

Patient-Centered Decision-Making for Cavity Shaves

OCT intraoperative imaging gives surgeons a new visualization tool to make patient-specific, targeted decisions.

Positive surgical margins can lead to re-excisions, which can negatively impact patients.¹ As a strategy to reduce re-excision rates, some surgeons use the technique of routinely taking more tissue around the excised tumor. Full cavity shaves remove extra tissue on all six margins.

Is it worth it? Surgeons are split, especially without good alternatives. Some studies support this technique. Other studies show that circumferential shaving does not significantly reduce the positive margin rate.²

Research shows that Optical Coherence Tomography (OCT) technology has the potential to increase confidence that the tumor has been excised with sufficient margins, or to indicate that additional cavity shavings are advisable prior to closing.³

“Cavity shaves (CS) is a surgical technique that may reduce re-excision rates. However, there is limited high-quality evidence that supports general use of this method...most studies did not find statistical significance that CS reduced re-excision rates.”²

In addition to mixed reviews on efficacy, taking more volume presents other issues:

1

Removing more tissue is often negatively associated with cosmetic appearance,⁴ as well as physical and psychosocial well-being for the patient⁵

2

A lack of consistent standards could lead to taking more tissue than necessary

3

Cavity shaves add time and increase costs in the operating room and Pathology



“The cavity shave technique has been shown to reduce but not eliminate the incidence of positive margins...room for improvement remains and with it, the rates of both re-excision and local recurrence. An imaging technology that can be used intraoperatively and in real-time to supplement standard-of-care tissue assessment has the potential to improve such outcomes.”³

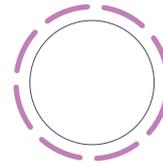
- Dr. Beth DuPree in the Indian Journal of Surgery, Nov. 2021³

The Benefits of Visualizing Margins in Real Time

With Perimeter's S-Series OCT technology, surgeons can:

- + Visualize suspicious features in the margins with ultra-high-resolution clarity, allowing them to decide if targeted shaves are necessary in real-time during the primary surgery
- + Rescan shaved margins to visualize remaining microstructures
- + Integrate OCT technology seamlessly into their existing workflow

Without OCT

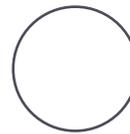


Routine untargeted cavity shaves

Adding OCT imaging gives surgeons the clarity to make informed decisions in the OR



Partial cavity shaves targeted by imaging



No cavity shaves may be necessary

Bottom Line

With real-time, intraoperative OCT imaging, surgeons can tailor their clinical decision-making to the needs of each patient – using directed shaves or none at all.

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2. Fernandez Pacheco, M., Ortmann, O., Ignatov, A. et al. Does cavity margin shaving reduce residual tumor and re-excision rates? A systematic review. *Arch Gynecol Obstet* (2022). <https://doi.org/10.1007/s00404-022-06512-5>.
3. DuPree, B.B., Papez, M.J., Pirruccello, E. et al. Potential Utility of Adjunct Imaging with Wide-Field Optical Coherence Tomography for Gross and Microscopic Evaluation of Breast Specimens in Real-Time in the Operating Suite. *Indian J Surg* (2021). <https://doi.org/10.1007/s12262-021-03079-4>.
4. Chris Baliski, Brendan Bakos, Patient reported outcomes following breast conserving surgery are improved by minimizing re-excisions and excessive breast tissue removal, *The American Journal of Surgery*, 2022, ISSN 0002-9610, <https://doi.org/10.1016/j.amjsurg.2022.03.008>.
5. Mainwaring JM, Walker LM, Robinson JW, Wassersug RJ, Wibowo E. The Psychosocial Consequences of Prostate Cancer Treatments on Body Image, Sexuality, and Relationships. *Front Psychol*. 2021 Oct 22;12:765315. doi: 10.3389/fpsyg.2021.765315. PMID: 34744944; PMCID: PMC8568796.