Safer radiologic imaging of otolaryngologic disease in children

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Advances in diagnostic imaging have benefited children with otolaryngologic disease, allowing shorter hospital stays, fewer invasive procedures, more targeted surgical procedures, and earlier and more precise diagnoses. However, despite improved technology, concerns about exposure of children to ionizing radiation have recently come to the forefront, according to a commentary in the July 2012 issue of *Otolaryngology–Head and Neck Surgery*.

Children have more radiosensitive body tissues than adults, and also tend to live longer, giving the effects of radiation exposure time to manifest. According to sources cited in the study, about seven million CT scans are performed on children every year in the United States alone, and medical source radiation exposure accounts for almost half our total radiation exposure in the United States.

This commentary discusses efforts "to reduce the exposure of children to radiation from diagnostic imaging, with focus on the responsibilities of the otolaryngologist in such efforts." The challenge lies, the authors write, in determining when CT scans are necessary and making this information widely available to otolaryngologists and others.

Several suggestions and resources are provided. The authors discuss the ALARA principle (As Low As Reasonably Achievable) and suggest that reducing radiation dosage is as simple as scanning only the indicated area. Two online resources exist: The American College of Radiology has provided Appropriateness Criteria (acr.org/ac) and the Alliance for

Radiation Safety in Pediatric Imaging has created the site www.imagegently.org.

Other sources cited in the study provide three strategies to reduce radiation exposure from CT scans: 1) order fewer CT scans, 2) use another imaging modality that does not use ionizing radiation when possible, 3) reduce the radiation dose of each study.

The authors conclude that "safer imaging of children is a shared responsibility." It is important to order the right test at the right time, and to "consider the appropriateness of imaging, assuring that the best modality is being ordered, that the imaging actually influences management, and that the timing of imaging is ideal."

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