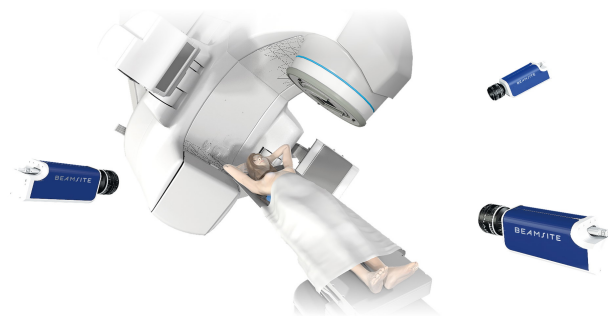


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Treat with **CONFIDENCE**



FAQs

How does it work?

When tissue is irradiated with high energy photons (or electrons) it will glow with visible light due to the Cherenkov effect. Although extremely dim, this light can be seen by BeamSite which has been designed specifically to image Cherenkov light in radiotherapy treatment rooms.

Can I leave the room lights on?

Yes. BeamSite works by imaging synchronously with the linear accelerator, thereby minimizing the impact of room light.

Is it safe?

Yes. No extra radiation is given to the patients to get these images. The images are “free” information produced as a result of the treatment.

What if my patient is covered with clothing or a sheet?

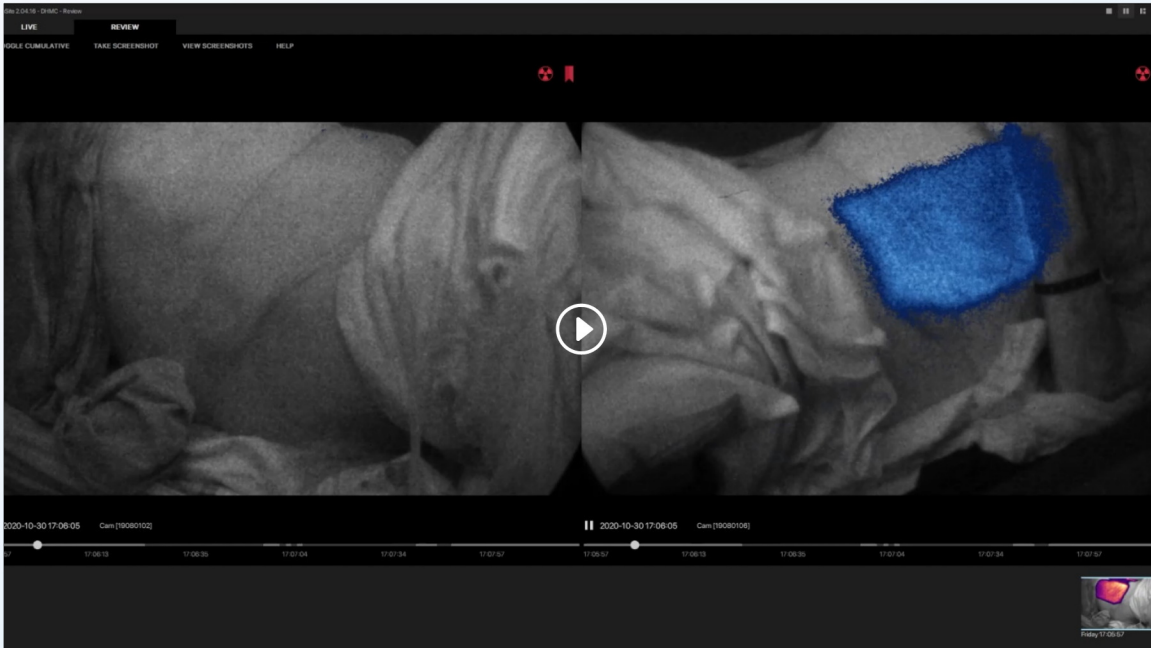
BeamSite requires line of sight to the tissue it is imaging. Sheets or clothing over the tissue being treated may block some of the light coming from the patient.

Are you FDA cleared?

