges of $10 million or more and identified CPT 20550 (*injection(s); single tendon sheath, or ligament, aponeurosis*) for review. As part of the subsequent review of physician work and practice expense, the RUC specifically reduced package time to account for overlap with an E/M service that was reported more than 50% of the time with the procedure. This example demonstrates that potential duplication can be identified and addressed through the existing code-level valuation process rather than through a blanket payment reduction applied irrespective of the service or clinical circumstances.

CMS's proposal would also disproportionately affect independent physician practices and procedural specialties that routinely provide same-day evaluation and treatment. Independent orthopaedic practices provide high-quality, efficient, and cost-effective care and serve as an important competitive alternative to hospital-owned systems. Unlike large integrated health systems, independent practices have limited ability to absorb significant Medicare payment reductions, particularly after years of decreased conversion factors and other arbitrary across-the-board payment reductions like the so-called "efficiency adjustment." Continued payment instability threatens their ability to remain independent and could accelerate consolidation, leaving Medicare beneficiaries with fewer choices, longer wait times, and higher healthcare costs.

As mentioned above, AAOS is concerned that the proposal could undermine Medicare's broader transition to coordinated, value-based care. For more than a decade, orthopaedic surgeons have partnered with CMS to improve quality and lower costs through value-based care initiatives, including CJR and BPCI Advanced models. Accountable Care Organizations (ACOs), bundled payment models, and other alternative payment arrangements

depend on timely referrals, coordinated specialty care, and efficient transitions between primary and specialty providers. Policies that discourage same-day evaluation and treatment or reduce specialty practice capacity may delay access to care, increase fragmentation, and make it more difficult for participating providers to achieve quality and cost performance objectives.

Notably, CMS considered a similar proposal in the CY 2019 MPFS Proposed Rule to reduce payment for separately identifiable E/M services furnished on the same day as procedures with 0-day global periods but ultimately declined to finalize this policy. The CY 2027 proposal revives and expands that approach to procedures with 0-, 10-, and 90-day global periods. AAOS remains concerned that CMS has not provided sufficient specialty-specific evidence demonstrating that a uniform 50% reduction accurately reflects overlapping physician resources or that existing valuation and program integrity mechanisms are inadequate to address inappropriate payment where it occurs.

Accordingly, AAOS strongly urges CMS to withdraw the proposed payment reduction for separately identifiable office or outpatient E/M services furnished on the same day as procedures with 0-, 10-, or 90-day global periods. If CMS believes that payment for particular services does not accurately reflect physician work, AAOS encourages the agency to work collaboratively with physicians and utilize specialty-specific evidence and appropriate valuation processes to develop payment policies that reflect clinical reality, preserve patient access, and maintain Medicare's long-term fiscal responsibility.

E/M Visit Complexity Add-on Code (HCPCS G2211)

AAOS appreciates CMS's continued efforts to appropriately recognize the resources associated with longitudinal and complex patient care. In the CY2027 MPFS Proposed Rule, CMS proposes to convert HCPCS add-on code G2211 into a payment modifier that would increase payment for the underlying office/outpatient E/M service by 16%. CMS also proposes creating a second modifier for qualifying E/M services furnished by clinicians participating in the Medicare Shared Savings Program (MSSP) and Long-Term Enhanced ACO Design (LEAD) Model ACOs, which would increase payment for the underlying E/M service by 32%.

AAOS has previously raised concerns regarding G2211, including its applicability across physician specialties and its budget neutrality implications. As CMS considers transitioning from the existing add-on code to a percentage-based payment modifier, AAOS encourages the Agency to carefully evaluate whether the proposed methodology accurately reflects the resources associated with the services CMS intends to recognize and whether the change could result in unintended redistribution among physician specialties. In particular, we are concerned that the decision to increase payments for E/M codes by 16% was a factor of previous spending levels for G2211 rather than an evidence-based, data-driven evaluation of the resources required to arrive at an accurate valuation of the service that is described by the modifier (likewise with MOD2's 32%). CMS seems intent on reducing the values of other codes based on its perceived lack of data, yet here sets a substantial payment increase to certain E/M levels without any reference to data or the actual resources required to deliver the service.[1] The lack of resource-connected valuation for this service threatens to create large payment distortions over time as the relative distribution of E/M levels over time shift. Further, the difference in the

[1] "We established this percentage using a weighted average of the percentage increase that G2211 comprised relative to the O/O E/M code, weighted by HCPCS code G2211 utilization and adjusted to achieve budget neutrality." 91 *Fed. Reg.* 43899 (July 16, 2026).

standard for valuation that CMS illustrates here with MOD1 (where it requires precisely zero data regarding resource use or work or time) compared with other standards it articulates, for example, in its proposed reduction of the total joint arthroplasty codes this year, is quite simply unjustifiable.

AAOS urges CMS to ensure that any changes to G2211 are supported by current utilization data, appropriately targeted to the services and resources the Agency intends to recognize, and implemented in a manner that does not create unintended consequences.

Valuation of Specific Codes

AAOS has four overarching concerns with CMS's proposed valuation of the total and partial joint replacement services.

- First, a reduction in measured time does not necessarily mean a proportional reduction in physician work; where the same or more complex work is performed in less time, intensity increases.
- Second, migration from the inpatient to the outpatient setting is not evidence that the surgical procedure itself has become less complex, less intense, or requires less physician work.
- Third, CMS's proposed crosswalks emphasize time without adequately accounting for differences in clinical intensity, technical complexity, reconstruction, risk, and perioperative physician work.
- Fourth, Medicare claims data illustrates that patient complexity has remained consistent before and after these surgeries were removed from the Inpatient Procedure Only (IPO) list.

Accordingly, AAOS strongly urges CMS to pause the implementation of the CY 2027 proposed payment values for CPT Codes 23470, 23472, 27130, and 27447. We believe that maintaining the current CY 2026 values while working with physicians to develop a more stable and sustainable approach to Medicare physician payment for these services is needed before finalizing the values.

Arthroplasty – Shoulder (CPT Codes 23470 and 23472)

The RUC Relativity Assessment Workgroup (RAW) identified code 23472 in April 2025 as having a site-of-service anomaly: Medicare data from 2021-2023 indicated it was performed less than 50% of the time in the inpatient setting, yet it included inpatient hospital E/M services within the global period. Code 23470 was identified as part of this family of services. As such, these codes were surveyed for the September 2025 RUC meeting.

23470 ***(Arthroplasty, glenohumeral joint; hemiarthroplasty)***

We disagree with CMS's assertion that the increased intensity for CPT code 23470 is not warranted or that there is no significant change in performance or intensity because there is no change in the code descriptor. Code 23470 was a Harvard valued code with no detailed description of work. Although the descriptor has not changed, CMS failed to recognize that the more important factor, description of work (DOW), was updated and defined in the survey process. Hemiarthroplasty has undergone meaningful changes since 1995 (when this code was last valued), both in technique and frequency. Modern prostheses are designed with modular systems, allowing surgeons to modify humeral length, height, offset, and retroversion during the procedure. This helps better match anatomical variations, restore proper muscle balance, and adjust for bone quality, when compared with earlier less customizable systems. These changes in complexity and modularity are manifest by the typical use of digital templating performed prior to the procedure to assess several data points and parameters, including implant size and length, and for humeral head offset, size, thickness, version, and positioning.

Regarding CMS's statement that significant decreases in time should be reflected in decreases to wRVUs, a significant decrease in intra-service time does not necessarily reflect a decrease in intra-operative work. It reflects increased efficiency and intensity. The same work performed in less time results in increased intensity which is captured by the RUC process.

CMS disagrees that an increase in intensity is warranted given that the typical case is moving from an inpatient to an outpatient setting. Intra-operative intensity of a procedure has no direct relationship to the inpatient or outpatient status of the procedure. Intensity of a procedure refers to the amount of work, risk, and complexity during the actual procedure. Additionally, CMS has commented that a decrease in value is warranted because it was flagged due to a site of service anomaly with a change in post-operative visits and total time. However, code 23470 was reviewed because it is in the family with code 23472 and there was no site of service anomaly for this code. Additionally, code 23470 was Harvard valued with imputed values for post operative visits and total time. A reduction or change from these original values should not be used as baseline for a direct reduction in time and value because of the flawed methodology used to define them.

AAOS disagrees that a procedure that is "routine or elective" cannot have high intensity or value. Intensity of a procedure is not simply related to time or urgency of the procedure. It is related to complexity, technical skill, and both intra-operative and post-operative risk as well. All of these are inherent in major joint arthroplasty with risks of neurovascular injury, fracture, dislocation, infection, bleeding and wound complications, and post-operative venous embolism.

AAOS disagrees with CMS's crosswalk to CPT code 27416. While both procedures typically involve the same amount of intra-service time, similar complexity, and the same overall amount of physician work, CPT code 27416 is less intense due to lower neurovascular risk and lower risk of positioning complications. Additionally, code 27416 has 16 fewer minutes of total time than CPT code 23470.

The crosswalk to CPT code 67107 is more appropriate, as its most recent survey was in 2016, whereas CPT code 27416 was last surveyed in 2008. The intra-service time of 90 minutes and total time of 287.75 minutes better align with CPT code 23470 values of 90 minutes of intra-operative time and 303 minutes of total time. The intensity and low risk of impact on vision with CPT code 67107 align more closely with the risk of functional loss associated with neurovascular or infection complications of CPT code 23470.

