

Interventional Transesophageal Echocardiography: Background and Coding Review

A Publication From the ASE Advocacy Committee

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Structural Heart Intervention (SHI) is a rapidly evolving field that requires a multidisciplinary team of experts to achieve procedural success. The echocardiographer is a key member of this team, applying advanced transesophageal echocardiography (TEE) imaging to aid in patient evaluation and device selection. The echocardiographer provides real-time guidance of device placement during an SHI procedure, evaluating the immediate outcome of the procedure. The echocardiographer also identifies any procedural complication and assists in guiding its resolution. Such TEE guidance is critical for complex atrial septal defect closure, left atrial appendage occlusion, transcatheter repair of paravalvular regurgitation, transcatheter edge to edge mitral valve repair (TEER) and transcatheter mitral valve replacement, transcatheter tricuspid valve repair, percutaneous closure of ventricular septal defects, and — in some cases — transcatheter aortic valve replacement (TAVR). The specific work of the echocardiographer during an SHI procedure, reflecting procedural time and intensity, is represented by Current Procedural Terminology (CPT) code 93355.

It is important to recall the chronology associated with the development of CPT 93355. Prior to its development, only diagnostic and monitoring TEE CPT codes (CPT 93312; CPT 93315; CPT 93318) were available. These codes however were inadequate for capturing the procedural time, intensity, and expertise typically associated with guiding SHI procedures. In recognition, the American Society of Echocardiography (ASE), the American College of Cardiology (ACC), and the Society for Cardiovascular Angiography & Interventions (SCAI) coordinated advocacy efforts to remedy this situation.

The original multi-societal request to the CPT Editorial Panel was to develop two code levels for interventional TEE: 933X1 for shorter interventions (e.g., atrial septal defect closure and patent foramen ovale closure) and 933X2 for longer interventions (e.g., TAVR, TEER, and repair of paravalvular regurgitation). This two-tiered coding approach was proposed based on anticipated procedural time and intensity, but this construct was not accepted by the American Medical Association (AMA) CPT Editorial Panel.

After a two-year process of submission, review, and revision, a single TEE guidance code for SHI procedure was approved by the AMA CPT, valued by the AMA Specialty Society Relative Value Scale Update Committee (RUC), and ultimately reimbursed by the Centers for Medicare and Medicaid Services (CMS). This code — CPT 93355 — is used to report TEE guidance during an SHI procedure, as well as TEE evaluation of the surrounding cardiac structures. It includes probe

insertion, navigation, image acquisition, and physician interpretation and reporting. When performed, contrast administration, spectral Doppler, color flow Doppler, and 3D imaging are also included in CPT 93355. This code became effective on January 1, 2015. The full descriptor is as follows:

93355 - Echocardiography, transesophageal (TEE) for guidance of a transcatheter intracardiac or great vessel(s) structural intervention(s) (eg,TAVR, transcatheter pulmonary valve replacement, mitral valve repair, paravalvular regurgitation repair, left atrial appendage occlusion/ closure, ventricular septal defect closure) (peri-and intraprocedural), real-time image acquisition and documentation, guidance with quantitative measurements, probe manipulation, interpretation, and report, including diagnostic transesophageal echocardiography and, when performed, administration of ultrasound contrast, Doppler, color flow, and 3D.¹

The descriptor for CPT 93355 accounts for the pre-procedural, intra-procedural (including real time decision-making), and post-procedural work associated with the TEE guidance of “transcatheter intracardiac or great vessel(s) structural interventions”. The physician WRVU assigned to CPT 93355 is 4.66, as compared to the physician WRVU of 2.30 associated with CPT 93312, which describes a standard diagnostic TEE. CPT code 93355 anticipates 120 minutes of physician intra-service work and total physician time (pre-; intra-; post-procedural work) of 160 minutes.

It is important to note that there is a National Correct Coding (NCCI) edit in place which does not permit the reporting of CPT 93355 with overlapping anesthesia services when performed by the same provider. CMS indicates that the delivery of the diagnostic and interventional periods of the 93355 TEE service are not to be performed simultaneously with the anesthesia service. This edit was issued in 2016, and in 2021 CMS reiterated the edit in the National Coverage Determination (NCD) for Transcatheter Edge-to-Edge-Repair (TEER).

