### Accepted Manuscript

Title: A rapid, computational approach for assessing inter-fraction esophageal motion for use in stereotactic body radiation therapy (SBRT) planning.

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PII:	S2452-1094(17)30198-7
DOI:	https://doi.org/doi:10.1016/j.adro.2017.10.003
Reference:	ADRO 145
To appear in:	Advances in Radiation Oncology
Received date:	14-3-2017
Revised date:	30-8-2017
Accepted date:	3-10-2017

Please cite this article as: Michael L. Cardenas, Thomas R. Mazur, Olga L. Green, Christina I. Tsien, A rapid, computational approach for assessing inter-fraction esophageal motion for use in stereotactic body radiation therapy (SBRT) planning., *Advances in Radiation Oncology* (2017), https://doi.org/doi:10.1016/j.adro.2017.10.003.

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## ACCEPTED MANUSCRIPT

Title: A rapid, computational approach for assessing inter-fraction esophageal motion for use in Stereotactic Body Radiation Therapy (SBRT) planning.

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#### Summary

We introduce a method for quantifying in-plane changes to the contour boundaries of a structure over time in a series of images. The method requires the exportation of the DICOM structure files to Matlab where simple geometry is applied swiftly to relevant contour boundary points to yield a full characterization of changes.

We applied this method to the evaluation of inter-fraction motion of the esophagus of patients undergoing SBRT on a MR-guided RT system.

#### Abstract

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