# Error rate higher in breast imaging reports generated by automatic speech recognition

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Breast imaging reports generated using an automatic speech recognition system are nearly six times more likely to contain major errors than those generated with conventional dictation transcription, a new study in Canada shows.

The study reviewed 615 reports of complex cases discussed on multidisciplinary team rounds: 308 reports generated with automatic speech recognition (the radiologist dictates the report and software immediately transcribes the report on a computer screen) and 307 reports generated with conventional dictation transcription (the radiologist dictates the report and a team transcribes and reviews the report). "Our study found that at least one major error was found in 23% of automatic speech recognition (ASR) reports compared to 4% of conventional dictation transcription report," said Anabel Scaranelo, MD, of the University Health Network in Toronto, Canada. Major errors were described as those errors that had an impact on the understanding of the report and errors affecting patient management, such as an incorrect unit of measurement (for example, millimeter instead of centimeter) or a missing or added "no" (for example, malignancy instead of no malignancy).

The error rate was even higher if breast MRI reports were looked at separately, said Dr. Scaranelo. The major error rate was 35% for ASR reports and 7% for conventional reports, she said. "We think this is because MRI reports are more complex, with more description," Dr. Scaranelo said.

Native language had no affect on the ASR report error rate, said Dr. Scaranelo. "We thought that there may be a higher error rate for non-native English speakers because the software works with voice recognition, but that didn't happen," she said. The ASR system is fed with several hours of dictation from the radiologists, and it appears to have "learned" from the voice data that was input, she says.

ASR is commonly used in several countries, said Dr. Scaranelo. "The results of our study emphasize the need for careful editing of reports generated with ASR. They also show a strong need for standardized templates and use of structured reports, especially for breast MRI," she said.

The study is published in the October, 2011 *American Journal of Roentgenology*.

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