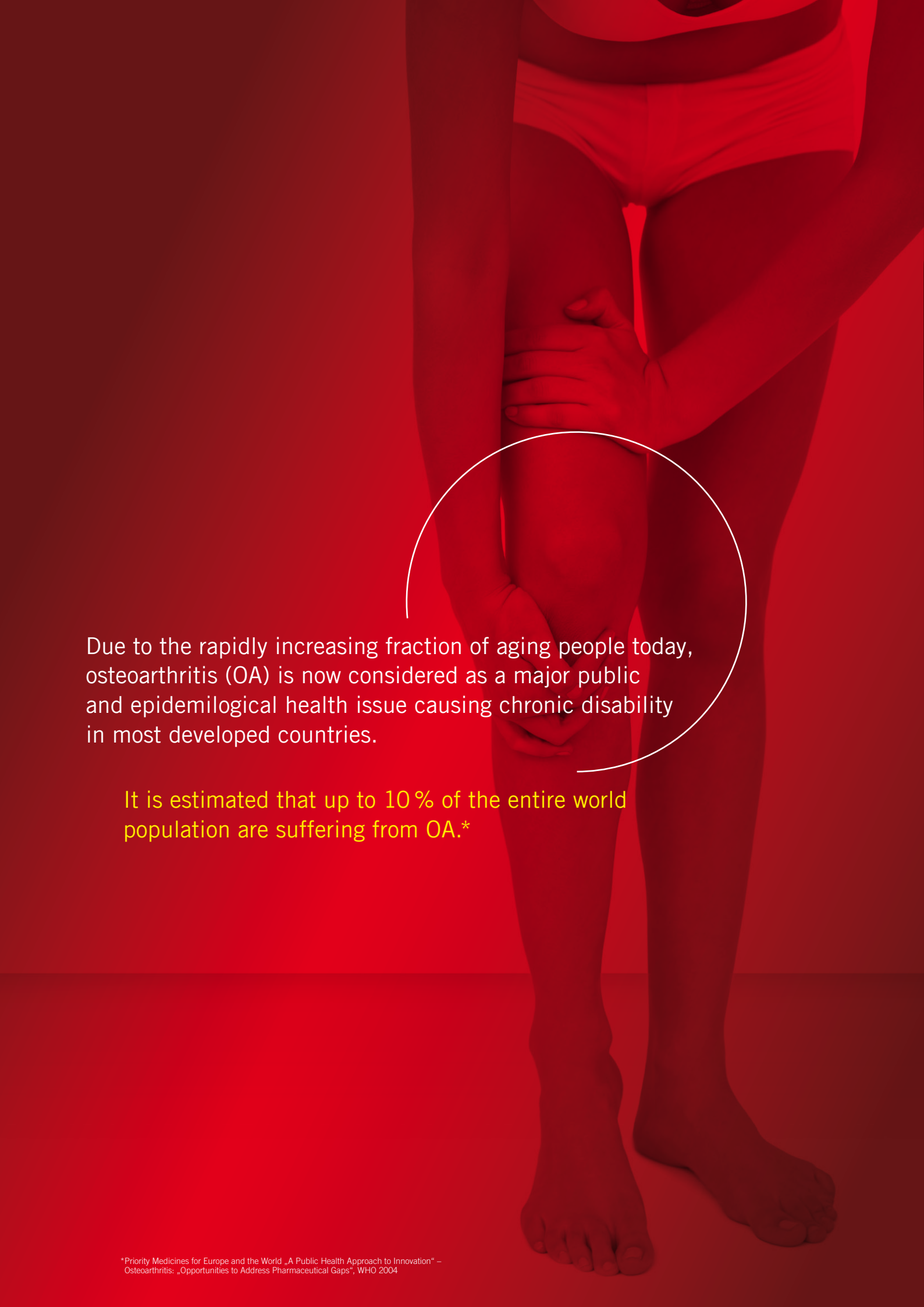


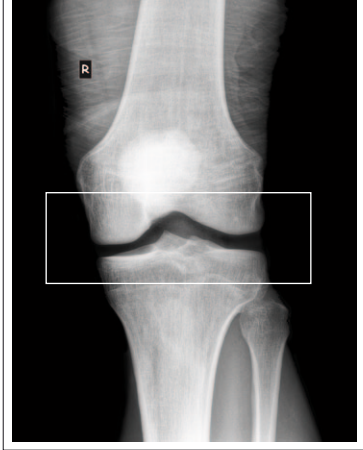
the new accurate analysis and classification system of knee joint osteoarthritis





Due to the rapidly increasing fraction of aging people today, osteoarthritis (OA) is now considered as a major public and epidemiological health issue causing chronic disability in most developed countries.

