

# Robin Medical develops new application of the EndoScout tracking system to improve Radiation Therapy of lung cancer

*Serving as a subcontractor to the University of Maryland in Baltimore, we participate in the development of noninvasive motion tracking of lung tumors during RT*

BALTIMORE, MD, UNITED STATES, August 5, 2026 /EINPresswire.com/ -- Robin Medical ( [www.robinmedical.com](http://www.robinmedical.com) ) continues its collaboration with the School of Medicine, University of Maryland in Baltimore (UMB), on the development of new methods to track tumor motion during radiation therapy (RT). This new development, spearheaded by Dr. Amit Sawant, Professor and Vice Chair for Medical Physics at UMB, and funded by the National Institutes of Health (NIH R01-CA262017), aims to overcome a major problem in RT – motion of the radiated tumor due to breathing. Respiratory motion causes significant geometric and dosimetric errors in lung cancer RT. Consequently, these patients may experience damage to normal lung tissue and organs. Current solutions that are based on integrated MRI and RT systems, for example the Unity system by Elekta (with an integrated MRI scanner by Philips), while very effective, are complex and expensive, which limits their widespread clinical deployment.

The concept of the new solution uses Robin Medical's EndoScout tracking system to track chest wall motion during free-breathing MRI scanning. The tracking information along with the MRI scans enable the estimation of a functional relation between the tumor motion and the chest wall motion. During RT, monitoring the position of the tracking sensors over the chest enables estimation of tumor motion inside the chest, and steering the radiation beam to remain focused on the moving tumor.

This work has recently been published in peer-reviewed scientific journals:

- Liang X, Pan L, Nevo E, Soomro MH, Roys S, Gullapalli RP, Sawant A, Ernst T, Zhuo J. Capturing breathing variability using surface tracking-assisted time-resolved multi-cycle 4D lung MRI. *Phys Med Biol*. 2025 Oct 29;70(21). doi: 10.1088/1361-6560/ae0ef8. PMID: 41038239.

- Soomro MH, Xu J, Ding J, Cammin J, Lamichhane N, Van Slyke A, Liang X, Roys S, Zhuo J, Ernst T, Gullapalli RP, Nevo E, Sawant A. Geometric characterization of an electromagnetic surface tracking system in a radiation therapy environment. *J Appl Clin Med Phys*. 2025 Jul;26(7):e70187. doi: 10.1002/acm2.70187. PMID: 40660872; PMCID: PMC12260265.

- Soomro MH, Liang X, Roys S, Xu J, Lamichhane N, Zhuo J, Ernst T, Gullapalli RP, Nevo E, Sawant A. Surface tracking-assisted multi-cycle 4D MRI motion modeling for lung radiotherapy: a preliminary validation study. Biomed Phys Eng Express. 2026 Feb 25;12(2). doi: 10.1088/2057-1976/ae45ae. PMID: 41687130.

The established market for stand-alone medical linear accelerator-based RT systems and the rapid increase in indications of RT for cancer therapy present a huge market for new solutions as developed by Dr. Sawant and his colleagues, and a potential new clinical use for the EndoScout tracking system that has been developed and FDA-cleared for MRI-guided interventions.

Disclaimer: This system is under development and is not available for clinical use.

Erez Nevo  
Robin Medical, Inc.  
4434504030 ext.  
[email us here](#)

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