

Ramping Up ART – A Roadmap to Increasing Adaptive RT Capacity

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EXECUTIVE SUMMARY

- Credentialing radiation therapists to adjust contours and approve plans for CBCT-based online ART reduced dependence on having a radiation oncologist present at the treatment unit.
- In our setting, this approach supported increased access to adaptive treatments for prostate and bladder cases while maintaining routine clinical review.
- The model may be useful for institutions aiming to expand ART capacity within existing staffing and workflow constraints.

Methods

- Prerequisites for delegation of contour review and clinical plan approval are as follows:
 1. Targets must be derivable from an anatomical or easily visualized structures;
 2. There must be three adaptive fractions during which no contour edits are required by the RO and all clinical goals (targets and organs at risk) are met.
- Additionally, during sessions in which clinical goals are not met within acceptable variations, or there is contour uncertainty, the RO is called for contour review and plan approval.
- During RTT credentialing, ROs review Ethos-generated contours that are adjusted by RTTs.
- RTT contours pass if no RO edits are necessary or if edits would have minimal clinical impact (Table 1).
- Credentialing for each disease site required five passing cases, after which RTTs could perform contour adjustment and plan approval without real-time RO review.

Results

- From July 2025 to July 2026, six RTTs completed credentialing for prostate and five RTTs completed credentialing for bladder.
- The option to perform online ART without the RO (RO lite) was launched in September 2025.
- Following introduction of this delegation pathway, the number of new adaptive patients increased from approximately 1–2 per month to 3–4 per month (Figure 1).

Figure 1. Number of new patients starting before and after launching a CBCT-based online ART service without RO presence at the unit (RO lite).

