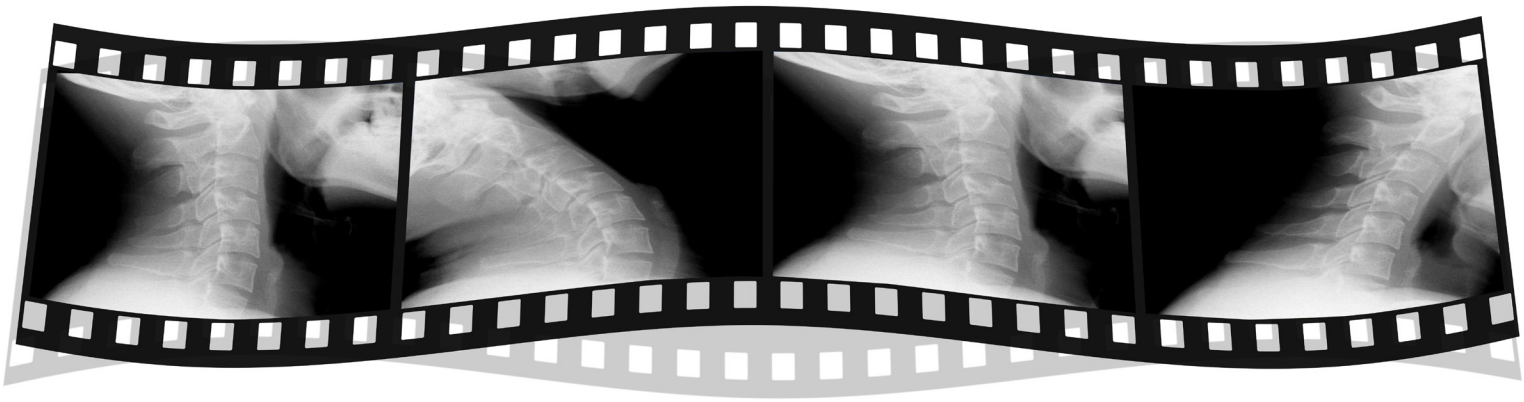
Dynamic Digital Radiography Delivers Cineradiography to Orthopedic Practices.



Konica Minolta's Dynamic Digital Radiography (DDR) is an award-winning enhanced X-ray technology that provides a series of individual digital images acquired at high speed and low dose. The resulting cineloop enables clinicians to observe the motion of anatomical structures over time, improving diagnostic capabilities. Because DDR cines are digital, they can be enhanced, quantified, reprocessed and replayed at normal, fast and slow motion, as well as one frame at a time (freeze frame).

DDR is not fluoroscopy; DDR is X-ray that moves!

Dynamic Digital Radiology supports the diagnosis of musculoskeletal conditions by presenting diagnostic detail in full motion. Today, orthopedists rely on observation of external motion and static X-ray to assess the spine and joint stability. With DDR, orthopedists can quantify the dynamic relationship of bones and soft tissue through full range of motion. Joints, tendons and ligaments in shoulders, knees, wrists and spine can be imaged in the most clinically relevant positions. Having a full view of the musculoskeletal system in motion in weight-bearing or resting positions helps orthopedic specialists provide faster and more detailed diagnoses to improve quality of care.

DDR-based cineradiography is performed on the same equipment as static X-rays to capture up to 20 seconds of movement in a single exam.

The images can be automatically sent to PACS for review, allowing for fast acquisition and eliminating the need to have a physician or radiologist present for interpretation.

Enhance Diagnosis and Patient Communication

Fluoroscopy and cineradiography are proven diagnostic tools to examine joints and structures at rest and in motion to analyze biomechanics[2] and musculoskeletal injury, such as whiplash[3,4,5] DDR's high resolution, image size (up to 17″ x 17″), and 15 frames/second motion can reveal more than the older technologies ever could. Cineradiography has been shown to help assess the cervical spine,[6,7] scapula,[8] and wrist[9,10] range of motion[11] and further research is being performed to expand the utility of this exciting new application.

DDR adds a new modality to your practice without taking more time, space, or staff. DDR is performed in the same room, with the same equipment and the same technologists.

KONICA MINOLTA

DDR is X-Ray that moves!

