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Oncology Healthcare Advisory Council (RO-HAC) hypothesized that the COVID-19 pandemic would impact the engagement of RO-ILS participants in reporting to the patient safety organization (PSO) and that the characteristics of the reported events would differ from those reported pre-COVID.

Materials/Methods: The RO-ILS database was queried for events reported to the PSO pre-COVID (from March 1, 2019 to July 31, 2019) and during early COVID (March 1, 2020 to July 31, 2020). Events were then segregated into those submitted by the Top 5 reporting practices and those practices in early COVID hotspot states as identified by the Centers of Disease Control and Prevention (WA, CA, AZ, TX, FL, NY, NJ, CT, MA, PA, MD). Descriptive statistics were used to describe trends in reporting and differences in data elements provided by the practice and RO-HAC pre-COVID and during-COVID.

Results: There was a 16% absolute reduction in event reporting during-COVID ($n=1255$) as compared to pre-COVID ($n=1759$). Practices located in COVID-hotspots had a 33% absolute reduction in reporting, while those not in hotspots had a 23% reduction. However, initial analysis did not identify drastic change in event classification. Amongst the Top 5 reporting practices, there was a 48% absolute reduction in incident reporting; of note, three of these practices did not report any events to the PSO during-COVID. During-COVID, errors more often occurred and were discovered during treatment planning, regardless of hotspot status. RO-HAC independently rated more events as moderate-critical pre-COVID (43%) than during COVID (33%), whereas practices rated more events as moderate-severe during-COVID (25%) than pre COVID (18%). Despite an expected trend towards more hypofractionated regimens, there was neither an appreciable difference in the types of treatment techniques for all events nor magnitude of dosimetric deviations associated with incidents pre-COVID and during-COVID.

Conclusion: Reporting to RO-ILS declined during the early COVID-19 pandemic, especially in hotspot areas. This suggests that resources and time were diverted away from incident reporting to address other critical needs. Three of the five top reporting practices that ceased reporting during early COVID have since reported events after the analysis timeframe, suggesting the decline may be temporary. RO-HAC overall rated events as higher severity than the practice regardless of the pandemic. However, the drop in perceived severity by RO-HAC pre and during-COVID may be the result of changes in clarity of information provided by the practice. Stability in event classification suggests that practices continued to report a variety of events.

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Predictors of Anxiolytic Requirement During Radiation Therapy With Thermoplastic Mask Immobilization

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Purpose/Objective(s): Anxiety during radiation simulation and/or treatments is common in cancer patients and is frequently treated with anxiolytic medications. Specifically, mask anxiety has been documented in patients requiring a thermoplastic mask for immobilization and has the potential to disrupt the safety and efficacy of treatments. We sought to identify factors that predict for anxiolytic requirement (AR) during mask immobilization.

Materials/Methods: Patients who received radiation therapy with a thermoplastic mask covering their entire face (including eyes, nose, and mouth) at a single institution from 2019-2020 were identified and charts were retrospectively reviewed. The use of anxiolytic medications during simulation/treatments, possible predictive factors, and absolute number and percentage of missed treatment days were recorded. If patients underwent multiple radiation treatments, only the first was evaluated. Factors analyzed include gender, spoken language, ECOG performance status, smoking history, past psychiatric history (anxiety, depression, panic attacks, dementia, alcohol abuse, claustrophobia, or post-traumatic stress disorder), previous use of anxiety-related medications, treatment site, mask type, treatment modality, and dexamethasone use. Regression analysis using a generalized linear model was used to create predictive models for AR and for missed radiation treatments.