To further support the relativity of the recommended work RVU, the RUC compared the surveyed code to Multi-Specialty Point of Comparison (MPC) Code 19303 *Mastectomy, simple, complete* (wRVUs= 15.00, intra-service time of 90 minutes, total time of 283 minutes) and noted that although both services typically involve the same intra-service time, the surveyed code is a more intense service to perform and typically involves more total time. AAOS believes that CPT code 19303 has consequential risk and intensity due to the potential for an adverse outcome with incomplete resection, but this risk is small for a simple mastectomy (as compared to a radical mastectomy). CPT code 23470 has higher intensity intra-operative work and risk than CPT code 19303 due to neurovascular risk, technical requirement of accurate implantation, and need for secure subscapularis repair in addition to the post-operative risk of infection with implantation of a prosthesis.

23472 (*Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))*

AAOS disagrees with CMS's assertion that an increased intensity is not warranted because there has been no change in performance or intensity due to the lack of change of the descriptor. Although the descriptor has not changed, CMS failed to recognize that the more important factor of the DOW has changed. The typical operative technique for total shoulder arthroplasty has changed since the last review 10 years ago to a "reverse total shoulder arthroplasty" (RTSA). In RTSA, the normal "ball-and-socket" structure of the shoulder is reversed; the artificial ball is attached to the shoulder blade (glenoid), and the artificial socket is attached to the upper arm bone (humerus). This is the opposite of standard anatomic shoulder arthroplasty (ATSA) and involves more modularity, surgical decision-making, and more surgical steps. RTSA allows the deltoid muscle to power the shoulder and move the arm. Patients who undergo RTSA often have more complex histories (e.g., multiple prior surgeries, chronic soft tissue deficiency, bone loss). RTSA patients present challenging postoperative rehabilitation needs, reflecting increased surgical complexity.

CMS disagrees that an increase in intensity is warranted given that the typical case is moving from an inpatient to an outpatient setting. Intra-operative intensity of a procedure has no direct relationship to the inpatient or outpatient status of the procedure. Intensity of a procedure refers to the amount of work, risk, and complexity during the actual procedure. The essential steps of approach, preparation, and reconstruction of code 23472 have not changed despite the fact that the procedure is done in less time; therefore, the intra-operative work has not decreased. This fact alone results in greater intensity of the procedure and is further supported by the increased complexity, number of steps, and procedure risks outlined above with the change in the DOW from ATSA to RTSA.

AAOS disagrees that a procedure that is "routine or elective" cannot have high intensity or value. Intensity of a procedure is not simply related to time or urgency of the procedure. Intensity is related to complexity, technical skill, and both intra-operative and post-operative risk as well. All of these are inherent in major joint arthroplasty with risks of neurovascular injury, fracture, dislocation, infection, bleeding and wound complications, and post-operative venous embolism.

AAOS disagrees with CMS's crosswalk to CPT code 67414. While both procedures typically involve the same amount of intra-service time, CPT code 23472 is moderately more intense than CPT code 67414. CPT code 67414 has a consequential risk of injury to the muscles or nerves of the orbital region. However, it involves debridement or removal of structures with *no* reconstruction. CPT code 23472 has greater intensity based on the need for approach, preparation, and, critically, extensive reconstruction using metal implants and polyethylene. It also has moderate neurovascular risk due to retraction or direct injury during approach and implantation (non-visualized drilling into the glenoid), risk of fracture (intra-operative and post-operative), risk of infection, and risk of dislocation (new complication with RTSA as opposed to ATSA).

We believe that the recommended crosswalk to CPT code 61798 (wRVU 19.85, intra-service time of 120 minutes, total time of 225 minutes) appropriately accounts for the work required to perform this procedure. The intra-operative times are the same. AAOS believes that the longer total time for code 23472 (340 minutes) is balanced by the reduced intensity compared to code 61798.

To further support the relativity of the recommended work RVU, the RUC compared the surveyed code to MPC code 23616 *Open treatment of proximal humeral (surgical or anatomical neck) fracture, includes internal fixation, when performed, includes repair of tuberosity(s), when performed; with proximal humeral prosthetic replacement* (work RVUs = 18.37, intra-service time of 120 minutes, total time of 413 minutes) and noted that although both services typically involve the same intra-service time, the surveyed code is a more intense service to perform.

Arthroplasty – Hip (CPT code 27130)

CPT code 27130 was identified by the RAW in April 2025 as having a site of service anomaly where Medicare data from 2021-2023 indicated it was performed less than 50% of the time in the inpatient setting yet included inpatient hospital E/M services within the global period. As such, this code was surveyed for the September 2025 RUC meeting.

27130 (Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft)

AAOS disagrees that there is no significant change in performance or intensity because the code descriptor for CPT code 27130 has remained unchanged. Regarding CMS's statement that significant decreases in time should be reflected in decreases to wRVUs, a significant decrease in intra-operative time does not necessarily reflect a decrease in intra-operative work. It reflects increased efficiency and intensity. The same work performed in less time is captured by the RUC process and accounts for increased intensity. Furthermore, the reduction in intra-operative time is 10% while CMS has proposed a 23% reduction in value.

CMS disagrees that an increase in intensity is warranted given that the typical case is moving from an inpatient to an outpatient setting. AAOS believes the intensity does not decrease merely because a case moves from inpatient to outpatient. Intra-operative intensity of a procedure has no direct relationship to the inpatient or outpatient status of the procedure. Intensity of a procedure refers to the amount of work, risk, and complexity during the actual procedure. The essential steps of approach, preparation, and reconstruction of code 27130 have not changed despite the fact that the procedure is done in less time; therefore, the intra-operative work has not decreased.

AAOS disagrees that a procedure that is "routine or elective" cannot have high intensity or value. Intensity of a procedure is not simply related to time or urgency of the procedure. It is related to complexity, technical skill, and both intra-operative and post-operative risk as well. All of these are inherent in major joint arthroplasty with risks of neurovascular injury, fracture, dislocation, infection, bleeding and wound complications, and post-operative venous embolism.

AAOS disagrees with CMS's crosswalk to CPT code 43774. Although both codes have similar total and intra-operative times, CPT code 27130 has greater intensity than code 43774 based on the need for approach, preparation, and, critically, extensive reconstruction using metal implants and polyethylene. It also has moderately more neurovascular risk due to retraction or direct injury during approach and implantation (non-visualized drilling into the acetabulum); risk of fracture (intra-operative and post-operative), risk of infection, and risk of dislocation.

AAOS believes the crosswalk to CPT code 67108 is more appropriate as both procedures typically involve the same amount of intra-service time, similar complexity, and the same amount of overall physician work.

Arthroplasty – Knee (CPT Code 27447)
27447 (*Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)*)

AAOS disagrees that there is no significant change in performance or intensity because the code descriptor for CPT code 27447 has remained unchanged. Regarding CMS's statement that significant decreases in time should be reflected in decreases to wRVUs. A significant decrease in intra-time does not necessarily reflect a decrease in intra-operative work. It is a reflection of increased efficiency and intensity. The same work performed in less time is captured by the RUC process and accounts for increased intensity. Furthermore, the reduction in intra-operative time is 7% while CMS has proposed a 19% reduction in value.

CMS disagrees that an increase in intensity is warranted given the typical case is moving from an inpatient to an outpatient setting. Intra-operative intensity of a procedure has no direct relationship to the inpatient or outpatient status of the procedure. Intensity of a procedure refers to the amount of work, risk, and complexity during the actual procedure. The essential steps of approach, preparation, and reconstruction of code 27447 have not changed despite the fact that the procedure is done in less time; therefore, the intra-operative work has not decreased.

AAOS disagrees that a procedure that is "routine or elective" cannot have high intensity or value. Intensity of a procedure is not simply related to time or urgency of the procedure. It is related to complexity, technical skill, and both intra-operative and post-operative risk as well. All of these are inherent in major joint arthroplasty with risks of neurovascular injury, fracture, dislocation, infection, bleeding and wound complications, and post-operative venous embolism.

AAOS disagrees with CMS's crosswalk to CPT code 65730. Although both codes have similar intra-operative and total times, CPT code 27447 is moderately more intense than CPT code 65730. CPT code 65730 has a mild risk of graft rejection. It is performed in a patient with already compromised vision and does not have neurovascular risk, whereas CPT code 27447 has greater intensity based on the need for approach, preparation, and, critically, extensive reconstruction using metal implants and polyethylene. It also has moderate neurovascular risk due to retraction or direct injury during approach and implantation, risk of fracture (intra-operative and post-operative), risk of infection, and risk of dislocation. Furthermore, code 27447 requires much more physical work as it is performed standing and involves significant soft tissue manipulation and limb support.

AAOS believes the RUC-recommended crosswalk to CPT code 67108 is more appropriate, as both procedures typically involve the same amount of intra-service time, similar complexity, and the same amount of overall physician work.

All of the aforementioned proposed changes to arthroplasty code valuations involve a striking departure from prior valuation approaches and would have significant economic impacts. The evidentiary base for such drastic change is required to be strong. As discussed above, CMS assumptions about intensity change, the failure to carefully consider the distinction between intra-operative time and work, and the crosswalking of work valuations to essentially non-comparable codes does not meet this standard. Furthermore, patient complexity has not declined despite the migration from the inpatient to outpatient setting.

Medicare Claims Data Reveals Patient Complexity Remained Consistent Despite Move to Outpatient Setting

Using Medicare claims data, ADVI Health LLC (ADVI) conducted a longitudinal study of the complexity of Medicare beneficiaries receiving major joint procedures, including before and after these codes were removed from the Inpatient Only List (IPO). Their findings demonstrate that the migration of these surgeries from the inpatient to the outpatient or ambulatory surgery center (ASC) setting did not coincide with a reduction in patient complexity. Detailed analysis findings and methodologies are included in Appendix B.

