

# Cone beam CT proves better for visualizing some causes of hearing loss at half the radiation dose

May 2 2012

---

Cone beam CT is superior to multidetector CT for detecting superior semicircular canal dehiscence or the so called third window (a small hole in the bony wall of the inner ear bone that can cause dizziness and hearing loss) and it uses half the radiation dose, a new study shows.

The study, conducted in Bruges, Belgium, included 21 patients who had both a cone beam CT and a multidetector CT examination of their right and left temporal bones, said David Volders, MD, one of the authors of the study. Two radiologists reviewed the images from both exams and scored them based on image quality and the presence of pathology. The study found that cone beam CT "corrected a false positive diagnosis for superior semicircular canal dehiscence in 11 out of 16 cases which were positive on multidetector CT (68.8%)," said Dr. Volders. Multidetector CT had indicated there was a dehiscence of the superior semicircular canal, when there wasn't, he said. In addition, cone beam CT scored significantly better than multidetector CT in visualizing normal temporal bone anatomy, said Dr. Volders.

"In our facility, all patients who undergo temporal bone imaging to diagnose fractures, congenital [middle ear](#) deformities, chronic ear infections and conductive [hearing loss](#) are now scanned with cone beam CT," said Dr. Volders. "The significantly better image quality and the very low [radiation dose](#) has made cone beam CT our main choice for temporal bone imaging," he said. "Radiologists should closely follow the

cone beam CT evolutions and consider a cone beam CT in their practice as new generation high end cone beam CT is more and more claiming its place in diagnostic imaging of the temporal bone." Dr. Volders added.

The study will be presented May 2, 2012 at the American Roentgen Ray Society Annual Meeting in Vancouver, Canada.

Provided by American Roentgen Ray Society

Citation: Cone beam CT proves better for visualizing some causes of hearing loss at half the radiation dose (2012, May 2) retrieved 20 April 2024 from <https://medicalxpress.com/news/2012-05-cone-ct-visualizing-loss-dose.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.