Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

involved in lawsuits dealt with angioplasty/arteriogram ($n = 7$). Of the 13 cases with an interventional radiologist as the defendant, 6 verdicts went in favor of the plaintiff and 7 in favor of the defendants. There are only 2 reported payouts, one for $5,000,000 where a patient ended up with an amputation following femoral artery dissection during cerebral angiogram, and $250,000 where a declot resulted in ipsilateral forearm amputation.

Conclusions: Interventional radiologists appear to find themselves either peripheral or as expert witnesses more often than as defendants. The most common reason for litigation involves complications surrounding angiogram/angioplasty and the most common allegations were medical malpractice and procedural negligence. Highlighting where we as interventional radiologists are most vulnerable will hopefully allow for improvement in our practices.

Abstract No. 89

Development and deployment of a comprehensive telemedicine program allows for restoration of outpatient clinic volumes and continuing patient access during the COVID-19 pandemic

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Purpose: To evaluate the effect of telemedicine initiatives on restoring and maintaining access to an interventional radiology clinic at an academic medical center during the COVID-19 pandemic

Materials and Methods: Institutional billing and administrative data were retrospectively reviewed over a 52-week period, from September 2019 to August 2020. Phase 1 (29 weeks) represented pre-pandemic, normal operations. Phase 2 was the period when telephone encounters were available (11 weeks), with Phase 3 representing the period when both telephone and video encounters were available (12 weeks). The final day of in-person clinic visits was March 23, 2020. Telephone visits were initially used to maintain clinic access for patients. After a period of development and testing, video consultation was available after 76 days. Guidelines and requirements related to the provision of telemedicine services, as outlined at institutional, state and national levels, were adhered to over the study period. Visit type and basic patient demographic information was recorded.

Results: There were 6,522 clinic visits over the study period. In the pre-pandemic period (Phase 1), telephone encounters represented 2.4% of monthly clinic encounters (range 0.4 – 3.7%), with a total of 104 telephone visits completed in this time. In phases 2 and 3, the monthly telephone encounters ranged from 242 to 466, representing 70% - 86% of all clinic encounters. There were 420 video visits completed in Phase 3, representing between 25.4% - 32% of monthly clinic encounters. Of these video encounters, 35.2% were performed at satellite centers, with the remainder performed by providers on the main campus. Telemedicine services were provided to residents of 41 states and the District of Columbia; however, provision of services was contingent on the patient's physical location at the time of the encounter, based on billing and licensing requirements. Out-of-state residents represented 15% and 27.2% of video and telephone encounters, respectively. With the availability of both telephone and video visits in Phase 3, clinic encounters in June, July and August were at 98.7%, 104% and 87.7% of average monthly pre-pandemic volume, respectively. However, despite restoration of clinic encounters in phase three to 96.4% of pre-pandemic levels, billing for Evaluation and Management lagged behind, reaching 38.9% of pre-pandemic levels in the same period.

Conclusions: Despite a precipitous fall in clinic volume in the earliest days of the pandemic, roll-out of telemedicine services allowed for restoration of clinic volumes to near pre-pandemic levels.

Abstract No. 90

Single-use versus reusable endoscopes for percutaneous biliary endoscopy with lithotripsy: technical metrics, clinical outcomes, and cost comparison

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Purpose: Percutaneous biliary endoscopy (PBE) is increasingly used by interventional radiology (IR) to visualize and treat biliary pathology. Advances in endoscope technology have introduced single-use, disposable endoscopes to complement traditional, reusable endoscopes; however, data comparing the two technologies is limited. In this study, we compare the technical metrics, clinical outcomes, and costs between single-use and reusable endoscopes for use in PBE.

Materials and Methods: In this IRB-approved, retrospective study, 67 PBE procedures were performed on 34 patients (62% male; mean age 65.9 [range 5-90] years) for stone removal from October 2014 to February 2020, using either reusable ($n = 17$ patients, 28 cases; Olympus URF-2 ureteroscope) or single-use endoscope ($n = 17$ patients, 39 cases; Boston Scientific LithoVue ureteroscope). Device metrics, technical and clinical success, complications, and cost-per-case were compared. Technical success was defined as biliary system access and identification of pathology, and clinical success required at least partial stone removal.

Results: Single-use endoscopy performed as well or better in several performance metrics compared to reusable endoscopy, including flexion, tip deflection, irrigation flow, and ease-of-use. Mean procedural time was similar between single-use (mean ± SD; 136.4 ± 44.6 minutes) and reusable (135.5 ± 51.2 minutes; $P = 0.5$) endoscopes, while mean fluoroscopy time was significantly lower with single-use endoscopes (11.7 ± 8.4 minutes) compared to reusable (17.6 ± 11.8 minutes; $P = 0.01$). Technical and clinical success with single-use endoscopes was 95% ($n = 37$) and 90% ($n = 35$), respectively, similar to reusable endoscope use at 93% ($n = 26$) and 75% ($n = 21$), respectively (all $P > 0.05$). One minor complication in the perioperative period occurred during reusable scope use, involving gallbladder wall perforation, whereby the biliary tube was replaced without further complications. Cost analysis demonstrated a lower cost-per-case for single-use