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Navigating the Future of Spine Surgery: A Surgeon's Reflection on Coding, Reimbursement, and Emerging Technologies

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In the ever-evolving landscape of spine surgery, the intersection of coding, reimbursement, and emerging technologies presents both promises and challenges for surgeons. Over the past decade, we have witnessed remarkable innovation in spine surgery, primarily driven by industry initiatives rather than governmental or institutional forces. While these advancements hold great potential, they are met with a complex web of coding intricacies and reimbursement hurdles that demand careful consideration.

Government and private insurance carriers, viewing emerging technologies as potential impediments to quality-adjusted life-years and financial “quarters,” often scrutinize the introduction of new procedures. The status quo, composed of well-established and reimbursed open procedures such as discectomy, laminectomy, or fusion, stands at risk when disruptive technologies challenge their dominance. This creates a paradox where novel approaches, despite their potential to yield fewer morbidities and improved outcomes, face resistance due to the threat they pose to established norms.

Powerful societies representing surgeons may inadvertently contribute to stifling innovation by safeguarding what are considered “sacred cows” in spine surgery. The reluctance to embrace change and the preservation of familiar procedures, driven by financial considerations, can undermine progress. In their pursuit of maintaining relevance and securing reimbursement for staple or legacy procedures, these societies risk becoming less attuned to the evolving landscape of spine surgery.

One significant challenge lies in the manipulation of terminology and categorization, where emerging technologies may be deliberately mislabeled to fit existing Current Procedural Terminology (CPT) codes. This practice not only distorts the reality of the procedure but also impedes the accurate tracking of outcomes

and inhibits the establishment of meaningful evidence-based practices. The result is a perpetuation of outdated coding structures that hinder the natural evolution of the field. A good case in point is CPT Code 22867, also known as Coflex, which is procedurally defined as “insertion of interlaminar/interspinous process stabilization/distraction device, without fusion, including image guidance when performed, with open decompression, lumbar; single level.” This procedure has flatlined in utilization with comparison to the decompression alone code absent the interlaminar stabilization, or CPT Code 63087 (“open-laminectomy”), which pays more at 15.37 work RVUs (or 33.61 total RVUs) than the bundled procedure at 15.00 work RVUs (or 32.47 total RVUs).¹ (Flatlined is defined as procedural utilization halts—that is to say, if surgeons are not fairly compensated in proportion to their work effort, then continued delivery of high-quality spine surgical care ceases.) A multiple linear regression in the spirit of the Rasch analysis,² as well as a parity model using a building block methodology for this procedure, has been suggested by ISASS to the Office of Management and Budget and the Centers for Medicare and Medicaid Services for reevaluation consideration. Nevertheless, CPT 22867 remains undervalued, rather than receiving estimated work RVUs of approximately 20.0.^{2,3} The Centers for Medicare and Medicaid Services currently has this egregiously incorrect, fundamentally flawed, and grossly misguided. Furthermore, the maintenance of relativity or proper Relative Value Scale Update Committee methodology/evaluation of a CPT Code—within the correct or incorrect “Family of Codes”—invariably impacts the survival of an emerging technology or procedure; if this goes wrong then it may become an extinction event. Despite the shifting sands of resistance, CPT 63087 procedurally remains a cost-effective treatment for the treatment of lumbar spinal stenosis

and spondylolisthesis despite inertial resistance as surgeons strive to protect the future of patient care.

Furthermore, the reliance on levels of evidence, often based on cherry-picked data, may not fully capture the real-world value of surgeon experience and intuition. The emphasis on rigid evidence hierarchies can sideline valuable insights derived from clinical practice. Surgeons, being at the forefront of patient care, possess a unique understanding of the nuances that may not be fully captured in formalized research settings. Balancing the need for rigorous evidence with the acknowledgment of clinical expertise is crucial for fostering meaningful progress in spine surgery.

As we peer into the future, the role of 3D printing is poised to redefine the landscape of spine surgery. The surge toward patient-centered medicine aligns seamlessly with the capabilities of 3D printing to provide personalized solutions for complex anatomical challenges. This technology offers the potential to enhance surgical planning, improve implant customization, and optimize patient outcomes. However, navigating the path from conceptualization to widespread adoption requires substantial investments in engineering, regulatory compliance, and the generation of robust clinical evidence.

In conclusion, the future of spine surgery holds both excitement and uncertainty. Surgeons must remain vigilant advocates for innovation, steering clear of complacency and embracing the challenges that come with disruptive technologies. By fostering collaboration between industry, regulatory bodies, and surgical societies, we can strive for a balance that ensures progress without compromising patient care. The evolution of spine surgery demands a collective effort to transcend

coding and reimbursement barriers, promoting propitious advancements that are not hindered by outdated paradigms but rather guided by the commitment to improved patient outcomes and the advancement of the field.

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