

What is Dynamic Digital Radiology?

Dynamic Digital Radiology (DDR) an enhanced X-ray technology that provides a series of individual digital images acquired at high speed and low dose. The resulting cine loop enables clinicians to observe the dynamic motion of anatomical structures over time, enhancing diagnostic capabilities. The motion series can be analyzed and quantified with the DDR advanced image processing capability. DDR is a promising platform for AI (Artificial Intelligence) applications. DDR is not fluoroscopy; **DDR is X-ray that Moves!**



Why consider DDR?

DDR is the only imaging study that provides a view of anatomy in motion, with a large field of view and low radiation dose.

- Most advanced medical imaging technologies like CT and MRI provide superb spatial resolution but not movement
- Ultrasound has a limited range and fluoroscopy does not provide enough resolution to evaluate soft tissue without contrast
- Images can be acquired with the patient in a natural upright position which is not possible with CT or MR

DDR use in pulmonology

DDR with Intelligent Workstation (IWS) provides multiple options for image processing and quantification such as diaphragm excursion, respiratory effort and more. This helps pulmonologists and radiologists increase the accuracy of their diagnoses to help make better decisions sooner. *Observe and quantify the dynamic interactions of lung, muscle, bone, heart and nerve.*

- Determine causes of dyspnea (shortness of breath)
- Dynamically assess bronchiectasis and pulmonary hypertension
- Differentiate restrictive versus obstructive lung disease
- Quantify lung capacity (future)

DDR use in orthopedics

Orthopedic clinicians have shown significant interest in DDR as a tool for visualization of movement and diagnosis of abnormalities. Furthermore, showing patients the joint movement makes communication simpler and more effective.

- Biomechanics
- Musculoskeletal injury, such as whiplash
- Treatment follow-up
- Postoperative evaluation of movement (knee, wrist, spinal fusion etc.)