While the physician WRVU for CPT 93355 is 4.66, the physician WRVU for CPT 33418 (Transcatheter mitral valve repair) designated for the interventional physician deploying the device is 32.25, nearly seven-fold the value assigned to the SHI TEE imager. It is important however to recognize that CPT 33418 reflects not only the physician work associated with the procedure but also additional work associated with patient care, such as hospital discharge services and outpatient follow-up visits, performed during a 90-day global

period. The intra-service time for CPT 33418 is 180 minutes, yet the total physician time is 561 minutes. In contrast, CPT 93355 reflects only the clinical work associated with providing imaging guidance during the interventional SHI procedure itself. Unlike CPT 33218, CPT 93355 focuses solely on the SHI procedure itself and does not account for care provided during a 90-day global period.

It is also important to recognize that the physician time associated with CPT 93355 is intended to account for the **typical time** associated with the entire family of SHI procedures. While certainly there are SHI procedures of considerably longer duration than the 120 minutes/160 minutes respectively assigned for intra-service/total physician time, CPT methodology is predicated on procedural averages. (Once again, a two-tiered coding approach was originally proposed but was not accepted by the AMA CPT Panel.) For those SHI procedures of unusual duration or clinical complexity, a modifier 22 code may be applied.

The modifier 22 code (Increased Procedural Services) may be appended to CPT code 93355 when the procedure performed has exceeded the normal range of complexity. Modifier 22 is used for increased procedural services and signifies that a physician has gone above and beyond the typical time and/or intensity of a particular procedure.

When used appropriately, modifier 22 reimburses the physician for unforeseen difficulties or additional time spent that are not usually anticipated for the procedure. However, as coding staff will know, securing appropriate reimbursement takes more than simply attaching a modifier to a service code if a physician is to be compensated accordingly. When using modifier 22, the claim must be accompanied by documentation and a cover letter explaining the unusual circumstances. Documentation should include, but not be limited to, descriptive statements identifying the unusual circumstances, operative reports (stating the usual time for performing the procedure and the prolonged time due to complication, if appropriate), pathology reports, progress notes, and office notes. Language indicating unusual circumstances would include statements as to procedural difficulty, increased risk, extensive hemorrhage, or unexpected clinical findings. Note that a slight extension of the procedure (a procedure extended by <30 minutes) or the performance of a routine part of a procedure do not validate the use of modifier 22. *Please also note that this modifier should not be appended to evaluation & management (E&M) services.*

As SHI procedures have increased in sophistication, there has been a growing concern within the SHI community that the WRVU valuation of CPT 93355 may no longer adequately capture the work of the echocardiographer during SHI for valvular heart disease procedures. With publication of the COAPT trial results, and subsequent approval by the U.S. FDA for TEER in patients with functional mitral regurgitation, the volume of complex and lengthy transcatheter procedures requiring TEE guidance has grown substantially. Several alternative models exist which may ensure adequate compensation for the interventional echocardiographer.

Alternative models for supporting interventional echocardiographers within institutions

The pace of innovation within SHI has far exceeded the pace of change within coding and reimbursement. Coding changes are complex and time consuming (several years, typically) and include initial drafting of a code change proposal, presentation at AMA CPT Panel, RUC presentation and valuation, and finally, a CMS reimbursement decision. Given these realities, it behooves institutions engaged in SHI programs to pursue other means aside from CPT/RVUs derived valuations to support the work of the SHI physician team.

There are multiple potential reimbursement models to support the interventional echocardiographer. Hospitals have developed a number of innovative approaches to better support interventional echocardiographers, recognizing them for their time and expertise. The following are three examples from different institutions:

1. "Proxy" WRVU Model

Institutions are empowered to recognize any work performed by physicians that the institution considers to be in its commercial interest. By Federal statute, any economic transaction between participants involved in U.S. healthcare must meet two criteria. First, the transaction must be "commercially reasonable. CMS defines this as an arrangement that "would make commercial sense if entered into by a reasonable entity...and reasonable physician...even if there were no potential business referrals between parties"². Second, such transactions must be consistent with Fair Market Value (FMV), which is "...consistent with general market value...the compensation that would be included in a service agreement as the result of bona fide bargaining between well informed parties to the agreement who are not otherwise in a position to generate business for the other party..."³. As a general principle, physicians with bona fide employment or formalized personal

service arrangements are eligible to receive remuneration from healthcare entities provided both criteria are met. This certainly includes the vast majority of physicians engaged in performance of interventional TEE.

