

EOSedge

What is EOS®?

EOS is a platform that includes an imaging system, EOSedge®, and digital software, EOS Insight™, that provides medical professionals with high-quality images and data to better understand each individual patient's unique anatomy and condition. The images and information generated by EOSedge, which is processed by EOS Insight, is used by your surgical team to make decisions, and develop treatment plans for orthopedic medical conditions, such as:

- Degenerative Spine/Disc Disease (DDD)
- Adult Spinal Deformity (ASD)
- Adolescent Idiopathic Scoliosis (AIS)
- Limb-length discrepancy
- Hip and knee osteoarthritis.
- Hip dysplasia
- Balance and posture complications
- Bowlegs and Knock-Knees
- General orthopedic conditions

What should I expect during my EOSedge exam?

EOSedge was designed to comfortably accommodate most children and adults. The system captures two X-ray scans of your body at the same time, one from the front and one from the side. The exam is done in a standing or seated position with the goal of giving physicians a depiction of your natural, weight-bearing posture.

The exam will begin when the radiology technician brings you into the EOSedge room. Once in the room, you may be asked to remove shoes, jewelry, and any metal objects. You will be asked to stand or sit on the lowered orange platform. Once you are in the appropriate position, two pods containing the X-ray tubes will lower and raise to acquire the images, taking around 20 to 30 seconds. The radiology technician will notify you once the images are completed and will then escort you off the platform.

What are the benefits of an EOSedge exam?

EOSedge is a low dose imaging system. Each exam is taken in consideration of the “As Low As Reasonably Achievable” (ALARA) radiation dose principle¹, providing up to 80% overall radiation reduction per exam compared to conventional digital radiography.² To achieve this, EOSedge uses a dose adjustment feature

called Flex Dose™,³ automatically adjusting the dose based on each patient’s body composition and physical build. Flex Dose minimizes radiation exposure while still delivering high-resolution images. For patients who require frequent follow-up imaging, such as pediatric patients with scoliosis, an additional dose reduction feature called Micro Dose™ can be used, providing up to a 96% dose reduction compared to digital radiography², resulting in the equivalent of less than a week’s worth of natural radiation exposure.³

How will my doctor use the information?

Your physician will review the images and other diagnostic information about your skeletal alignment. The images and alignment assessment details will assist your physician in determining the best course of action for your proposed treatment, enabling them to develop a personalized plan, and to subsequently evaluate the outcome of any received treatments.

What is “global alignment” and why is it important?

Over the past decade, there have been numerous clinical publications on the importance of global skeletal alignment.⁴⁻⁶

Imagine your body is like a puzzle made up of different pieces, and each body part, for example your spine, hip, or knee, represents a piece of the puzzle. Global alignment allows your doctor to make sure all the pieces of the puzzle fit together just right, so your body can be balanced and work as smoothly and efficiently as possible. It's about ensuring that everything in your body is properly aligned, so you feel your best and can function at your optimal level.

The EOS Insight platform provides your doctor with a thorough understanding of your global alignment by providing not only the appropriate images, but also the diagnostic information needed to make treatment plans and evaluate their effectiveness. Just like how a well-aligned puzzle looks neat and complete, global alignment aims to keep your body in harmony, helping you stay healthy and active.

1. ICRP-International Commission on Radiological Protection, *Recommendations of the International Commission on Radiological Protection, ICRP Publication 26*. 1977.
2. Guerra, R., et al., *MKT-10599-A: Radiation exposure comparison across longitudinal scoliosis follow-up: digital radiography versus EOSedge*. Manufacturer Whitepaper, 2022. **EOS Imaging**: p. 1-2.
3. Boissonnat, G., et al., *Performance of automatic exposure control on dose and image quality: comparison between slot-scanning and flat-panel digital radiography systems*. *Med Phys*, 2023. **50**(2): p. 1162-1184.
4. Cheung, J.P.Y., *The importance of sagittal balance in adult scoliosis surgery*. *Ann Transl Med*, 2020. **8**(2): p. 35.
5. Ye, J., et al., *Use of the Global Alignment and Proportion score to predict postoperative health-related quality of life in adult spinal deformity surgery*. *Journal of Neurosurgery: Spine*, 2023. **38**(3): p. 340-347.
6. Lavu, M.S., et al., *Pre-operative planning: When, why, and how*. *Seminars in Spine Surgery*, 2023. **35**(2): p. 101028.