Specifically, as the typical patient has gotten less complex, we would expect the use of Modifier 22 to increase proportionally, because more cases would exceed the typical threshold. ADVI's analysis of Medicare FFS claims data did not show a significant increase in the use of modifier 22. Instead, a small proportion of claims are using the modifier (2%). In addition, the difference in the Charlson Comorbidity Index (CCI) between the patients with and without Modifier 22 claims has remained the same across the prior three-year period. This consistency indicates that there has not been a shift of the more severe patients to Modifier 22, lowering the non-Modifier 22 CCIs.

ADVI analyzed the CCI of patients receiving arthroplasty services pre- and post-removal from the IPO. They found that the CCI has remained consistent across patient cohorts, signaling that patient severity and complexity has not changed despite the site of service shift from inpatient to outpatient. Taken together, these findings support the conclusion that the outpatient migration of major joint replacement procedures has not resulted in a less complex patient mix and that current valuation benchmarks continue to reflect appropriate levels of physician work.

Again, AAOS strongly urges CMS to pause the implementation of CMS's CY 2027 proposed payment values. The methodology by which these values were determined is flawed.

Post-Operative Discharge Reporting

CMS's proposed values also rely on assumptions about postoperative work that no longer reflect contemporary coding or clinical practice. In particular, policies developed in 2007 and 2011 to account for same-day discharge and outpatient hospital care predate both the substantial migration of arthroplasty to outpatient settings and the 2023 restructuring of hospital E/M codes.

For example, in 2007, a policy assigned 0.5 X CPT 99238 as a proxy for reduced postoperative discharge work when patients were discharged the same day as the procedure. The reasoning was that full next-day discharge activities, such as reviewing interval chart notes and reexamination of the patient to determine eligibility for discharge, would not be necessary in these cases. In subsequent RUC meetings, certain codes were identified as

same-day discharge services, and the associated discharge day management designation was accordingly set at 0.5 × CPT 99238.

Conversely, when a patient remained in the hospital overnight and was discharged the following day, the RUC determined that the discharge work was comparable to that for a medical patient observed overnight and discharged the next day. For such cases, the RUC recommended reporting a full discharge service (i.e., 1 × CPT 99238 or CPT 99239). Additionally, if survey data showed that a separate E/M hospital visit occurred later, on the same day of surgery, the RUC supported reporting a hospital visit at the level supported by the survey results and accompanying specialty rationale.

In 2011, CMS revised the policy: the 0.5 × CPT 99238 proxy for same-day discharge was expanded to any discharge day for services performed under an outpatient status. This represented a notable departure from prior practice, as physicians discharging a nonsurgical patient after an overnight outpatient stay did not report 0.5 × CPT 99238 but instead reported a full discharge service.

In 2011, CMS also finalized a policy prohibiting the inclusion of inpatient E/M CPT codes (99231–99233) in the valuation of procedures that are typically performed as outpatient services, including those with an overnight stay. CMS reasoned that the work value for outpatient codes should not reflect activities generally associated with inpatient care, since patient acuity differs between the two settings.

However, CMS acknowledged that when a patient remains in the hospital overnight, it is reasonable for the physician who performed the procedure to continue postoperative care during that period. While CMS did not believe such visits would usually rise to the full inpatient E/M level, given that most outpatient cases are ready for discharge the next day, CMS agreed to allow the intra-service time of an inpatient hospital visit to be included in the valuation of an overnight outpatient stay code, but only at the reduced intensity level established in 1992 for immediate postoperative work (i.e., 0.0224). This low intensity was actually the intensity assigned to E/M visits in 1992. Over the years, the E/M visit work RVUs and intensity have increased significantly, but the intensity assigned to immediate post-service has remained at 0.0224. For example, 20 minutes of intra-service time for CPT code 99232 would translate to 0.45 work RVUs within the total physician work value for the outpatient service. This is a significant reduction from the actual work RVUs of 1.59 for CPT code 99232.

This approach represents a significant difference from reporting requirements for nonsurgical patients kept overnight for observation, as those cases require reporting a full hospital visit, not a discounted one.

A key concern is that this policy was implemented in 2011, at a time when the hospital E/M codes were explicitly labeled “inpatient” and CMS was reviewing a policy about "inpatient" vs "outpatient" status and the "two-midnight rule" that was not formalized until 2017.

When the hospital E/M codes were revised in 2023 to describe “inpatient OR observation” services because the physician work was determined to be identical based on medical-decision-making reporting instructions, the policy to remove hospital inpatient E/M codes from global code work/time was not updated.

CPT codes 99231–99233 are no longer exclusive to inpatient care and are now also reported in the outpatient setting and even in some instances for non-facility settings. Therefore, the current policy discounting them during a global period is no longer valid or supported by statute.

A hospital visit conducted later, on the day of surgery, should be fully recognized in the valuation of all global codes. This separate and distinct encounter involves the full spectrum of hospital inpatient clinical responsibilities: comprehensive review of interval records, detailed patient examination, revised and new orders, documentation of clinical progress, and coordination of care. It is a substantive medical assessment, not a cursory "check-in." Likewise, the 99238 or 99239 discharge management service performed on the day following surgery should be fully valued to reflect the comprehensive medical decision-making and care coordination involved in preparing a patient for safe transition out of the hospital. CMS should review and rescind a policy that was established prior to the coding revisions for hospital E/M services that no longer apply.

Approximately 10% of the total time lost for all 4 arthroplasty codes has resulted from changes in attribution of time from the inpatient hospital day visit on the day of surgery and the post-operative discharge visit. Codes 23470 and 23472 total times were reduced by 34 minutes and codes 27130 and 27447 total times were reduced by 39 minutes. This loss of time is due to the changes in methodology outlined above, rather than a change in the physician survey outcome from the RUC process. These changes artificially increase the metric of the change in total time used by CMS to justify reduction in work value.

Additionally, the shift toward value-based alternative payment models has driven significant redesign in the care of arthroplasty patients, producing shorter hospital stays, decreased reliance on post-acute care facilities, reduced hospital readmissions, and lower overall costs.

The valuation of CPT codes should capture the complete scope of physician work performed, rather than relying on outdated proxies or reduced service assumptions established nearly two decades ago that were meant to account for same-day discharges.

Pre- and Post-Operative Care in the Outpatient Setting

Advances in surgical technique, anesthesia, implants, pain management, pre-operative planning, and recovery protocols have allowed most patients to receive their joint arthroplasty procedures in the outpatient setting. However, the physician work associated with these procedures did not disappear when the inpatient hospital stay disappeared. Instead, some of that work shifted to surgeons and their teams through more sophisticated patient selection, pre-operative optimization, care coordination, and post-operative monitoring.

For hip and knee replacement, surgeons are still performing the same fundamental reconstruction. What has improved is the care surrounding the procedure. For example, when these codes were last reviewed in 2019-2020, CMS recognized that preoptimization activities warranted further consideration and sought input on how that work should be captured, but it did not incorporate additional preoptimization time into the surgical times or work RVUs. Preoptimization work includes physician review and analysis of imaging data to select and plan the surgical approach (e.g., anterior, or lateral hip arthroplasty) and to measure and select among prosthetic options, including off the shelf and custom implants. It also includes medication management (e.g., a strict timeline for stopping blood thinners, anti-inflammatory drugs (NSAIDs), or specific supplements to reduce

bleeding risks during surgery) and post-operative pain management with consideration of regional nerve blocks to control pain and avoid opioids while allowing same-day discharge. During this review cycle, the RUC and CMS did not separately account for this preoptimization work in the proposed values.

Additionally, with the shift of these procedures to the outpatient setting, orthopaedic surgeons and their staff are assuming greater responsibility for coordinating and managing patients' post-operative recovery outside the hospital setting. Orthopaedic offices have been, and will continue to do this important work, but the proposed values do not adequately account for the physician and clinical staff resources required to provide it.

A shorter operative time does not, in itself, demonstrate that less physician work is being performed. The same complex reconstruction may be performed more efficiently while requiring the same—or greater—intensity, skill, and judgment. When considered together with the increased pre-operative and post-operative responsibilities described above, reduced operative time should not be treated as evidence, standing alone, that the overall physician work associated with these services has declined.

Osteotomy – Spine (CPT Codes 22210, 22212, 22214, 22216)

CPT codes 22210-22216 were nominated as potentially misvalued services for CY 2025 rulemaking. These codes were reviewed at the September 2025 CPT Editorial Panel Meeting, where guidelines were revised to clarify that the codes include complete resection of the interspinous ligament and the entirety of the ligamentum flavum (i.e., laminar and subarticular) to allow deformity correction through spine column realignment.

AAOS appreciates CMS's acceptance of the RUC-recommended wRVUs and PE inputs for CPT code 22216. However, CMS did not agree with the recommendations for CPT codes 22210, 22212, and 22214 stating that it is not their belief that "the decrease in time as reflected in survey values should always equate to a one-to-one or linear decrease in newly valued work RVUs" but "since the two components of work are time and intensity, absent any obvious or explicitly stated rationale why the relative intensity of a given procedure has increased, significant decreases in time should be reflected in decreases to work RVUs although not necessarily in a linear manner."

AAOS disagrees with this assertion made by CMS. A significant decrease in intra-operative time does not necessarily reflect a decrease in intra-operative work. It reflects increased efficiency and intensity. The same work performed in less time is captured by the RUC process and accounts for increased intensity.

