

International Day of Radiology 2015
Interview on paediatric imaging
Israel / Prof. Liora Kornreich



**INTERNATIONAL
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Paediatric imaging in Israel

An interview with Liora Kornreich, paediatric radiologist at the Imaging Department of the Schneider Children's Medical Center of Israel in Petach Tikvah.

European Society of Radiology: What is paediatric imaging? What age are the patients, and how is it different from regular imaging?

Liora Kornreich: Paediatric imaging is the imaging performed on paediatric patients from birth (pre-term or term) to 18 years. Paediatric imaging takes into consideration the physical and emotional needs of the child. It is performed on equipment adapted to the patient's size, tailored to paediatric pathology and in accordance with the ALARA (As Low As Reasonably Achievable) tenets.

ESR: Since when has paediatric imaging been a specialty in its own right?

LK: The first textbook on paediatric imaging was published in 1945 by Dr. Caffey, who was a paediatrician turned radiologist, and is considered the founder of the discipline.

ESR: Which imaging modalities are usually used to examine paediatric patients? Does this change depending on the age of the patient?

LK: All the available modalities are used in paediatric radiology. Plain films are widely used in the setting of acute disease and trauma. For sectional imaging, ultrasound (US) and magnetic resonance imaging (MRI) are preferred to computed tomography (CT), in order to avoid ionising radiation.

ESR: What risk does the radiation from imaging techniques like x-ray and CT pose to paediatric patients? What kind of safety measures are in place to protect children?

LK: Exposure to x-rays is currently considered to carry a small risk of carcinogenesis. The best way to prevent the effects of radiation is to avoid it. Therefore modalities involving exposure to ionising radiation are used only with clear indications and meticulous technique, to comply with the ALARA principles.

ESR: Do general radiologists always use lower radiation doses when imaging children; are there any guidelines to follow?

LK: General radiologists are not as aware as paediatric radiologists of the risk of ionising radiation and the options for reducing exposure. The *Alliance for Radiation Safety in Paediatric Imaging* is supporting a site with guidelines for both professionals and parents, as part of the *Image Gently* campaign.

ESR: How aware are parents and relatives about the risks of radiation exposure? How do you address the issue with them?

LK: Lately, families' awareness of the risk of radiation exposure is increasing. We explain to the parents the special precautions we use and that the indications for performing the study justify the minimal risk.

ESR: Undergoing an imaging examination, especially a long procedure like MRI, can be an uncomfortable and sometimes frightening experience for some children. How can it be made more bearable?

LK: Patients under the age of six undergo longer examinations under anaesthesia. Above that age, the parents always accompany the child. In preparation for the examination, the imaging staff explain in detail the procedure they are going to carry out. During the examination, the staff communicate constantly with the child and give reassurance as needed.

ESR: How many imaging exams are performed on paediatric patients in Israel each year?

LK: In our hospital, which is the only paediatric tertiary centre in the country, we perform about 90,000 studies per year.

ESR: Access to modern imaging equipment is important for paediatric imaging. Are hospitals in Israel equipped to provide the necessary exams?

LK: Most of the necessary equipment for paediatric imaging is available in all hospitals in Israel. However the expertise for adapting imaging to the special needs of children is available only in a few hospitals.

ESR: What has changed in paediatric radiology during your lifetime?

LK: During the last 35 years, paediatric radiology has evolved from being based on radiographs and fluoroscopy to include US, CT and MRI. Moreover, there has been a significant reduction in radiation exposure, facilitated by the shift to digital imaging.

ESR: Where do you see the next developments in your field?

LK: The next development is expected to be in the field of functional and molecular imaging, including a wider use of PET/MRI, which is the combination of positron emission tomography (PET) with MRI.

***Liora Kornreich** has practiced paediatric radiology for the past 30 years. She has been working in the Imaging Department of the Schneider Children's Medical Center of Israel, in Petach Tikvah, ever since it opened in 1991. She has served two terms as head of the Imaging Department at Sackler School of Medicine, Tel Aviv University.*

Her main fields of interest are imaging of paediatric oncology and paediatric neuroradiology, and she has published 120 articles and two book chapters. She has been in charge of the paediatric radiology section of the Israeli Board of Radiology for ten years, and is currently head of the Syllabus Committee of the Israeli Radiology Society and in charge of the postgraduate courses in radiology.