It is estimated that up to 10% of the entire world population are suffering from OA.*



experts act ahead

Most of the OA, OP and RA patients will sooner or later undergo surgery with increased costs for the health care system and heavy decrease in quality of life for the patients. Therefore, early prediction and follow-ups are of high importance.

→ It is generally considered that measurement of joint space width (JSW) is currently the best available surrogate to evaluate of the progression of cartilage destruction (OA)

→ Loss of JSW reflects thinning of articular cartilage but may also occur due to differences in the anatomic positioning of the knee from one examination to the next

→ Standardized knee examinations assure reproducible and reliable results

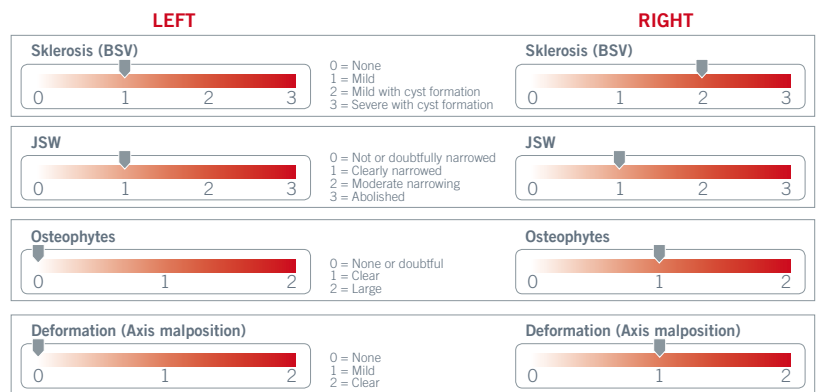
i3a difference

Plain radiography is considered the golden standard as a method that is non-invasive, inexpensive, convenient, simple and fast to use in assessing the status of OA.

The most conventional system to grade the radiographic severity has been the Kellgren & Lawrence Score (K/L) grading.



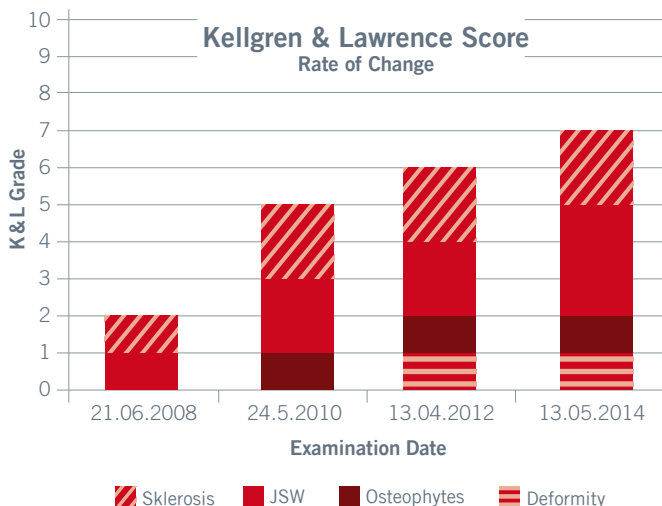
Kellgren & Lawrence Score*



Kellgren & Lawrence Score



*Brandt, et al., Radiographic grading of the severity of knee osteoarthritis: Relation of the kellgren and lawrence grade to a grade based on joint space narrowing, and correlation with arthroscopic evidence of articular cartilage degeneration, Arthritis & Rheumatism. Volume 34, Issue 11, pages 1381-1386, November 1991