The RUC recommended reference codes reflect a higher intensity/complexity associated with CPT codes 22210, 22212, and 22214. **AAOS urges CMS to accept the RUC recommended work RVUs for CPT codes 22210, 22212, and 22214, preserving the relativity within this family.**

Potentially Misvalued Services

Carpal tunnel release procedure (CPT Code 64728)

CPT code 64728 (*Decompression; median nerve at the carpal tunnel, percutaneous, with intracarpal tunnel balloon dilation, including ultrasound guidance*) has been nominated as potentially misvalued with the nominator stating that the code is misvalued valued due to: 1) the anomalous relationship between the

valuation for CPT code 64728 and other CPT codes for carpal tunnel release procedures; 2) incorrect assumptions made based on the previous valuation of the service (including a misleading survey and flawed crosswalk assumptions); and 3) increased valuations are supported by analysis of wRVUs from reliable data sources.

AAOS concurs with the agency's proposal to make no change to the work value of CPT code 64728 (*Decompression; median nerve at the carpal tunnel, percutaneous, with intracarpal tunnel balloon dilation, including ultrasound guidance*), and does not support the nominator's requested increase. The comparison offered in support of an increase fails on its own terms. Each of the referenced carpal tunnel release comparators is a 90-day global service whose work value incorporates post-operative care that CPT code 64728 does not carry; the comparison is, therefore, not like-for-like and overstates the apparent discrepancy. Further, the intensity of work per unit of time for CPT code 64728 already exceeds that of the codes cited as evidence that it is undervalued. AAOS believes no action is needed to change the value of CPT code 64728.

CPT Codes Nominated for Revaluation of Physician Work Time Based on Empiric Data
(CPT Codes** 15734, 19318, 19380, **23472**, **27130**, **27447**, 37227, 37229, 43281, 43644, 47120, 88305, 88307**)
A nominator has provided evidence that current physician work times values in the MPFS do not accurately reflect real-world clinical practice for 13 CPT codes across five code families. Their methodology focused on codes involving large discrepancies between empirically derived intraservice estimates and intraservice time assigned in the PFS. In the musculoskeletal system, the nominator identified specific procedures with extended services.

For CPT codes 23472 *(Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))*, 27130 *(Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft)*, and 27447 *(Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty))*, there were 12, 10, and 26 Provider Days, respectively, that exceeded the 8-hour intraservice thresholds. These instances resulted in average total service times of 19, 19, and 21 hours, respectively. The NSQIP RAND Study found that 97 musculoskeletal codes had intraservice times that were likely too long, while 14 had intraservice times that were likely too short.

CMS has welcomed comments regarding any potential actions for CY 2027, future rulemaking, and whether they should consider making corresponding changes to the wRVUs for these services or if changes to physician time would be sufficient.

With respect to the musculoskeletal codes identified by the nominator (codes 23472, 27130, 27447), AAOS believes no action for CY 2027 or future making is necessary given that these codes were just reviewed/resurveyed for the September 2025 RUC meeting and given new, inappropriately low values in the CY2027 MPFS proposed rule.

AAOS
American Association of Orthopaedic Surgeons

Request For Reassessment of Assigned RVUs for "Harvard Valued" Codes
(CPT Codes 24515, 22216, 64721, 29848, 29824, 20610, *and* ***26080)***

CMS received notification from interested parties regarding "Harvard-valued" codes from 1992 that have not undergone a reassessment of assigned RVUs for over 20 years in some cases. CMS shares these concerns and whether the current values for these CPT codes accurately reflect the resource inputs associated with furnishing the services. CMS is proposing the following CPT codes as potentially misvalued, requesting that the RUC and other interested parties review these services.

- 24515 *(Open treatment of humeral shaft fracture with plate/screws, with or without cerclage)*
- 22216 *(Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; each additional vertebral segment (List separately in addition to primary procedure))*
- 22210 *(Osteotomy of spine, posterior or posterolateral approach, 1 vertebral segment; cervical)*
- 64721 *(Neuroplasty and/or transposition; median nerve at carpal tunnel)*
- 29848 *(Endoscopy, wrist, surgical, with release of transverse carpal ligament)*
- 29824 *(Arthroscopy, shoulder, surgical; distal claviculectomy including distal articular surface (Mumford procedure))*
- 20610 *(Arthrocentesis, aspiration and/or injection, major joint or bursa (eg, shoulder, hip, knee, subacromial bursa); without ultrasound guidance)*
- 20680 *(Removal of implant; deep (eg, buried wire, pin, screw, metal band, nail, rod or plate))*

AAOS would like to note that spine osteotomy codes (codes 22210, 22216) were just reviewed/resurveyed for the January 2026 RUC meeting. CPT code 64721 was surveyed in 2005 for the third 5-year review, and CMS changed the value in 2007. CPT code 29848 was surveyed in 1995 for the first 5-year review, and CMS changed the value in 1997. CPT code 29824 was created in 2002, a decade after Harvard valued codes were implemented in 1992. Regarding CPT code 20610, this code was resurveyed in 2010 as part of the potentially misvalued through the Harvard Valued Utilization over 100K screen. CPT code 20680 was reviewed in 2005 for the third 5-year review, and CMS changed the value in 2007. The nominators' claims that these are Harvard valued codes that have not undergone reassessment of assigned RVUs is not true in these cases.

Current Procedural Terminology (CPT) Request for Information (RFI)

CMS noted longstanding concern regarding the American Medical Association (AMA) Current Procedural Terminology (CPT) and RUC processes, seeking comment regarding the influence of these AMA processes on physician payment policy.

CPT and RUC are processes that rely on CMS criteria and standards as well as the clinical expertise of hundreds of physicians and healthcare professionals via multi-disciplinary reviews. Both CPT and RUC hold open meetings, attended by an estimated 400 individuals, representing physicians, health care professionals, staff from national medical specialty societies as well as outside observers. Representatives from CMS observe every meeting, participating in discussion and providing commentary when necessary. Furthermore, recommendations from CPT and RUC meetings are made publicly available on their respective websites.

HIPAA requires that CMS establish a national coding standard in order to ensure that claims submission platforms are able to communicate efficiently and avoid the increased administrative burden that would come with practices and billing platforms attempting to navigate a free market of coding systems. We believe that

CMS must ensure that it clearly delineates the difference between the issue of nomenclature and valuation and ensures valuation of codes is in keeping with the evolving and shifting practice of modern medicine. CPT occupies a unique role in establishing nomenclature for description of physician services that has been selected as that national coding standard. But for valuation purposes where CPT is not involved, AAOS would emphasize that the RUC does not assign payments. The RUC sends recommendations (as any stakeholder with First Amendment rights can) to CMS, which then finalizes payment determinations. These recommendations are made publicly available via the CMS proposed rule process.

AAOS believes that code valuations should be transparent, structured processes involving rigorous clinical review by physician experts and the healthcare community.

Global Surgical Packages

E/M Values. AAOS continues to oppose CMS's failure to incorporate the RUC-recommended incremental work and time increases for the inpatient hospital and observation care visit codes (99231-99233, 99238, 99239) and the office/outpatient E/M CPT codes (99202-99215) into all the global surgical codes. The failure to incorporate the revised E/M valuations in all the surgical global periods results in different reimbursement amounts for the same procedure for different specialties, which violates statue. According to Social Security Act, Section 1395w-4: *The Secretary may not vary the conversion factor or the number of relative value units for a physician's service based on whether the physician furnishing the service is specialist or based on the type of specialty of the physician.* **Again, we strongly urge CMS to apply the RUC-recommended changes to the E/M component of the global codes to maintain the relativity of the MPFS.** CMS's failure to do this has made the files on which it relies on for its "time" and "work RVU" approaches to re-assessing the "procedure shares" of the global surgical package fraught with inconsistencies and a poor source of information to utilize for this purpose.

CPT code 99024 Data Collection. CMS proposes to conclude the requirement that physicians in certain States report CPT 99024 when delivering post-operative care for certain global period procedures. **AAOS encourages CMS to finalize the withdrawal of the CPT code 99024 reporting requirement given the inaccuracy of the data obtained through this initiative and the administrative burden associated with providing it.** CMS implemented the CPT code 99024 requirement as part of the Congressional directive in the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) to collect data on the number and level of post-operative visits associated with global surgical periods. Given that CPT code 99024 is a no-pay code, the effort has been plagued with confusion about when to submit the code, with many claims processing systems rejecting the code because there is no payment associated with it. Given these implementation and data integrity issues, AAOS supports the proposal to eliminate the CPT code 99024 reporting requirement in its entirety.

CMS "Purely Arithmetic" 10- and 90-Day Global Surgical Package File. As CMS seeks to improve the accuracy of global surgical packages, it posted a file " . . . to display the imputed RVUs associated with both the 10- and 90-day post-operative visits based on a purely arithmetic approach to understand the valuation of the services based on the data that was analyzed" and sought comment. AAOS is committed to working with CMS to improve the valuation of all services, including 10- and 90-day global codes. However, the file CMS posted is inherently flawed and unusable. AAOS does not understand why CMS would post a file where it has recalculated potential work RVUs for services with observed CPT code 99024 reporting given that, in its audit of CMS' CPT

code 99024 data collection initiative, the U.S. Department of Health and Human Service Office of Inspector General (HHS OIG) stated, "Post-operative visit data CMS gathered for 45 of 105 sampled global surgeries were inaccurate and cannot assist in improving global surgery valuation as Congress intended."[2]

Medicare Telehealth Services

AAOS appreciates CMS's continued efforts to support access to telehealth services for Medicare beneficiaries. In the CY 2027 MPFS Proposed Rule, CMS proposes several changes to Medicare telehealth policies, including adding five new HCPCS G-codes to the Medicare Telehealth Services List, establishing informational modifiers meant to capture data on how telehealth is being delivered, updating descriptors for telehealth critical care consultation services, modifying teaching physician virtual presence requirements, and increasing the telehealth originating site facility fee to $32.65 for CY 2027.