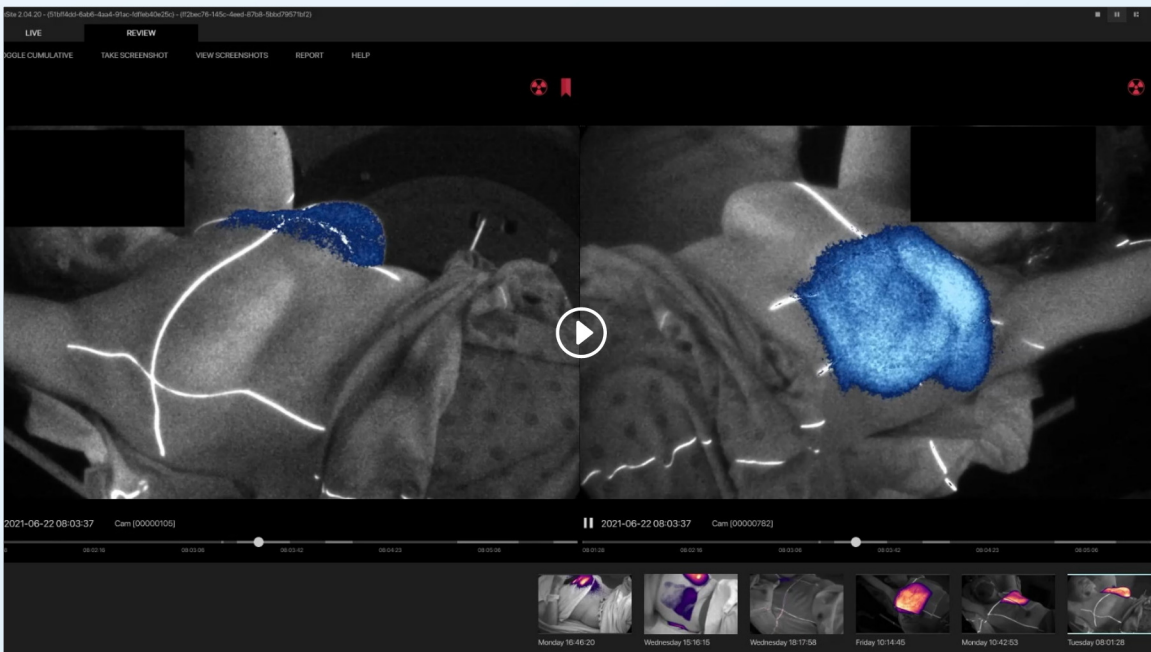
Yes. BeamSite has FDA 510(k) clearance for sale in the US.

BeamSite in the CLINIC

The patient images and videos below were captured from BeamSite cameras installed in three LINAC bunkers throughout Dartmouth-Hitchcock's Radiation Oncology Department. These are patient treatments monitored by BeamSite and highlight some of the incidents identified for possible improvement. For more details, please see the full manuscripts referenced below.



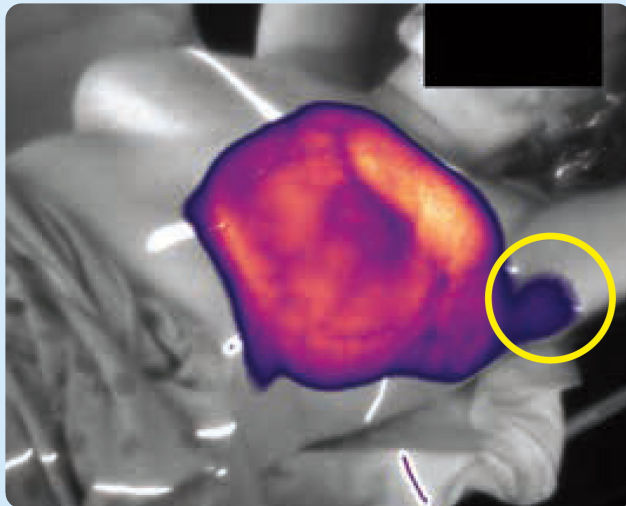
Arm motion: This patient's arm was setup properly, but was moved into the exit field after the beam turned on.



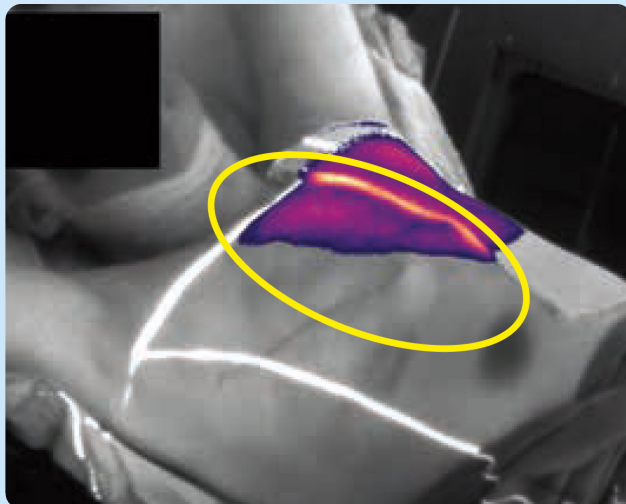
Dynamic breast treatment: This patient's left arm was aligned differently on this one fraction, leading to extraneous exposure to the armpit.



