

Pediatric CT and Fetal Ultrasound



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To read Lane F. Donnelly's February 2001 *AJR* article on pediatric radiation issues, please visit <http://www.ajronline.org>; For the Spring 2009 *InPractice* article on Donnelly and the progress that has been made with this issue since the publication of the *AJR* article, please visit <http://www.arrs.org/Publications/InPractice/index.aspx>

The Image Gently campaign for pediatric CT is a commendable part of the evolution of dose reduction resulting from the initial article by Lane F. Donnelly and colleagues in the February 2001 *AJR*, as well as the subsequent revisiting of the article in the Spring 2009 issue of *ARRS InPractice*.

It is worth noting, however, that this matter did not receive meaningful attention before 2001; our regional children's hospital only started reducing exposure factors in CT after this publication. Particular radiation risks for children were common knowledge before this time, and I had always felt that it was intuitively obvious that less CT radiation would be needed in pediatric situations.

While working as a general radiologist in the 1990s in Prince Edward Island, Canada, I ended up having to use do-it-yourself adjustments. The delay in developing and promoting CT dose reduction protocols represents a regrettable oversight by the pediatric radiology community.

Uncertainty about the safety of fetal ultrasound is my particular area of interest and my ensuing development of www.fetalultrasoundsafety.net. There has been more than a 1,000-fold increase in time-averaged acoustic intensities since the 1980s and pressure fluctuations within the ultrasound pulse are disturbingly large; the fetal eye is commonly exposed to mechanical ultrasound intensities well above the regulatory guidelines for ophthalmic sonography; there are few satisfactorily controlled follow-up studies after birth; and the results are not entirely reassuring; no controlled follow-up studies have been carried out with current intensities.

In the unlikely event that some adverse effect of fetal ultrasound examinations is demonstrated in the future, our current attitudes and practices will be seen as deplorable. The ultrasound community, prospective parents, and society in general should be more informed, especially about some of the information that many would like to ignore. ■