i3a workflow

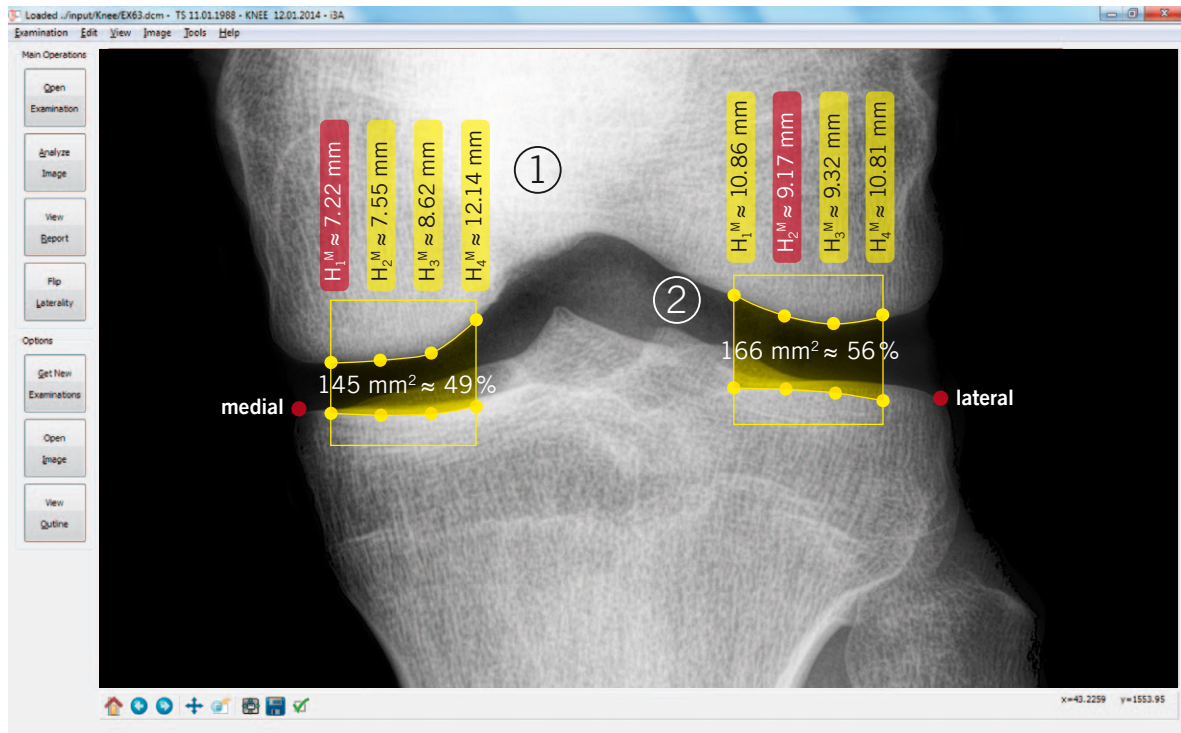
Joint Space Width and Kellgren & Lawrence Score

The vendor-neutral i3a application assesses automatically the anatomical landmarks from tibia and femur and calculates both, the Joint Space Width (JSW) and the area inside the JSW. Additionally, the Kellgren & Lawrence score is estimated semi-automatically. In particular, i3a provides a JSW which is:

→ Based on one validated algorithm for all vendors

→ Optimal for follow-up examinations with comparable results when using standardized and reproducible knee positioning

Joint Space Width measuring- and detection Software



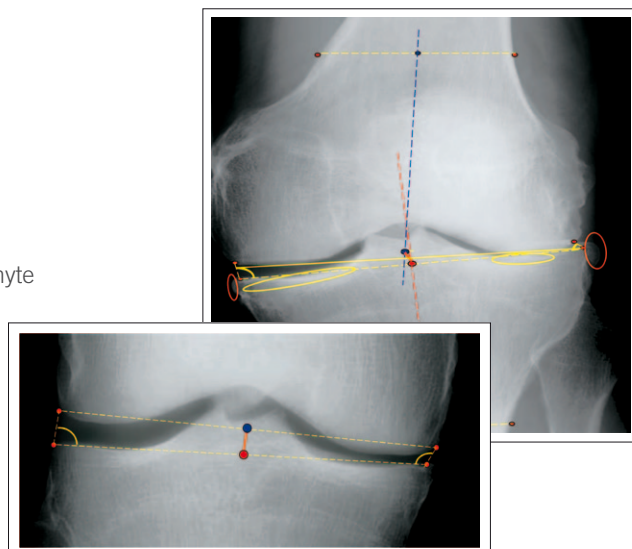
① The i3a application determines the space between the femoral epicondyles and the tibial fossae that corresponds to the thickness of the knee cartilage.

