

New initiative provides materials to help lower radiation dose in pediatric fluoroscopic procedures

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The Image Gently campaign has developed easily accessible online teaching materials and checklists to help providers use the lowest dose necessary to perform fluoroscopic procedures on children. Physicians, medical physicists, and radiologic technologists are encouraged to visit the Image Gently Web site (www.imagegently.org) to review these important materials and factor the information into their clinical decision making.

The Image Gently campaign is conducted by the Alliance for Radiation Safety in Pediatric Imaging, founded by the Society for Pediatric Radiology (SPR), the American College of Radiology (ACR), the American Society of Radiologic Technologists (ASRT), and the American Association of Physicists in Medicine (AAPM), and now encompasses more than 50 medical organizations serving more than 500,000 [health care providers](#) world-wide.

There is no doubt that fluoroscopic procedures help improve and save lives. However, children are more sensitive to radiation than adults, and cumulative [radiation exposure](#) to their smaller, developing bodies could, over time, have adverse effects.

When fluoroscopic procedures are indicated, providers where appropriate are urged to:

- Pause and child-size the technique (match kVp and mAs to size of child)
- Use lowest pulse rate possible
- Limit fluoroscopic time and limit use of magnification mode
- Carefully collimate area of interest and utilize appropriate shielding
- Utilize pulsed digital fluoroscopic equipment with adjustable frame speeds and last image hold and capture capability.
- Consider ultrasound or, when applicable, MRI

"The diagnostic results that these procedures provide, as with all medical techniques, also come with their own potential questions and concerns. This extension of the Image Gently initiative gives providers real world, practical guidance to help ensure that the [radiation dose](#) administered to children via these procedures is as low as possible given the particular circumstances of each case," said Marta Hernanz-Schulman MD, FAAP, FACR, chair, ACR Pediatric Guidelines and Standards Committee, past President of the SPR and member of the Alliance Steering Committee, who is leading the diagnostic fluoroscopy component of the Image Gently campaign.

New on the Image Gently Website are:

- Downloadable presentation for use by providers to teach their staff methods to reduce dose and maintain quality. Radiologists are encouraged to give this talk locally

- Downloadable checklist of dose reduction steps the team should review for each patient
- Downloadable outline of dose reduction and quality maintenance steps to take in the department
- Information for pediatricians and parents regarding fluoroscopic procedures in children

"Healthcare providers want to ensure that these lifesaving procedures are performed with the utmost care and safety in children. Pediatric patient care is greatly improved during fluoroscopy by collaboration of professionals across multiple disciplines. The information provided on the Image Gently Website provides a basis for interaction among the radiologists, the radiologic technologists, qualified medical physicists and other team members to improve image quality at reduced radiation doses to the patient," said Maryellen L. Giger, Ph.D., FAAPM, FAIMBE, President of the American Association of Physicists in Medicine.

Referring physicians are encouraged to ask the following of any imaging provider to whom they refer their pediatric patients:

- If the facility is accredited by the ACR
- If the technologists are certified or licensed, and whether they have experience with children
- How frequently the facility performs the requested fluoroscopic study in children
- If a board certified radiologist with pediatric experience, or a

pediatric radiologist will be performing and interpreting the study

"Image Gently has developed the Pause and Pulse campaign in part as follow-up to the public meeting held by the U.S. Food and Drug Administration. Like the FDA, we believe that there is an opportunity to promote radiation protection in fluoroscopy in children. Fluoroscopy in children is a commonly performed study and there is a significant opportunity to decrease radiation dose for children, while still performing a diagnostic exam. These materials raise awareness and provide evidence based educational materials to work toward this goal," said Marilyn Goske, MD, chair of the Alliance, past president of the SPR, and Silverman Chair for Radiology Education at Cincinnati Children's Medical Center.

"Our goal is to ensure that every facility uses appropriate dose reduction techniques when performing imaging and interventional procedures in children," said James Temme, M.P.A., R.T.(R)(QM), FASRT, president of the American Society of Radiologic Technologists. "The technique must always be matched to the size and needs of the child."

The Image Gently site also contains the latest research and educational materials to aid radiologists, radiologic technologists, medical physicists, and other imaging stakeholders in determining the appropriate techniques to be used in the imaging of children and how the radiation received from these exams may affect pediatric patients over time.

Provided by American College of Radiology

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