AAOS has consistently supported policies that expand access to telehealth services. We have previously advocated for payment parity between in-person and telehealth visits, removal of location and geographic-site restrictions, continued access to audio-only services, and an increase in the number of telehealth services covered by Medicare. These flexibilities are particularly important for orthopaedic patients, especially those with mobility challenges and those in rural communities with limited transportation options, that can make accessing in-person care difficult. In-person visits can also create significant burdens on family caregivers when patients depend on them for transportation. Lost time and productivity has a negative effect on the overall workforce.

AAOS supports CMS's continued expansion of the Medicare Telehealth Services List and appreciates the addition of five HCPCS G-codes for CY 2027. More broadly, AAOS continues to support policies that preserve patient access to telehealth and provide physicians with appropriate flexibility to deliver telehealth services when clinically appropriate.

Remote Patient Monitoring and Remote Therapeutic Monitoring Codes

CMS first established separate payment for remote monitoring services in CY 2018. In the CY 2019 PFS final rule, CMS expanded payment for remote physiologic monitoring (RPM) through additional CPT codes, and in CY 2022 established payment for remote therapeutic monitoring (RTM) services. Since then, CMS has continued to refine and expand the RPM and RTM code families. Since 2021, CMS has required that RPM services be furnished only to established patients.

For CY 2027, CMS proposes several significant changes to its payment policies for RPM and RTM services. First, CMS raises concerns regarding the valuation of these services. As a result, CMS proposes to decrease the PE RVUs and eliminate direct PE costs for the treatment management codes. These changes will result in significant payment reductions in RPM and RTM services in 2027. CMS also seeks comment on whether to bundle the existing 17 RPM and RTM CPT codes into four new HCPCS G-codes. CMS believes this alternative structure would help address program integrity concerns that may not be fully addressed within the existing RPM and RTM coding framework.

[2] HHS OIG, *CMS Should Improve Its Methodology for Collecting Medicare Postoperative Visit Data on Global Surgeries* (June 2024); https://oig.hhs.gov/documents/audit/10428/A-05-20-00021.pdf (accessed August 25, 2026).

In addition to these valuation and coding changes, CMS proposes new requirements intended to address program integrity concerns identified through recent HHS Office of Inspector General (OIG) findings. Specifically, CMS proposes to require practitioners reporting RPM or RTM services to furnish a separately reportable initiating visit to establish the RPM or RTM services. CMS also proposes to require RTM services be furnished only to established patients, consistent with the existing requirement for RPM services. Finally, CMS proposes to limit payment for RPM and RTM to services that are furnished by clinical staff directly employed by the billing practitioner or practice. If finalized, this policy would effectively prohibit practices from contracting with third-party vendors to furnish remote monitoring services.

While AAOS appreciates CMS's efforts to ensure remote monitoring services are appropriately valued and delivered, we have significant concerns that the scope and cumulative effect of these proposals could significantly disrupt existing remote monitoring programs, increase administrative burden for physicians, and reduce beneficiary access to clinically appropriate services.

AAOS strongly requests that CMS pause changes to the valuation of the RPM and RTM codes and not establish new G-codes until the AMA RUC re-examines the RPM and RTM codes in January 2027. AAOS also cautions CMS from finalizing the other proposed changes to remote monitoring, which could significantly reduce patient access to care and increase burden on practitioners. In particular, the proposed initiating visit requirement and restrictions on use of contracted clinical staff could disrupt established care models and disproportionately affect small and independent practices that may lack the resources to operate remote monitoring programs entirely in-house. Rather than adopting these broad restrictions, AAOS urges CMS to work with physicians and other stakeholders to identify more targeted approaches to strengthening program integrity while preserving flexibility and access to clinically appropriate remote monitoring services.

Proposal to Update Timeline for Full Merit-based Incentive Payment System (MIPS) Value Pathways (MVP) Implementation

CMS proposes to sunset the Traditional MIPS reporting pathway after the CY 2028 performance period. If finalized, beginning in the CY 2029 performance period, MVPs would be the only reporting option for MIPS eligible clinicians who are not in a MIPS alternative payment model (APM).

Given the ongoing gaps in the applicability of MVPs to specialists and subspecialists, AAOS opposes mandatory MVP participation. It is critical that CMS maintains the traditional MIPS framework, allowing clinicians whose patient populations do not align neatly with an MVP to continue selecting measures, improvement activities, and participation strategies that are most relevant and feasible for their specific practices. Developing broad MVPs to fill these gaps is not a practical solution, as it would deny specialists access to numerous specialized and meaningful measures that have yet to be incorporated into an MVP. Additionally, MVPs do not address many underlying challenges associated with MIPS, including siloed performance categories, the lack of incentives for developing and using more specialized and robust measures (e.g., patient-reported outcome measures (PROMs), and the ongoing misalignment between MIPS cost and quality measures.

While we understand and support CMS's goal of creating a meaningful quality reporting system that allows patients to select the best quality providers and make informed decisions, we must caution against the proposed implementation of core measures in the MVP program. We urge CMS to consider improving the robustness of the measures available within the specialty-tailored MVPs. Though crosscutting measures sound appealing as one solution to limiting the burden of measure inventory, the use of these measures with broad applicability means that physicians will spend valuable time collecting information not relevant to the specialized care they provide, and patients will have an insufficient amount of substantive data on which to base their decisions. Instead, if CMS chooses to continue with the shift to MVPs, the agency should look to expand the number of MVPs that are relevant to specialists and subspecialists and use meaningful measures to generate the volume of quality data necessary for improvement and decision-making.

From the physician perspective, the measures that are reported should be highly relevant to the specialty and the MVP should be based on these tailored measures as opposed to creating MVPs by piecing together irrelevant measures from across medicine. For example, AAOS supports the Improving Care for Lower Extremity Joint Repair MVP as a highly tailored, meaningful option for orthopaedic surgeons subspecializing in hip and knee surgery. In contrast, we do not feel the Surgical Care MVP is properly designed to meet the needs of orthopaedic surgeons subspecializing in spine surgery. Orthopaedic surgeons subspecializing in shoulder, elbow, hand, foot and ankle care also currently lack an appropriately tailored MVP. A more robust measure set would improve the overall experience for physicians and reduce burden by creating more relevant and meaningful reporting choices at the specialty and subspecialty levels.

Particularly as it relates to the Surgical Care MVP, we are concerned that the set of measures proposed are substantively limited for the majority of orthopaedic surgeons, with the Back Pain After Lumbar Surgery (Q459) PROM primarily relevant for spine surgeons. The remaining measures that are not specific to another specialty are primarily reported by care team members other than the operating surgeon, which leaves limited opportunities for participation. It is with this in mind that we request CMS consider expanding the measure set to ensure there are viable options for orthopaedic surgeons reporting this MVP.

AAOS urges CMS to reconsider and broaden the scope of the MVP we previously submitted, initially focused on "Improving Rotator Cuff Repair Outcomes." While CMS determined that the original rotator cuff MVP was not feasible due to its narrow focus, we propose expanding this concept into a more comprehensive MVP titled "Improving Care for Upper Extremity Joint Repair." This broader MVP would not only encompass rotator cuff repairs but also include other critical procedures involving the shoulder, elbow, and wrist. By expanding the MVP's scope, we can ensure that it addresses a wider range of clinician and patient needs, thereby aligning more closely with CMS's goal of creating MVPs with broader applicability. This expanded MVP could incorporate a mix of Qualified Clinical Data Registry (QCDR) measures and Clinical Quality Measures (CQMs) to facilitate comprehensive data collection and quality improvement efforts. By enhancing data collection, including PROMs, this MVP would ultimately support better analysis and outcome improvement plans across a broader spectrum of upper extremity joint repairs.

Fast Healthcare Interoperability Resources (FHIR) Timeline Request for Information

We request at minimum a two-year transition period after CMS finalizes the technical specifications and provides a fully functional testing environment for the core measures. During that period, QCDRs should be

permitted to continue using existing submission methods while they develop, test, and validate FHIR-based reporting. Ideally, the first year would be voluntary or considered a testing year without penalties, followed by a second year of parallel reporting before FHIR becomes mandatory. This would give QCDRs, electronic health record (EHR) vendors, and participating practices sufficient time to address interoperability issues and verify data completeness and accuracy without disrupting reporting.

Orthopaedic Patient-Reported Outcome Measures (PROMs)

AAOS requests that CMS maintain consistent PROMs requirements across their respective quality reporting programs and APMs. We ask CMS to ensure that any future expansion of the Improving Care for Lower Extremity Joint Repair MVP recognizes commonly used orthopaedic instruments, including Hip Disability and Osteoarthritis Outcome Score for Joint Replacement (HOOS, JR), Knee injury and Osteoarthritis Outcome Score for Joint Replacement (KOOS, JR), and relevant spine and upper-extremity tools. Requiring different instruments across MIPS, MVPs, the Hospital Inpatient Quality Reporting (IQR) Program, Transforming Episode Accountability Model (TEAM), and Comprehensive Care for Joint Replacement Expanded (CJR-X) would create unnecessary EHR and reporting burdens.

Ambulatory Specialty Model (ASM)

AAOS continues to believe the ASM, as designed for orthopaedic surgeons treating low back pain, is deeply flawed and, therefore, we cannot support its implementation as proposed. Our concerns are wide-ranging, from problems with the attribution and scoring methodologies to an inability to the model's limited ability to meaningful improvements in care systems. While we wholeheartedly support CMS's broader strategy of creating specialist-led models to advance high-value musculoskeletal care, starting with ASM will be both unsuccessful in achieving CMS's goals and will likely undermine future attempts to push these important goals forward.

