

# Researchers find rate of follow-up surgeries after partial mastectomy varies greatly

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(Medical Xpress) -- A study conducted at the University of Vermont/Fletcher Allen Health Care and three other sites and published in the February 1 issue of the Journal of the American Medical Association found significant variability – by both surgeon and institution – in the rates of follow-up surgeries for women who underwent a partial mastectomy for treatment of breast cancer. The research determined that these differences could not be explained by a patient’s medical or treatment history, and hypothesized that they could affect both cancer recurrence and overall survival rates.

About three-quarters of women battling breast cancer have a partial mastectomy, a surgery that aims to remove cancerous cells while maintaining maximum cosmetic appearance of the breast. However, failure to remove all the cells during the initial operation requires additional surgery. According to the study’s findings, nearly one in four of these women received additional surgery – called reexcision – to remove additional tissue, a situation that can produce considerable psychological, physical and economic stress for patients and delay use of recommended supplemental therapies.

Led by Laurence McCahill, M.D., a former UVM/Fletcher Allen surgeon now at Michigan State University’s College of Human Medicine, the Lacks Cancer Center at Saint Mary’s, and Van Andel Research Institute, the study measured variation in reexcision rates across hospitals and surgeons from 2003 to 2008 in 2,206 women with invasive breast cancer who underwent partial mastectomy at four sites across the

country.

In addition to McCahill, collaborators on the study include Richard Single, Ph.D., UVM associate professor of statistics; Ted James, M.D., UVM associate professor of surgery; Johanna Sheehey-Jones, clinical analyst, and John Ratliff, senior measurement analyst, of the Jeffords Institute for Quality and Operational Effectiveness at Fletcher Allen; and researchers from Kaiser Permanente in Colorado, Marshfield Clinic Cancer Care and Research Institute in Wisconsin, and Group Health Research Institute in Washington. This team developed a database of surgical outcomes in order to address these issues. Roughly 1,000 of the women in the study were enrolled at the UVM/Fletcher Allen site.

“A partial mastectomy is one of the most commonly performed cancer operations in the United States,” says McCahill. “Currently, there are no readily identifiable quality measures that allow for meaningful comparisons of breast cancer surgical outcomes among surgeons and hospitals, but the current U.S. health care environment calls for increasing accountability for physicians and hospitals as well as transparency of treatment results.”

“That’s really what this study highlighted – there isn’t a standard of care,” James adds. “This study uncovered a wide variation across the United States in the treatment of women with breast cancer that could potentially impact quality of care. We need to study this further to determine best practices and best outcomes.”

UVM’s Single explains that the size of the study allowed the team to use advanced statistical techniques to model both clinical outcomes variables, as well as individual surgeon-level effects.

“We found that controlling for patient and tumor characteristics, along with the volume of surgeries performed by each surgeon, left a great

deal of unexplained variability in the rate of reexcision,” says Single. “For example, given a specific patient, choosing two surgeons at random from different institutions resulted in an average of a 60 percent greater chance of a reexcision for one surgeon versus the other.”

Johanna Sheehey-Jones of Fletcher Allen’s Jeffords Institute for Quality and Operational Effectiveness led the data standardization at all four sites. A uniform data collection instrument was necessary to meaningfully combine data elements extracted from a variety of databases at the participating institutions. John Ratliff, also of the Jeffords Institute, developed the Fletcher Allen databases and aided in the design of the multi-institution database. One of the study’s objectives was to develop an initial framework for identifying areas on which future studies could focus in order to define measures of quality in the surgical treatment for [breast cancer](#). The current study, says Single, employs comparative effectiveness research, which involves the use of existing data for novel research to improve healthcare delivery and outcomes. Increasing healthcare costs have driven the interest in such research.

Provided by University of Vermont

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