
Darrell Vydra, DO, vydra@uthscsa.edu\textsuperscript{1}, Alexander Hynes, DO\textsuperscript{2}, Nate Clements, MD\textsuperscript{1}, Ameet Nagpal, MD\textsuperscript{2}, Jonathon Julia, MD\textsuperscript{2}, Byron J. Schneider, MD\textsuperscript{3}, Timothy P. Maus, MD\textsuperscript{4}, Daniel M. Cushman, MD\textsuperscript{5}, Zachary L. McCormick, MD\textsuperscript{5}

\textsuperscript{1}Department of Physical Medicine and Rehabilitation, UT Health San Antonio, San Antonio, TX \textsuperscript{2}Department of Anesthesiology, UT Health San Antonio, San Antonio, TX \textsuperscript{3}Department of Physical Medicine and Rehabilitation, Vanderbilt University, Nashville, TN \textsuperscript{4}Department of Radiology, Mayo Clinic, Rochester, MN \textsuperscript{5}Division of Physical Medicine and Rehabilitation, University of Utah School of Medicine, Salt Lake City, Utah.

**Background:** For the safe performance of transforaminal epidural steroid injections (TFESIs), Multisociety Pain Workgroup (MPW) guidelines recommend the use of live fluoroscopy with or without digital subtraction imaging (DSI) during contrast media injection to identify potentially unsafe intraarterial injection.

**Objective:** Describe current practice patterns in the use of image-guidance during cervical and lumbar TFESI.

**Design:** Cross-sectional survey study.

**Participants:** Physician members of the Spine Intervention Society (SIS).

**Methods:** An online survey was distributed to 3,123 physician members of the SIS from May to June 2018. The primary outcome measure was the proportion of physicians using either live fluoroscopy alone or with DSI during TFESIs.

**Results:** A total of 314 responses were collected (“worst-case” scenario response rate of 10.1%). The mean number of years of interventional experience was 14.02 (SD = 10.01). Overall, 75% of physicians used either live fluoroscopy alone (48%) or with DSI (27%) “every time” during cervical TFESI, and 59% used live fluoroscopy alone (48%) or DSI (11%) “every time” during lumbar TFESI. Notably, 36% and 24% of providers reported no use of live fluoroscopy during lumbar and cervical TFESIs, respectively. Physicians in an academic setting were more likely to utilize DSI during lumbar TFESI (p<0.001, B=2.33). Computed tomography (CT) guidance for TFESI was reported significantly more frequently by radiologists at both spinal regions (p’s<0.001). Eight percent and 6% of providers reported use of ultrasound-guidance for lumbar and cervical TFESIs, respectively.
Conclusions: This survey study demonstrated Multisociety Pain Workgroup guideline-discordant practice in relation to the use of live fluoroscopic-guidance during lumbar and cervical TFESIs by a proportion of physicians. Reasons for this finding warrant investigation.