From a practical standpoint, we have significant concern regarding the feasibility of implementing this model on January 1, 2027. CMS has not yet released the final participant list and limited education about the model has hindered the ability for surgeons to understand their role as mandatory participants in ASM. **For these reasons, we urge CMS to delay the implementation of ASM for at least one year.** This will allow additional time for CMS to conduct meaningful participant outreach and ensure participants fully understand the model and its requirements, including changes CMS is currently proposing and will not be finalized until 60 days before the model is scheduled to start.

Addition of the MRI Lumbar Spine for Low Back Pain

AAOS appreciates that CMS is proposing to expand the performance period and extend the lookback period for this measure. However, we remain concerned with the proposal to offer a multiple-participant attribution process that assigns the MRI to all physicians who provided qualifying services to the patient. Instead, we support the alternative single-participant attribution method, which would assign each MRI to the physician with the highest number of qualifying encounters during the lookback period.

Introduction of the Functional Outcome Assessment (MIPS Q182) Measure

CMS proposes adding the Functional Outcome Assessment (MIPS Q182) to ASM as a replacement for the Functional Status Change for Patients with Low Back Impairments (MIPS Q220) measure. We appreciate that CMS highlights the Modified Oswestry Disability Index and the Patient-Reported Outcomes Measure Information

System (PROMIS) as tools relevant for the ASM low back pain cohort. Both tools are supported by AAOS as preferred PROMs. As CMS continues to add PROMs for the ASM low back pain cohort, we encourage the use of measures relevant to and validated by orthopaedic surgeons. Likewise, we support the voluntary reporting of this data and scoring incentives.

Rural Scoring Adjustment
AAOS appreciates that CMS recognizes the outsized burden that the introduction of ASM will have on rural practices. We believe that the 5-point addition to the final score of ASM participants in rural areas is a step in the right direction. We also appreciate that this will be available to rural practices that remain eligible for the ASM small practice or solo practitioner scoring adjustment and the complex patient scoring adjustment, should they also meet the applicable eligibility criteria.

Advancing Musculoskeletal Care Beyond ASM
AAOS has developed a proposal that establishes a framework for collaboration between primary care providers and musculoskeletal multi-specialist teams that we believe will help support more comprehensive musculoskeletal care earlier in patients' disease or condition progression by including bundle triggers that occur prior to the need for surgical interventions. We believe our proposal aligns with CMS's principles of improving outcomes, decreasing costs, and empowering patients and physicians to collaborate for better health. This model envisions a healthcare system that is proactive, patient- centered, and driven by evidence-based best practices. It emphasizes prevention, effective care through delivery of high-value services, and aligning incentives to optimize outcomes and control costs. Unlike ASM, AAOS' proposal will engage all necessary medical professionals to manage chronic musculoskeletal conditions and evaluate them using quality and cost metrics that reflect their expertise and effectiveness in providing this care. AAOS would welcome the opportunity to partner with CMS to develop a specialty-care focused model that allows for surgeon-led, condition-based bundled payments for comprehensive musculoskeletal care.

Thank you for your attention to our comments. We appreciate your consideration of our feedback regarding CMS-1848-P. Should you have any questions or if the AAOS can further serve as a resource to you, please contact Lori Shoaf, JD, MA, Vice President, AAOS Office of Government Relations at shoaf@aaos.org.

Sincerely,

Wilford K. Gibson, MD, FAAOS
AAOS President

cc: Michael L. Parks, MD, FAAOS, AAOS First Vice President
Elizabeth G. Matzkin, MD, FAAOS, AAOS Second Vice President

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Joel L. Mayerson, MD, FAAOS, AAOS Advocacy Council Chair
Thomas E. Arend, Jr., Esq., CAE, AAOS Chief Executive Officer
Nathan Glusenkamp, MBA, MA, AAOS Chief Quality and Registries Officer

This letter has received sign-on from the following orthopaedic societies:

American Association of Hip and Knee Surgeons
American Orthopaedic Foot & Ankle Society
American Orthopaedic Society for Sports Medicine
American Shoulder and Elbow Surgeons
American Society for Surgery of the Hand Professional Organization
Arthroscopy Association of North America
Musculoskeletal Tumor Society
Orthopaedic Trauma Association

Alabama Orthopaedic Society
Arkansas Orthopaedic Society
California Orthopaedic Association
Colorado Orthopaedic Society
Connecticut Orthopaedic Society
Delaware Society of Orthopaedic Surgeons
Georgia Orthopaedic Society
Maryland Orthopaedic Association
Massachusetts Orthopaedic Association (MOA)
Michigan Orthopaedic Society
Minnesota Orthopaedic Society
Mississippi Orthopaedic Society
Missouri State Orthopaedic Association
Nebraska Orthopaedic Society
New Hampshire Orthopaedic Society
New Jersey Orthopaedic Society
New York State Society of Orthopaedic Surgeons
Ohio Orthopaedic Society
Orthopaedic Society of Oklahoma
Pennsylvania Orthopaedic Society
Sociedad Puertorriqueña de Ortopedia y Traumatología (SPOT)
South Dakota State Orthopaedic Society
Tennessee Orthopaedic Society (TOS)
Texas Orthopaedic Association
Virginia Orthopaedic Society (VOS)
West Virginia Orthopaedic Society

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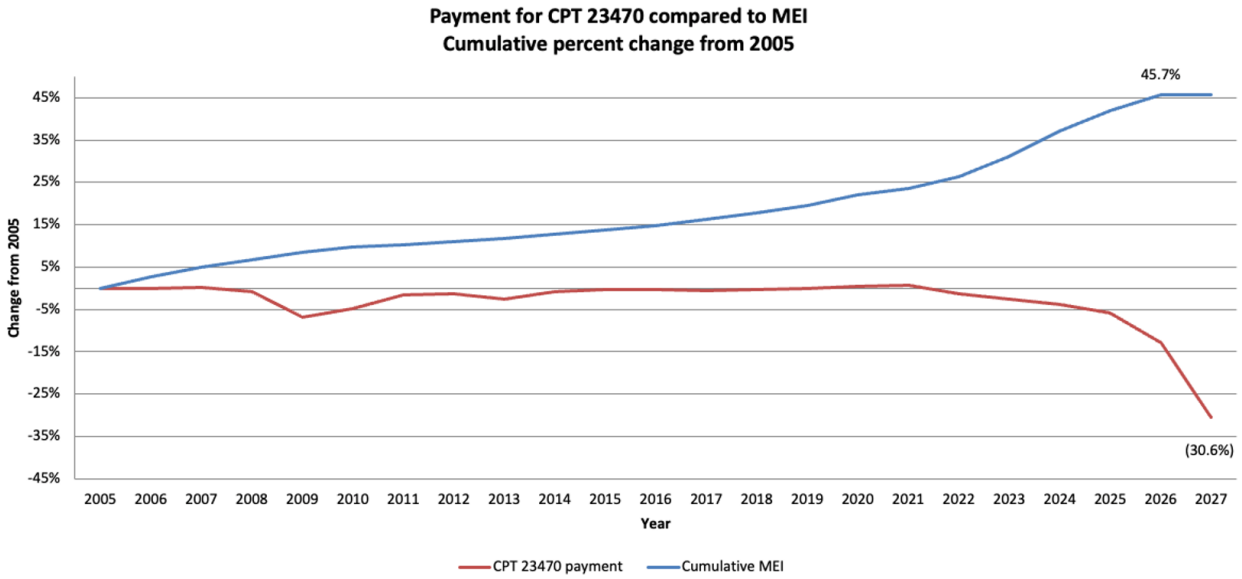
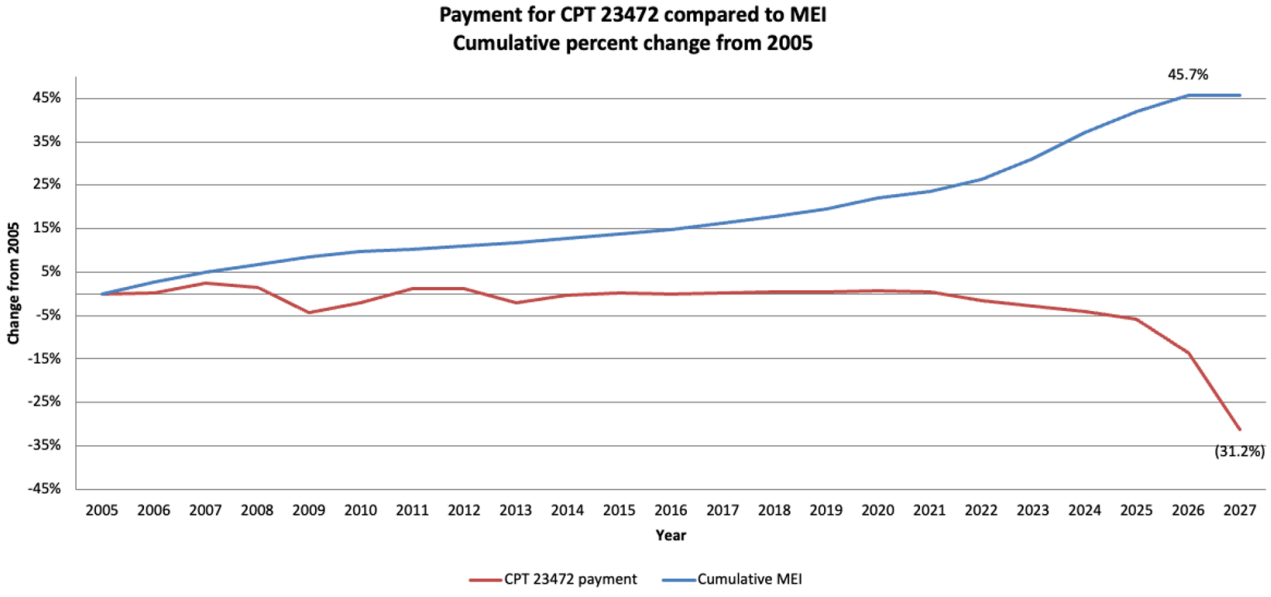
APPENDIX A