The Konica Minolta Advantage for Orthopedic Practices

The versatile, compact design of the KDR® AU-DDR system makes it ideal for locations that need to provide superior-quality radiography services even in small rooms. The flexible floor-mounted system can be installed under 9' ceilings, maximizing every square foot of office space and improving positioning capabilities. The system design simplifies weight-bearing and table anatomy positioning by placing the patient close to the detector. The KDR AU-DDR system uses exam information to automatically move itself into the predetermined anatomy-specific position and source-to image-receptor distance (SID). This saves patient positioning time. The advanced detector and Ultra acquisition software work in unison to acquire and enhance static and dynamic images individually or as part of a study.

Superior Image Quality for Confident Diagnoses

Konica Minolta's KDR AU-DDR System employs a state-of-the-art, AeroDR® HD 17″x17″ detector that maximizes efficiency, and delivers excellent bone and soft-tissue visualization from every study. The floor-mounted design saves space and moves automatically to save exam time, even in complicated procedures like long bone and spine stitching.

If you are considering an upgrade for your X-ray system, take a look at Konica Minolta's advanced digital radiology systems, and see how we can help you make better decisions, sooner.

DDR provides a unique view of anatomy in motion.

1 A 20 second view of the chest Dose per frame ≒ 7μGy/frame, Normal body thickness/15fps/15sec: 1.5mG < 1.9mGy(≒0.23mSv) ⇔ IAEA Reference level for PA+LAT Static X-ray (predicate device SKR 3000 K182688)
2 Dupuy DE, Hangen DH, Zachazewski JE, Boland AL, Palmer W. Kinematic CT of the patellofemoral joint. AJR Am J Roentgenol. 1997 Jul; 169(1):211-5.
3 Katherine S.L. Gil, Pierre Auguste Diemunsch, in Benumof and Hagberg's Cervical Spine Motion Airway Management, 2013
4 Malcolm D. Jones, M.D., Cervical Spine Cineradiography After Traffic Accidents, Arch Surg. 1962;85(6):974-981. doi:10.1001/archsurg.1962.01310060110020
5 Does Inter-vertebral Range of Motion Increase After Spinal Manipulation? A Prospective Cohort Study By Frank M. Painter |July 4, 2014|Cineradiography, Videofluoroscopy
6 P. Roozmon, S.A. Gracovetsky, G.J. Gouw, N. Newman, Examining motion in the cervical spine I: imaging systems and measurement techniques, Journal of Biomedical Engineering, Volume 15, Issue 1, 1993, Pages 5-12, ISSN 0141-5425, https://doi.org/10.1016/0141-5425(93)90086-E.
7 Sanches, H., Beursgens, J., & Drukker, J. (1992). Cervical spine motion in the sagittal plane. II. Position of segmental averaged instantaneous centers of rotation--a cineradiographic study. Spine, 17(5), 467-474.
8 K.C.A.L. Cheriex, G.S.I. Sulkers, M.P. Terra, N.W.L. Schep, B.J.P.L. van Aard, S.D. Strackee, Scapholunate dissociation; diagnostics made easy,European Journal of Radiology, Volume 92, 2017, Pages 45-50, ISSN 0720-048X, https://doi.org/10.1016/j.ejrad.2017.04.015.
9 George S.I. Sulkers, Niels W.L. Schep, Mario Maas, Simon D. Strackee, Intraobserver and Interobserver Variability in Diagnosing Scapholunate Dissociation by Cineradiography, The Journal of Hand Surgery, Volume 39, Issue 6, 2014, Pages 1050-1054.e3, ISSN 0363-5023, https://doi.org/10.1016/j.jhsa.2014.03.014
10 Michael Sauerbier, Nina Ofer, CHAPTER 47 - Lunotriquetral Ligament Instability/Tear: Acute and Chronic, Editor(s): David J. Slutsky, Principles and Practice of Wrist Surgery, W.B. Saunders, 2010,Pages 498-506, ISBN 9781416056461
11 Brian Dormitorio, Yasunori Hattori, Kiminori Yukata, Sotetsu Sakamoto, Kazuteru Doi, The use of dynamic radiographs in trapezio-metacarpal joint arthrodesis for accurate range of motion evaluation, Journal of Orthopaedic Science, Volume 23, Issue 1, 2018, Pages 75-80, ISSN 0949-2658, https://doi.org/10.1016/j.jos.2017.09.022.

KONICA MINOLTA

Konica Minolta Healthcare Americas, Inc.
411 Newark Pompton Turnpike
Wayne, New Jersey 07470
Tel: (973) 633-1500 Fax: (973) 523-7408
konicaminolta.com/medicalusa

M1561 1119 RevA