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Basic Original Report

Detailed prospective peer review in a community radiation oncology clinic

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Abstract

Purpose: In 2012, we instituted detailed prospective peer review of new cases. We present the outcomes of peer review on patient management and time required for peer review.

Methods and materials: Peer review rounds were held 3 to 4 days weekly and required 2 physicians to review pertinent information from the electronic medical record and treatment planning system. Eight aspects were reviewed for each case: 1) workup and staging; 2) treatment intent and prescription; 3) position, immobilization, and simulation; 4) motion assessment and management; 5) target contours; 6) normal tissue contours; 7) target dosimetry; and 8) normal tissue dosimetry. Cases were marked as, "Meets standard of care," "Variation," or "Major deviation." Changes in treatment plan were noted. As our process evolved, we recorded the time spent reviewing each case.

Results: From 2012 to 2014, we collected peer review data on 442 of 465 (95%) radiation therapy patients treated in our hospital-based clinic. Overall, 91 (20.6%) of the cases were marked as having a variation, and 3 (0.7%) as major deviation. Forty-two (9.5%) of the cases were altered after peer review. An overall peer review score of "Variation" or "Major deviation" was highly associated with a change in treatment plan ($P < .01$). Changes in target contours were recommended in 10% of cases. Gastrointestinal cases were significantly associated with a change in treatment plan after peer review. Indicators on position, immobilization, simulation, target contours, target dosimetry, motion management, normal tissue contours, and normal tissue dosimetry were significantly associated with a change in treatment plan. The mean time spent on each case was 7 minutes.

Conclusions: Prospective peer review is feasible in a community radiation oncology practice. Our process led to changes in 9.5% of cases. Peer review should focus on technical factors such as target contours and dosimetry. Peer review required 7 minutes per case.

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Peer Review, Early
Patient: **DOB:** **MRN:**

DATE:

Treating MD: ---

Review MD: ---

Site
CNS/Peds ☐
H&N ☐
Lung/Sarc ☐
GI ☐
Breast ☐
GYN ☐
GU ☐
Heme ☐
Skin ☐
Palliative ☐

	No Change	Variation	Major Deviation
	Meets Standard of Care		***Does NOT Meet Standard of Care***
	I would not change the management in this case.	*I would manage this case differently but the current management is reasonable. I would:*	*I would manage this case differently. The current management plan is not reasonable. I recommend changes be made. I would:*
1. Workup and Staging Comments:	No Change ☐	Do additional workup ☐ Do less workup ☐	Do additional workup ☐
2. Treatment Intent and Prescription Comments:	No Change ☐	Not Rx RT ☐ ↑Fraction Size ☐ ↓Fraction Size ☐ ↑Total Dose ☐ ↓Total Dose ☐ Δ RT Schedule ☐ Δ RT Modality ☐	Not Rx RT ☐ ↑Fraction Size ☐ ↓Fraction Size ☐ ↑Total Dose ☐ ↓Total Dose ☐ Δ RT Schedule ☐ Δ RT Modality ☐
3. Position, immobilization, simulation	No Change ☐	Comments:	Comments:
4. Motion assessment and management	No Change ☐	Comments:	Comments:
5. Target Contours Comments:	No Change ☐	↑Target Contour size ☐ ↓Target Contour size ☐ Include other targets ☐ Use Fusion Modality ☐	↑Target Contour size ☐ ↓Target Contour size ☐ Include other targets ☐ Use Fusion Modality ☐
6. Normal Tissue (Avoidance) Contours Comments:	No Change ☐	↑Avoid Contour size ☐ ↓Avoid Contour size ☐ Include other Avoids ☐ Use Fusion Modality ☐	↑Avoid Contour size ☐ ↓Avoid Contour size ☐ Include other Avoids ☐ Use Fusion Modality ☐
7. Target Dosimetry/HotSpot (DVH&Isodose) Comments:	No Change ☐	↑Target Coverage ☐ Fill target cold spot ☐ ↓ Plan Max Dose ☐	↑Target Coverage ☐ Fill target cold spot ☐ ↓ Plan Max Dose ☐
8. Normal Tissue Dosimetry (DVH &Isodose) Comments:	No Change ☐	↓ Normal Tissue Dose ☐ Brain ☐ Lung ☐ Brainstem ☐ Heart ☐ Optics ☐ Esophagus ☐ Cochlea ☐ Liver ☐ Cord ☐ Small Bowel ☐ Parotid ☐ Kidney ☐ Larynx ☐ Bladder ☐ B. Plexus ☐ Rectum ☐	↓ Normal Tissue Dose ☐ Brain ☐ Lung ☐ Brainstem ☐ Heart ☐ Optics ☐ Esophagus ☐ Cochlea ☐ Liver ☐ Cord ☐ SmallBowel ☐ Parotid ☐ Kidney ☐ Larynx ☐ Bladder ☐ B. Plexus ☐ Rectum ☐
Overall Peer Review	No Change ☐	Variation ☐	Major Deviation ☐

Prospective Peer Review changed Tx plan? --- **How?**

Additional Comments:

Figure 1 Peer review document.