As a means to implement this, the institution may set a prespecified “WRVU floor” for a physician’s time spent engaged in performing interventional echocardiographic services. In general, such “WRVU floors” are set in full-day or half-day increments. The physician performs the procedure and submits appropriate CPT codes, which are billed in standard fashion. At a later date, the institution will engage in a “look back” at the physician’s aggregate WRVUs on the day of the procedure. Any difference between the billed WRVUs and the prespecified WRVU floor are reconciled by the awarding of proxy WRVUs.

2. Time-based RVU Model

An alternative approach to awarding proxy WRVUs favored by some institutions involves assigning time-based RVUs to clinical services as a means to achieve internal equity amongst SHI physician team members. In this model, each proceduralist submits appropriate CPT codes for the work performed, and these are billed per routine. What distinguishes this model, however, is that the physician is not credited by the institution with the WRVUs associated with the CPT code but instead with internally-derived, time-based RVUs (TVUs). Such TVUs are established by the institution for commonly performed services — TVUs are not exclusively applied to SHI procedures — on an annual basis. The attractiveness of this approach is that it allows the institution to make internal decisions as to the appropriate amount of time to be associated with performing specific services. Given the rapid pace of change of technologies and the inherently slower pace to CPT valuation/ revaluation, many organizations have found this to be an effective approach to achieving internal equity. It must be recognized, however, that assigning TVUs must be performed on a prospective basis. Determining specific TVU valuations requires strong collaboration amongst the various specialists and subspecialists within the organization.

3. Equal Sharing Model

A third approach adopted by organizations is to engage in an “equal share” compensation model. While there are numerous examples in practice, one cardiology group reports use of an “equal pay” compensation model for over the past 50 years. In this model, all full-time “principal physicians” — analogous to a full business partner in the private practice setting — receive

equal compensation regardless of cardiology subspecialty, WRVU production, or seniority. Although total practice WRVUs are tabulated for purposes of overall group practice fair market valuation determination, individual WRVUs are not circulated amongst physicians. The benefit of this compensation model is that it serves to unlink an individual physician’s personal compensation from the personal pace of clinical activity. It also serves to remove individual financial reward from clinical decision-making, and it supports physician participation in critically important but less financially remunerative tasks such as teaching, program development, or providing TEE guidance of transcatheter procedures. Adoption of such a model requires a strong commitment on the part of all within the organization to value all individual contributions equally. A strong culture of mutual respect for each member’s contributions is essential for this model to be successful.

Conclusion

It is anticipated that SHI procedures will continue to advance in their application and sophistication. As has been the experience with TAVR, it is also anticipated the time devoted to specific SHI procedures will invariably shorten as technologies further mature and physicians become more expert in their procedural command. Yet present experience also seems to be that just when mastery of one approach is achieved, another newer potential application emerges. How can a process as dynamic as SHI procedural advancement be appropriately described and valued by a payment system that by its very nature is so constrained and regimented?

ASE will continue to work with ACC and SCAI to explore and advocate for practicable solutions to this issue, but it is clear that there is no simple solution to this complex problem. In the meantime, ASE recommends that members of the SHI professional community advocate internally within their parent organizations for mechanisms that best align with their organizational culture for achieving internal equity. It is only through these collective approaches that we as a professional community can ensure all patients will have access not only to the transformative SHI therapies currently available, but also for those yet to come.

REFERENCES

1. AMA CPT Professional Edition - 2021
2. Orne N, Rihal C, Gulati R, et al. Occupational health hazards of working in the interventional laboratory. *J Am Coll Cardiol* 2015;65:820-6.
3. Federal Register/Vol. 69, No. 59, pg. 16093. <https://www.gpo.gov/fdsys/pkg/FR-2004-03-26/html/040668.htm>