② The area between the femoral epicondyles and the tibial fossae corresponds to the amount of functional cartilage in the knee. Knee cartilage loss is considered to be a reliable sign for knee health deterioration.

beyond diagnostic

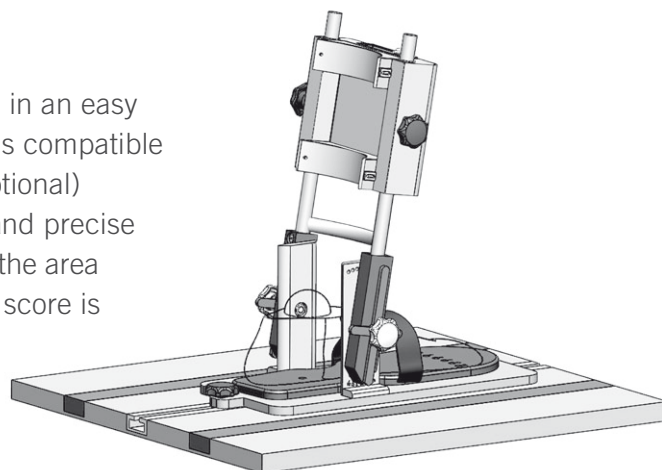
Tibia-femoral angle (TFA) and osteophytes (K & L Score)

OA is characterized by pathological features including joint space narrowing (JSN), osteophyte formation and joint angulation (TFA).



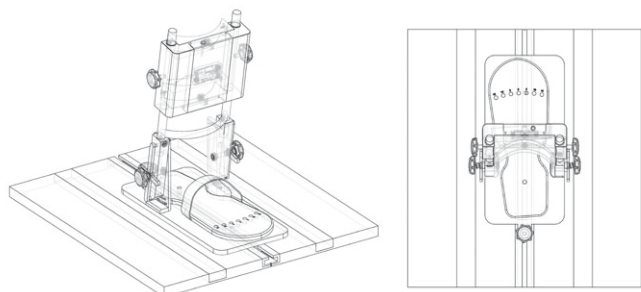
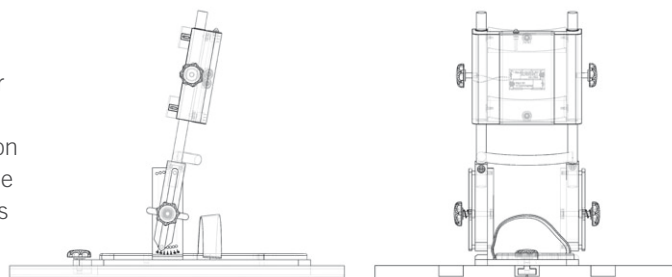
i3a Knee Positioner

Standing knee examinations can now be performed in an easy and reproducible way. The unique knee positioner is compatible with all commercially available X-Ray units. The (optional) software tool Joint Space Width (JSW) allows easy and precise automatic measurement of the JSW and calculates the area within between. In addition the Kellgren & Lawrence score is calculated semi-automatically.



standardize your examinations

Gone are the days when the positioning of either patients or devices took ages. Thanks to the positioning of i3a, knees can be examined faster and more accurate. The examination time is reduced because fewer images are needed to get the right shot. Motion artefacts are also prevented. This benefits not only the workflow. The patient dose is reduced due to reduced amount of examinations.



research without compromise

i3a combines positioning accuracy and reproducibility. The knee examinations are therefore, comparable. The innovate i3a products are a total win for: patients, radiology technicians, radiologists, orthopedics and companies. And it is very easy: **Adjust – Trigger – Diagnose – Compare**

innovate and excel

Standardized knee positioning is the key to get reliable and reproducible results of the Joint Space Width. Different adjustable knee flexion angles offer optimal examination options.

- 99.3 % repeat accuracy
- Reproducible results due to exact positioning
- Minimizes motion artifacts
- Improve assessments
- Improve follow-Ups (comparability)
- Save costs, time by reducing the amount of knee examinations for one good shot of the JSW
- Faster Workflow



Works best in combination with i3a JSW software

Use reproducible knee positioning to calculate the Joint Space Width and standardize the way you evaluate the progression of cartilage destruction to enable monitoring follow-ups and disease progressions.

A hand is shown holding a white circle against a red background. The hand is positioned on the left side of the circle, with the fingers wrapped around it. The background is a solid red color, and the hand and circle are in white. The overall composition is simple and clean.

take your time i3a won't

- Improved productivity by reducing decision time needed
- Consistent Joint Space Width readings, independent of the x-ray unit as long as the resolution is better than 100 μm
- Improved knowledge of progressions of diseases and treatment of your clients
- Better communication with your clients, by offering a JSW consultation within minutes of the last x-ray
- Monitored disease progression
- Automatic report
- Early detection of the disease and an objective assessment of the state of the damage can help to find the proper treatment pathways, thus avoiding painful complications for the patient

preorder and
information requests

i3atec

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