Results: A total of 250 patients were evaluated, of whom 124 were female and 126 were male. Median age was 63 years and median ECOG performance status was 1. Thirty-nine percent of patients had a history of anxiety, 4% of claustrophobia, 30% of depression, and 41% were previously prescribed at least one outpatient anxiety-related medication. Thirty patients (12%) required an anxiolytic medication during radiation simulation and/or treatments and 67 patients (27%) missed at least one planned treatment fraction. On multivariate analysis, history of anxiety ($P=0.0002$, OR = 5.6) and claustrophobia ($P=0.003$, OR = 7.7) were independently predictive of AR. Additionally, AR and head and neck treatment site were independently predictive of percentage of missed radiation fractions ($P < 0.01$) and AR and IMRT were independently predictive of absolute missed radiation fractions ($P < 0.01$).

Conclusion: History of anxiety and claustrophobia were independently predictive of AR during radiation simulation/treatments with a thermoplastic mask. These factors can be detected in patient charts prior to consultation and therefore have the potential to allow for early identification of individuals who may be at higher risk for anxiety during their radiation experience. Furthermore, patients who required anxiolytics during radiation therapy tended to miss more treatment days, possibly indicating that optimal anxiety management has not yet been achieved.

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The Utility of Video-Based Pre-Treatment Peer Review in the COVID Era

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Purpose/Objective(s): Pre-treatment peer review has been suggested to be useful within Radiation Oncology. With the COVID-19 pandemic, our previously-applied face-to-face format was replaced with a video-based format. We herein quantify the usefulness of daily video-based peer review within a busy radiation oncology practice.

Materials/Methods: We have been using an internet-based format for our daily peer review since mid-March 2020. All cases in the department are reviewed prior to planning and a subset, typically stereotactic body radiotherapy (SBRT) cases, are reviewed twice: once for contours and once for the planned dose. A meeting participant collected data regarding attendance, case type, and recommendations made in the meetings. An anonymous survey was sent to all participants to assess their opinion of this daily meeting. The number and type of recommendations resulting from the video-based peer review were compared to the results of a similar review conducted in the pre-COVID (face-to-face) era using a two-tailed Fisher’s exact test.

Results: From September 11, 2020 – December 23, 2020, data was gathered from 62 peer-review sessions. The mean number of attendees each day was 43 (range 32-60), including 9 MD faculty (range 4-12) and 7 MD residents (range 5-8). The average number of cases reviewed each day was 9 (range 3-17). In total, 533 cases were reviewed; 74% had no recommendations, 8% had mild, 15% had moderate, and 3% had major recommendations leading to significant changes in treatment planning. Among cases reviewed during the pre-COVID era 73% had none, 10% had mild, 10% had moderate, and 7% had major recommendations. The rate of major recommendations during the current video-format era is significantly decreased from before (3% vs 7%, $P < 0.001$). Twenty-nine participants responded to the survey. For the video-based peer review session, 97% reported that it adds value to the department, 83% reported that it provides an excellent learning environment, and 93% reported that it allows for a collegial debate/conversation.

Conclusion: Video-based peer review can be effective; 18% of case reviews resulted in moderate/major recommendations. While comparisons across time are imperfect, this is almost identical to the 17% observed in the pre-COVID (face-to-face) era, which is reassuring. However, the rate of major

recommendations from the current video-format era were lower than in the pre-COVID (face-to-face) era, suggesting that the robustness of daily peer review may be reduced with video. Nevertheless, the majority of participants responding to the survey (83-97%) still find the overall process useful.

Abstract 184 – Table 1

		Recommendations with video-based peer review			
		None	Mild	Moderate	Major
	Total (n = 533)	74%	8%	15%	3%
Case type	Contour review (427)	69%	10%	17%	4%
	Plan review (106)	89%	3%	8%	0%
Intent	Definitive (373)	73%	8%	15%	4%
	Palliative (160)	72%	10%	16%	2%
Radiation type	3D-CRT (157)	57%	20%	20%	3%
	CyberKnife SRS/SBRT (147)	85%	2%	12%	1%
	Electrons (15)	60%	7%	33%	0%
	IMRT (136)	77%	4%	14%	5%
	LINAC-based SBRT (78)	79%	4%	13%	4%

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