Ultrasound-Guided Cryoablation Therapy for Breast Cancer: Economic Impact of Service Integration into an Existing Breast Imaging Practice

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Background

- Ultrasound (US)-guided cryoablation therapy for breast cancer was recently approved by the U.S. Federal Drug Administration for the treatment of breast cancer in October 2025.
- Most outpatient breast imaging centers routinely perform multimodality percutaneous breast biopsies, under contrast-enhanced mammography (CEM)-guidance, stereotactic- or tomosynthesis- guidance, US-guidance, and contrast-enhanced magnetic resonance imaging (MRI)-guidance.
- We aim to analyze the financial and economic impact of starting an US-guided breast cancer cryoablation service line within an existing breast imaging practice.

Methods

- Retrospective review of 50 breast cancer cryoablation and multimodality breast biopsy procedures (10 each) performed at a hospital outpatient breast imaging center between October 2023 and January 2026.
- Collected insurance, billing, and reimbursement data from the electronic health record to define an empirical cohort.
- Created a theoretical cohort using Current Procedural Terminology (CPT) codes, with reimbursement amounts detailed in the Medicare Hospital Outpatient Prospective Payment System (OPPS) and the Medicare Physician Fee Schedule (MPFS).

Results

Table 1. Overall Charges and Payments Overview – Empirical Cohort

Biopsy/Ablation	Average Total Charge	Average Primary Reimbursement	Total Payment (including copay)	Payment to charge ratio
CEM-guided bx	$7,108.90	$2,690.55*	$2,939.19	0.413
Stereotactic-guided bx	$8,613.15	$2,061.92	$2,420.40	0.281
US-guided bx	$7,924.37	$1,831.83	$2,191.21	0.277
MRI-guided bx	$7,077.98	$1,781.65	$2,142.92	0.303
US-guided cryoablation	$16,171.55	$3,539.18$^{\Delta}$	$4,198.45	0.260

* 60% of this group had commercial insurance rather than Medicare coverage
$^{\Delta}$ Currently there is no professional fee reimbursement for cryoablation under CPT code 0581T, a category III code for emerging technology

Table 2. Comparison With Theoretical Medicare Reimbursement Cohort

Biopsy/Ablation	Empirical Cohort: Primary Reimbursement	National Average (MAC: 0000000)	% difference empirical/ National Average	Metropolitan Boston (MAC: 1421201)	% difference empirical/ Metropolitan Boston
CEM-guided bx	$2,690.55	$1,960.17	-*	$2,268.71	-*
Stereotactic-guided bx	$2,061.92	$2,113.32	-2.4%	$2,427.49	-12.9%
US-guided bx	$1,835.40	$2,033.16	-9.7%	$2,341.31	-21.6%
MRI-guided bx	$1,781.65	$1,930.57	-7.7%	$2,234.08	-20.3%
US-guided Cryoablation	$3,539.18	$3,689.08	-4.1%	$4,308.74	-17.9%

* 60% of this group had commercial insurance rather than Medicare coverage

- Cryoablation resulted in a similar payment to charge ratio compared to other biopsy modalities, except for the CEM-guided biopsy group due to commercial payor differences.
- Cryoablation provided the most revenue to the breast imaging practice.
- Comparing theoretical to empirical reimbursement, cryoablation is reimbursed at a higher rate than other breast biopsy techniques.

Conclusions

- US-guided breast cancer cryoablation therapy can be potentially integrated into an existing breast imaging practice without incurring a financial loss.
- Anticipated cryoablation revenue will be higher than multimodality breast biopsies that are traditionally performed at a breast center.
- Hospitals should not avoid cryoablation due to concerns of budget deficit.
- Future studies should explore cost comparison when the CPT code for cryoablation becomes a Category I code with professional fee reimbursement.