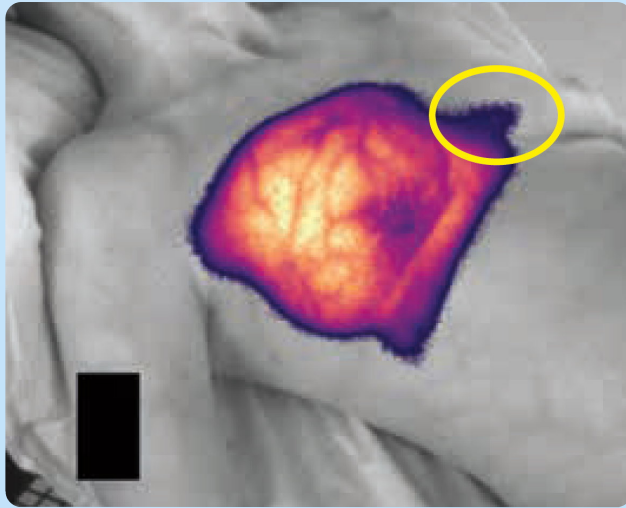
Improper positioning leads to patient forearm in beam. Occurred in 7 of 10 treatment fractions.²



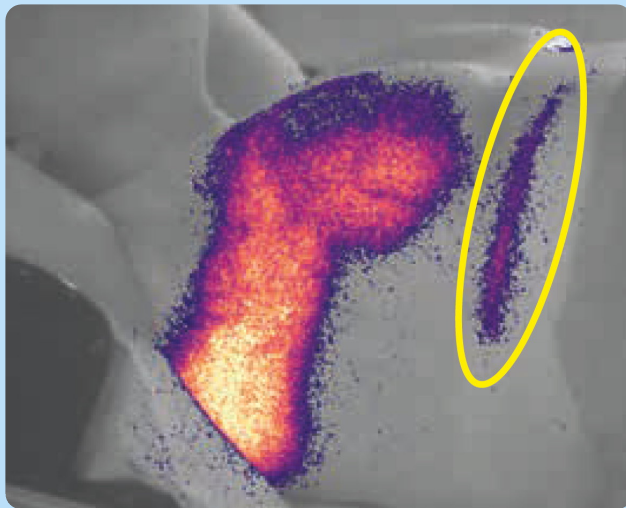
Deviation in left arm position causes exposure in armpit area. Seen in 1 of 15 fractions.²



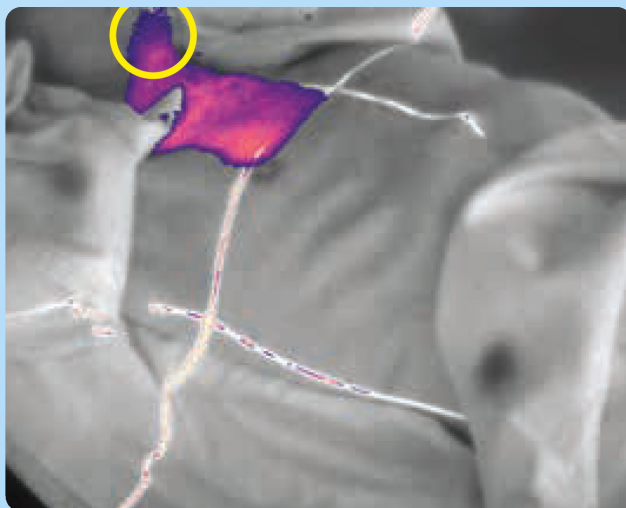
Partial coverage of treatment area with bolus in 7 of 14 treatments imaged.²



Difficult to set-up patient (arm down) leads to unintended dose to contralateral breast.³



Treatment plan included an unintentional open MLC leaf.³



Chin exposure seen during delivery. Corrected mid-treatment by the treating therapist.²



The ability to visualize the beam on our patient's skin in real time is a game changer. This is the ultimate patient care tool.

Rory A. Rosselot
BS RTT, Radiation Therapist

1. Not FDA cleared for electrons, protons or brachytherapy
2. Alexander, Daniel A. et al. "Retrospective Evaluation of an Always-on Cherenkov Imaging System for Radiotherapy Quality Improvement." (2021, preprint available online: <http://arxiv.org/abs/2110.07494>).
3. Jarvis, Lesley A et al. "Initial Clinical Experience of Cherenkov Imaging in External Beam Radiation Therapy Identifies Opportunities to Improve Treatment Delivery." International Journal of radiation oncology, biology, physics vol. 109,5 (2021): 1627-1637. doi:10.1016/j.ijrobp.2020.11.013

The World's FIRST In Vivo Radiation Imaging System

TYPICAL APPLICATIONS

In vivo monitoring of all external photon beam radiation therapy anywhere in the body where radiation treatment is indicated.¹

Applicable for all treatment types such as 3-D CRT, IMRT, VMAT, SRS, IGRT

FEATURES

- See real-time video of the beam directly on the patient
- Always on
- Simple, easy to use
- See entry *and* exit beams
- Three cameras provide full coverage
- Record and playback capabilities

BENEFITS

- Monitor every patient, every day, every fraction
- Improve treatment safety by providing visual feedback
- Correct issues as part of routine quality improvement
- Share and replay any anomalies with the Quality Assurance and Improvement team

CLINICAL USE CASES

- Monitor stray radiation in out-of-field regions during treatment
- Confirm patient compliance during treatment
- Track patients with unusual habitus
- Identify, track, and document errors and near misses