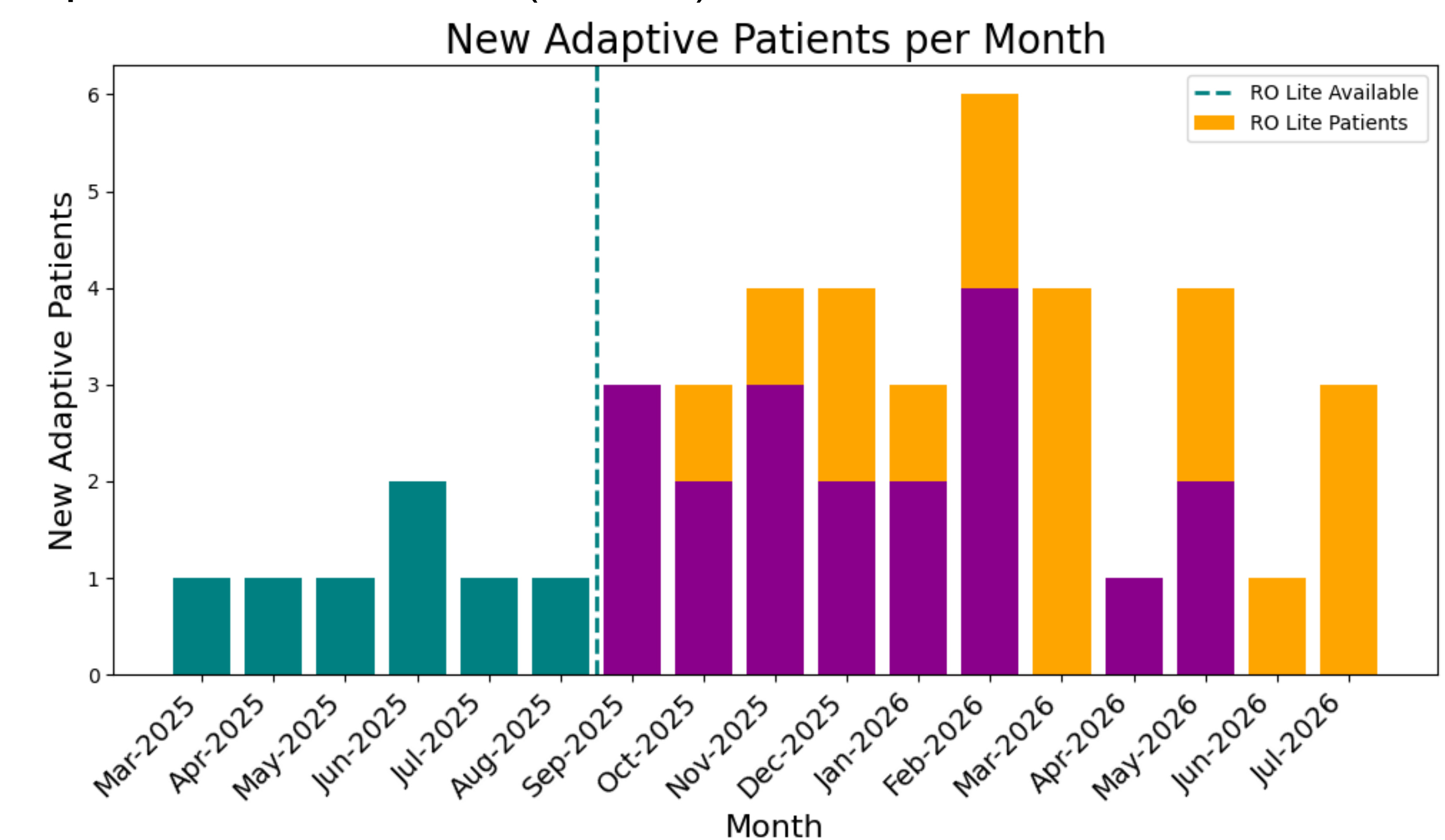
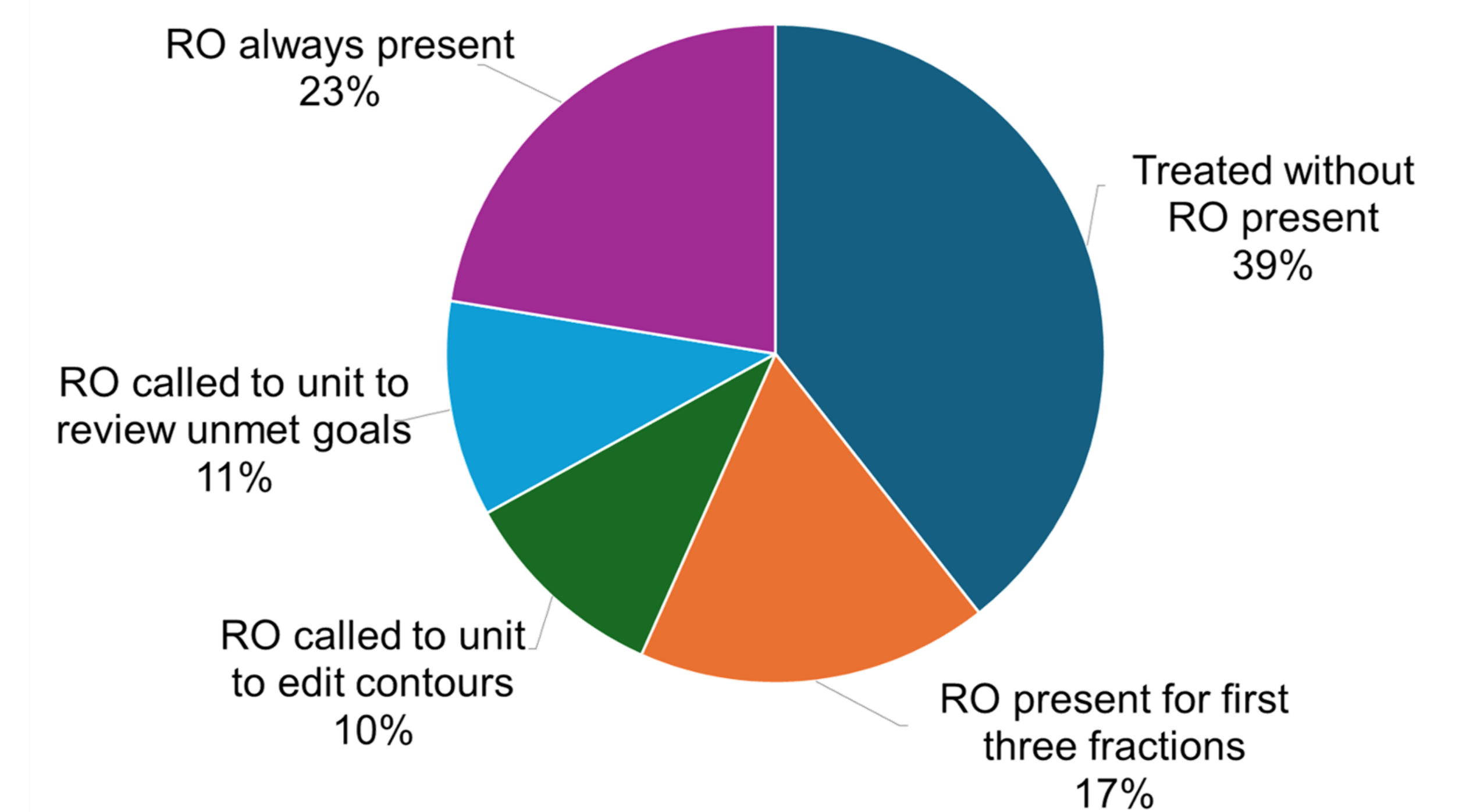


Figure 2. Adaptive fractions treated between October 2025 to May 2026.



- 39% of all adaptive sessions since introduction of the RO lite workflow have been treated without the RO present at the treatment unit (Figure 2).

Conclusions

- A prescribed workflow and structured RTT credentialing program for contour review and plan approval delegation has improved access to CBCT-based online ART.
- Our approach has been implemented for prostate and bladder cases, and early metrics indicate that it has improved utilization.

Reference

1. Huang K, Das P, Olanrewaju AM, et al. Automation of radiation treatment planning for rectal cancer. J Appl Clin Med Phys. 2022;23(9):e13712. doi:[10.1002/acm2.13712](https://doi.org/10.1002/acm2.13712)

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Table 1. Likert scoring criteria used by radiation oncologists to review radiation therapist ART contours. Adapted from Huang et al. (1)

Scoring Criterion		Description
1	Unacceptable, unusable	Contours are so poor that they could not be used to create an acceptable treatment plan
2	Unacceptable, major edits	Contour edits are required to ensure appropriate treatment and sufficiently significant that the user would prefer to start from scratch
3	Unacceptable, minor edits that are necessary	Contour edits that are clinically important, but it is more efficient to edit the current contours than to start from scratch
4	Acceptable, minor edits that are not necessary	Stylistic differences, but not clinically important; the current contours are acceptable
5	Acceptable, use as-is	Clinically acceptable, could be used for treatment without change