Charts: CPT Codes 23470, 23472, 27130, and 27447 Face Dramatic Cuts while Inflation Skyrockets

23470 *(ARTHROPLASTY GLENOHUMRL JT HEMIARTHROPLASTY)*



23472 *(ARTHROPLASTY GLENOHUMERAL JOINT TOTAL SHOULDER)*



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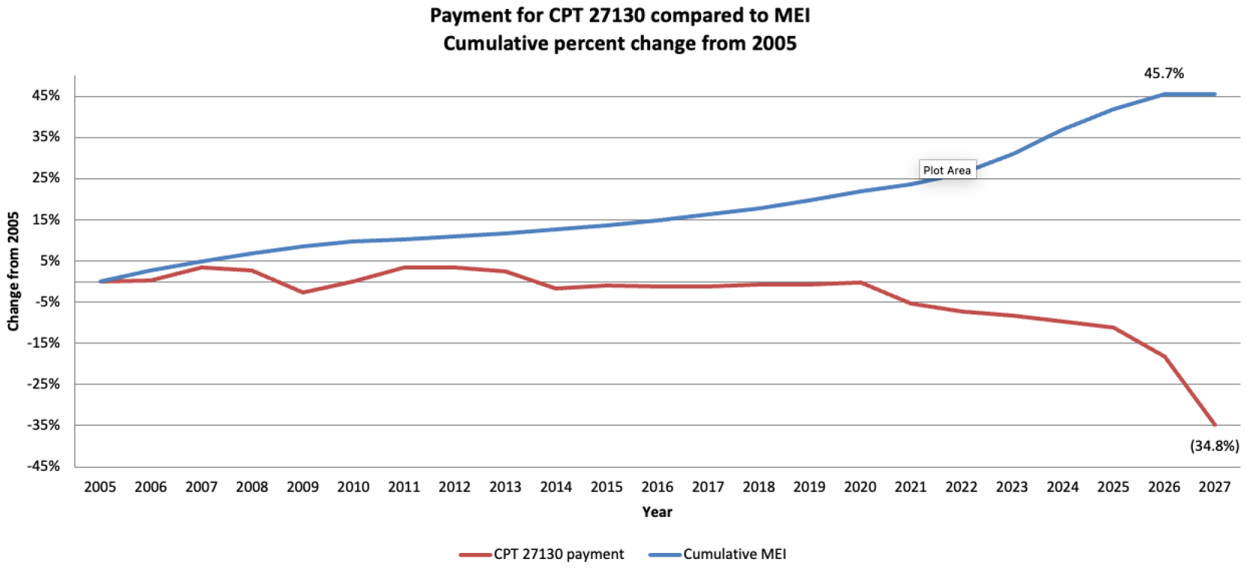
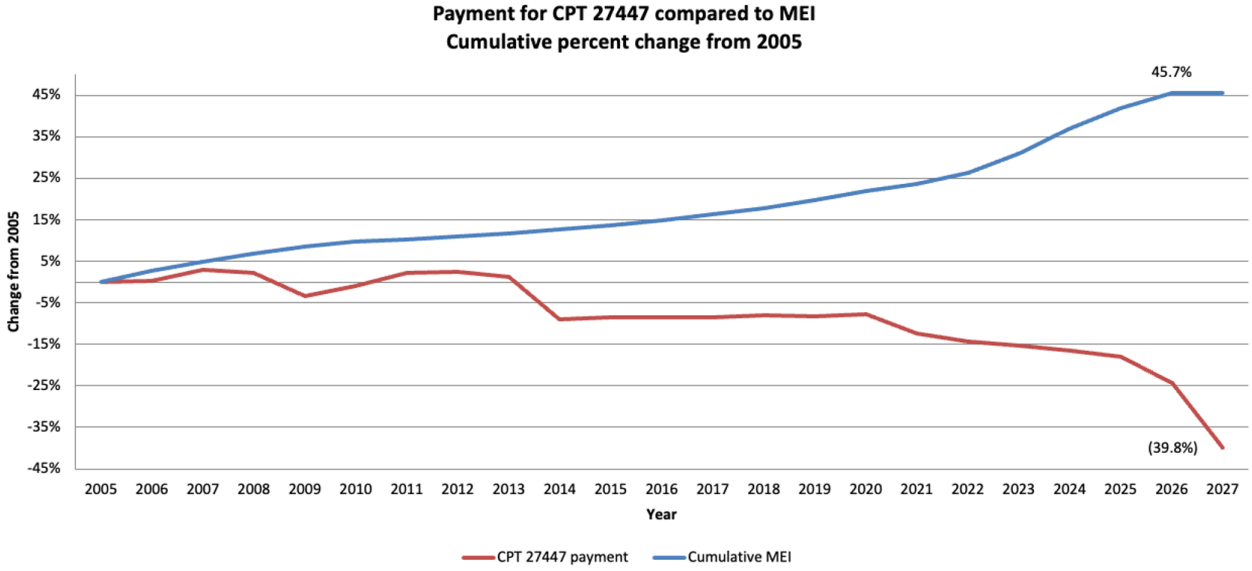
27130 *(ARTHRP ACETBLR/PROX FEM PROSTC AGRFT/ALGRFT)*



27447 *(ARTHRP KNE CONDYLE&PLATU MEDIAL&LAT COMPARTMENTS)*



Payment rates calculated based on CMS addendum B actual RVUs and CY conversion factors (CF) with sequestration reductions applied in years where those occurred; In years where there were multiple CF in single year (2010, 2015, 2024), payments calculated based on weighted avg CF for the year; MEI based on publicly available CMS data.

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APPENDIX B

ADVI Health LLC conducted a longitudinal study of Medicare beneficiary complexity characteristics before and after the major joint replacement procedures (CPT codes 23470, 23472, 27130, and 27447) were removed from the IPO List. Their findings demonstrate that the migration of these surgeries from the inpatient to the outpatient or ASC setting did not coincide with a reduction in patient complexity. Below are their specific findings, as well as their methodology and data sources.

Results – Across Procedure Codes by Year

	Claims without Modifier 22				Claims with Modifier 22				
Procedure Year	Total Claim Count	Total Unique Benes	Mean CCI	Percent of Total Claims	Total Claim Count	Total Unique Benes	Mean CCI	Percent of Total Claims	Difference in CCI Averages with Mod 22 vs Without Mod 22
2023	1,019,235	538,277	0.34	98%	17,615	13,057	0.43	2%	0.10
2024	1,057,959	542,318	0.34	98%	18,761	13,634	0.42	2%	0.08
2025	1,113,714	560,817	0.34	98%	20,414	14,705	0.44	2%	0.10

Results – By CPT Code and by Year

		Claims without Modifier 22			Claims with HCPCS Modifier 22 Present			
Procedure Year	CPT Code	Total Claim Count	Mean CCI	Percent of Total Claims	Total Claim Count	Mean CCI	Percent of Total Claims	Difference in CCI Averages with Mod 22 vs Without Mod 22
2023	23470	1,445	0.51	97%	42	0.35	3%	-0.16
2024	23470	1,516	0.48	96%	59	0.51	4%	0.03
2025	23470	1,558	0.42	95%	80	0.60	5%	0.18
2023	23472	126,174	0.39	97%	3,601	0.46	3%	0.07
2024	23472	146,744	0.39	97%	3,898	0.43	3%	0.04
2025	23472	162,536	0.38	97%	4,811	0.45	3%	0.07
2023	27130	319,012	0.32	98%	5,040	0.44	2%	0.12
2024	27130	330,226	0.32	98%	5,470	0.44	2%	0.12
2025	27130	352,102	0.33	98%	6,078	0.44	2%	0.11
2023	27447	572,650	0.33	98%	8,932	0.41	2%	0.08
2024	27447	579,512	0.33	98%	9,336	0.40	2%	0.07
2025	27447	597,563	0.33	98%	9,446	0.43	2%	0.10

