



## IMAGING SPINE AT A WEEK'S NATURAL RADIATION EXPOSURE

**EOS**

A radically new vision  
for orthopedic imaging



## Medical imaging radiation is a public health concern

Every day, people are exposed to minimal levels of naturally-occurring radiation from their surroundings. However, over the past two decades, levels of radiation exposure from artificial sources – primarily from medical imaging – have increased by 600%<sup>1</sup>.

Children in particular face potential adverse effects from excessive medical radiation, including an increased risk of radiation-induced cancer later in life<sup>2</sup>, and those children that suffer from specific conditions, such as scoliosis, can receive very high levels of radiation<sup>3</sup> over the course of their treatment monitoring.



EOS offers a low dose image capability for diagnosis, treatment planning and monitoring in children. This existing offering exposes children to 85% less radiation than Computed Radiography with equal or better resulting image quality<sup>4</sup>.

1. *Use of Diagnostic Imaging Studies and Associated Radiation Exposure for Patients Enrolled in Large Integrated Health Care Systems, 1996-2010*, American Medical Association, 2012

2. *Radiation exposure from CT scans in childhood and subsequent risk of leukaemia and brain tumours: a retrospective cohort study*. Berington de Gonzalez & Al, *Lancet*. 2012 Aug 4; 380(9840):499-505. Epub 2012 Jun 7.

3. *Ionizing radiation exposure in early onset scoliosis EOS patients treated with rib-based distraction*. Nelson Astur & Al. *SRS* 2012

4. Deschenes S, Charron G, Beaudoin G, Labelle H, Dubois J, Miron MC, Parent S. *Spine (Phila Pa 1976)* 2010 Apr 20;35(9):989-94.

## Imaging spine at a week's natural radiation exposure



The **EOS Micro Dose** feature allows for the monitoring of disease progression in pediatric patients, particularly for pathologies which require frequent monitoring such as scoliosis.

The **Micro Dose** feature allows patient imaging with a patient entrance dose of 10 to 90 μGy and resolves concerns associated with the frequent imaging required for pediatric conditions.

**Micro Dose** is a groundbreaking achievement in the **ALARA** (As Low As Reasonably Achievable) principle for minimizing patient exposure to radiation.

The **EOS Micro Dose** feature is proposed as an option for new EOS imaging system as well as for existing systems.

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\* Based on patient entrance dose estimation (small and medium morphotypes)

# EOS

EOS is a medical imaging system dedicated to osteoarticular pathologies including the hip, knee, spine and the orthopaedic surgeries associated.

The system combines a Nobel Prize-winning low-dose X-ray detector and proprietary software technology that produces 3D modeling of the patient bones from just 2 radiographs. EOS enables whole body frontal and lateral images acquired simultaneously in a natural standing or seated position with very low radiation dose and uncompromised image quality.

In less than 20 seconds, two full body digital radiographs are taken. From these 2 images, a 3D bone envelope can then be obtained together with a dataset of precise 3D anatomical information, enabling advanced therapeutic planning and control of orthopedic treatments.



[www.eos-imaging.com](http://www.eos-imaging.com)

EC conformity assessment: LNE/G-MED CE0459, Class IIb .

For USA - Caution : Federal law restricts this device to sale by or on the order of a physician.

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