

**Editors' Note:** In reference to Kawasaki's *NeuroImage*, Friedman questions whether tadpole pupil—the episodic segmental spasm of the iris dilator muscle—could be a migraine variant. Kawasaki does not think it could be migraine and explains why. Although the WriteClick guidelines state that letters must be submitted within 8 weeks of the publication of the article, Friedman's letter concerns an article published in August 2012. We will consider late submissions if the letter writers identify errors or if important clarifications are needed from the author. Skinner critiques the position of Nuwer et al. and Emerson and Husain on intraoperative neuromonitoring supervision. Nuwer et al. explain their views and the necessity for accurate identification of the specific service provided.

—Chafic Karam, MD, and Robert C. Griggs, MD

#### TADPOLE PUPIL

**Deborah I. Friedman, Dallas, TX:** Episodic unilateral mydriasis often occurs in patients with migraine and is considered to be a migraine variant. Did this patient have a history of migraine and is it possible that the episodes of tadpole pupil could be a migraine variant?

**Author Response: Aki Kawasaki, Lausanne, Switzerland:** Our patient<sup>1</sup> with tadpole pupil was not a migraineur and family history was also negative for migraines. She noted a slight pressure around her eye during pupillary deformation but never developed a headache. I agree that episodic unilateral mydriasis can be a manifestation of migraine. In Jacobson's series of 19 patients, 14 were migraineurs and 9 reported headache that accompanied their unilateral mydriasis.<sup>2</sup> Woods et al.<sup>3</sup> studied 7 migraineurs who specifically noted transient unilateral pupillary dilation during a migraine attack. However, tadpole pupil—episodic segmental spasm of the iris dilator muscle—does not appear to have a strong association with migraine. In an earlier series of 26 patients, only 8 (31%) had a definite/probable history of migraine headaches, whereas 11 (42%) had underlying Horner syndrome.<sup>4</sup> In patients with episodic unilateral mydriasis, Horner syndrome is rare. The differences in associated conditions between tadpole pupil and episodic unilateral

mydriasis suggest different pathophysiologic mechanisms for these 2 episodic pupillary phenomena.

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#### PRACTICE PATTERNS FOR INTRAOPERATIVE NEUROPHYSIOLOGIC MONITORING

**Stanley A. Skinner, Minneapolis:** Many readers will applaud the defense by Nuwer et al.<sup>1</sup> and Emerson and Husain<sup>2</sup> of “local” intraoperative neuromonitoring (IONM) supervision. However, their nostalgic case for local supervision has already been put before the Current Procedural Terminology (CPT) panel, which made its findings very clear: there is no difference between remote and local IONM. Neither model mandates the normal predicates of patient care: a patient–physician relationship; interaction among copractitioners (neurophysiologist, surgeon, anesthesiologist); or situational awareness in the operating room (OR). It is with unseemly irony that CPT ultimately published 95941, an insupportable concession to an unlimited remote concept. The Centers for Medicare & Medicaid Services (CMS) correctly disavowed 95941.

The war games between “remoters” and “locals” should stop. We may all tap into full-spectrum, evidence-proven telemedicine to support waveform telemetry.<sup>3–5</sup> The CMS has published supportive telemedicine rules. All patient care predicates are fulfilled by real or virtual interactions with the patient, colleagues, and the OR.

For intraoperative neurophysiology to survive as a discipline, providers must adopt the same patient-centered care approach that they routinely deploy in their broader practice. The proposed local model does not yet meet that standard.

**Author Response: Marc R. Nuwer, Los Angeles; Bruce H. Cohen, Akron, OH; Katie M. Shepard, Minneapolis:** There are both specific and general differences between distant remote and local monitoring. Physicians practicing distant remote IONM typically monitor a larger number of simultaneous cases.<sup>1</sup> More often, their case mix has a greater portion of lower-intensity cases such as lumbar spine procedures.

There is a clear patient-centered need for both local and remote monitoring that has nothing to do with nostalgic-driven methods of delivery. The granularity of the work performed in each setting, the number of cases monitored simultaneously, the need for undivided attention for parts of some cases, and the complexity of the cases define the maximum amount of work per unit of time.

The goal of procedural coding is to identify the specific service provided. A systematic method to

code for number of simultaneous cases would be a step forward and would allow code selection to be more finely tuned to the service provided.

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Author disclosures are available upon request ([journal@neurology.org](mailto:journal@neurology.org)).

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## Practice patterns for intraoperative neurophysiologic monitoring

Stanley A. Skinner, Marc R. Nuwer, Bruce H. Cohen, et al.

*Neurology* 2013;81;1724-1725

DOI 10.1212/01.wnl.0000437758.90416.db

**This information is current as of November 4, 2013**

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