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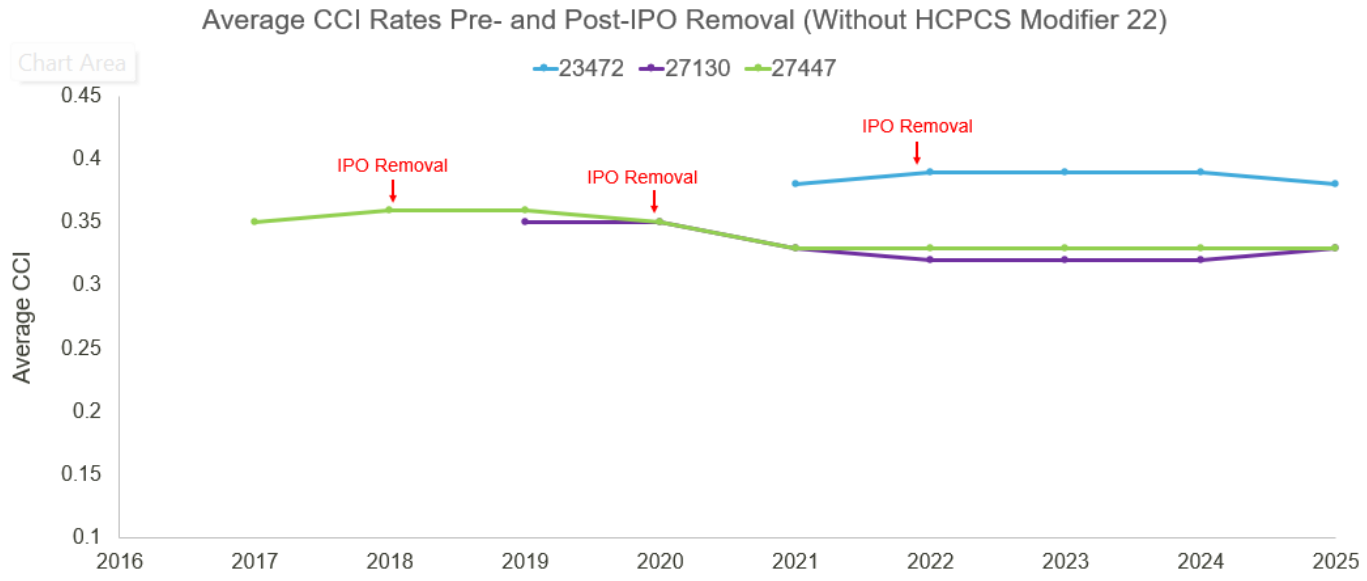
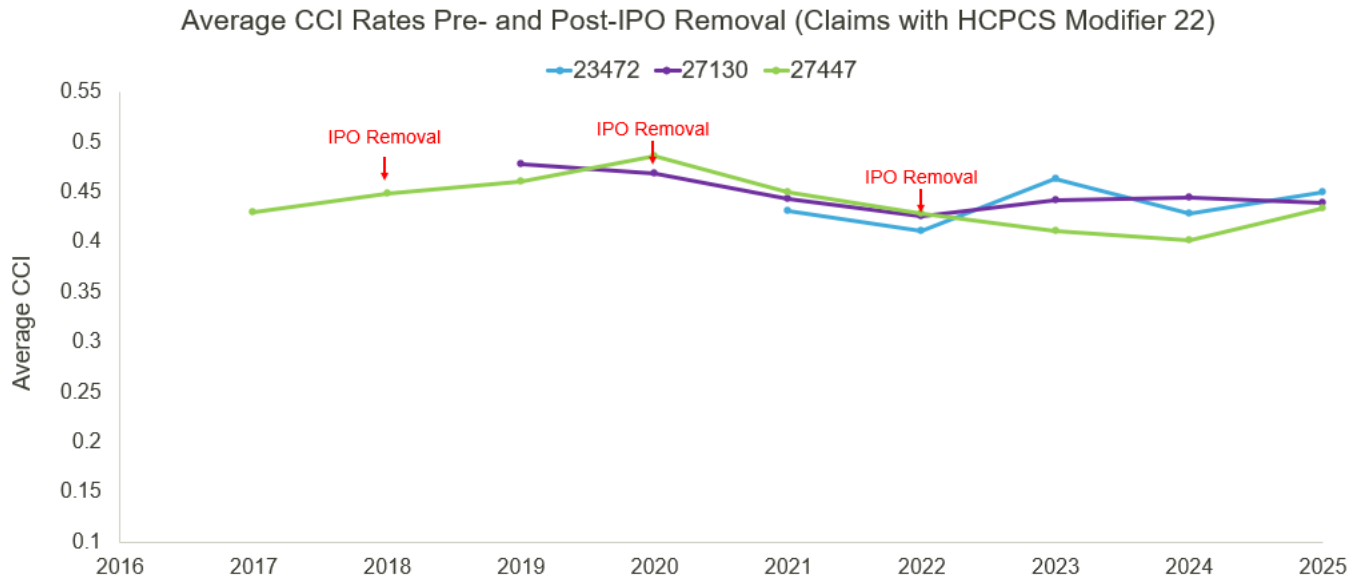
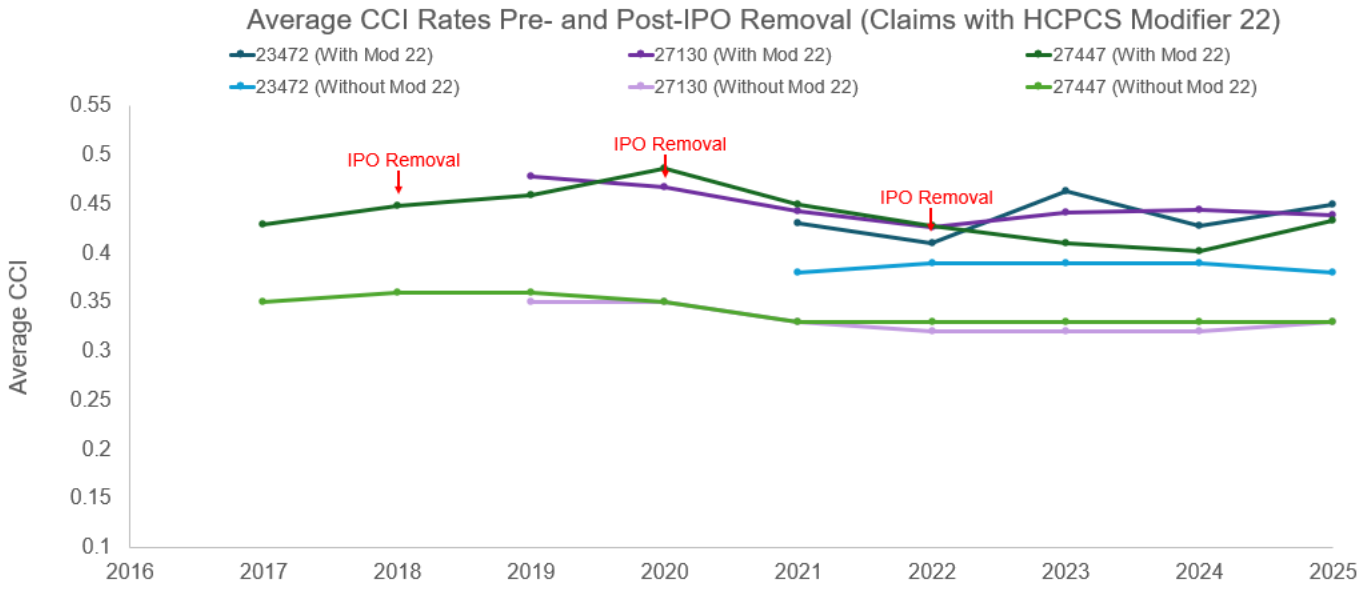
Results – Place of Service (POS) Shifts from Inpatient to Other POS

	23470		23472		27130		27447	
Procedure Year	**Other POS***	**Inpatient**	**Other POS**	**Inpatient**	**Other POS**	**Inpatient**	**Other POS**	**Inpatient**
2023	74%	26%	81%	19%	80%	20%	85%	15%
2024	74%	26%	88%	12%	84%	16%	89%	11%
2025	81%	19%	91%	9%	87%	13%	91%	9%

Outpatient Hospital makes up the majority of the Other POS category (~74% of total "Other POS" claims), followed by ASC (~25%).




Average CCI Rates Pre- and Post-IPO Removal (Claims with HCPCS Modifier 22)
23472
27130
27447
IPO Removal
IPO Removal
IPO Removal
Average CCI
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025


Average CCI Rates Pre- and Post-IPO Removal (Claims with HCPCS Modifier 22)
23472 (With Mod 22)
27130 (With Mod 22)
27447 (With Mod 22)
23472 (Without Mod 22)
27130 (Without Mod 22)
27447 (Without Mod 22)
IPO Removal
IPO Removal
IPO Removal
Average CCI
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

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Charlson Comorbidity Index	
Condition	**CCI Weight**
Myocardial infarction	1
Congestive heart failure	1
Peripheral vascular disease	1
Cerebrovascular disease	1
Dementia/Alzheimer's Disease	1
Chronic pulmonary disease	1
Rheumatic or connective tissue disease	1
Gastric or peptic ulcer	1
Diabetes without complications	1
Diabetes with complications	2
Mild liver disease	2
Hemiplegia	2
Moderate or severe renal disease	2
Cancer (lymphoma, leukemia, solid tumor; nonmetastatic cancer only)	2
Skin ulcers/cellulitis	2

Severe liver disease	3
Metastatic solid tumor	6
HIV/AIDS	6

Methodology and Data Sources:

Medicare Fee-for-Service (FFS) physician office claims from the Research Identifiable Files (RIF) for 2017-2025 were extracted and limited to those with an arthroplasty CPT procedure code (CPT codes include: 23470, 23472, 27130, and 27447). The primary analysis of procedure claims focused on the three most recent and complete years of available data, so it was limited to those who received a procedure from 2023 through 2025.

Full Medicare medical claims (Parts A and B) were also extracted for the population of interest (or those beneficiaries with an arthroplasty procedure code present in the claims data). Medical claims were assessed from 2016 through 2025. This full medical claims data was then used to assess patient comorbidities and other health conditions via the Charlson Comorbidity Index (CCI). We scored CCI for the beneficiary on the medical claims within one year prior to their procedure claim in order to assess their health and complications at baseline prior to their procedure.

An additional sub analysis was conducted that examined the year-over-year average patient CCI scores pre- and post-IPO removal for each CPT code of interest, which incorporates the full medical claims data dating back to 2016 through 2025 depending on the CPT code and its associated IPO-removal date.

The Medicare files are maintained by CMS and contain 100% of all Medicare FFS claims. Due to the Data Use Agreement (DUA) between ADVI Health LLC and CMS, exact claim counts less than 11 cannot be shown in tables/figures and are represented by an asterisk throughout the analysis where necessary.