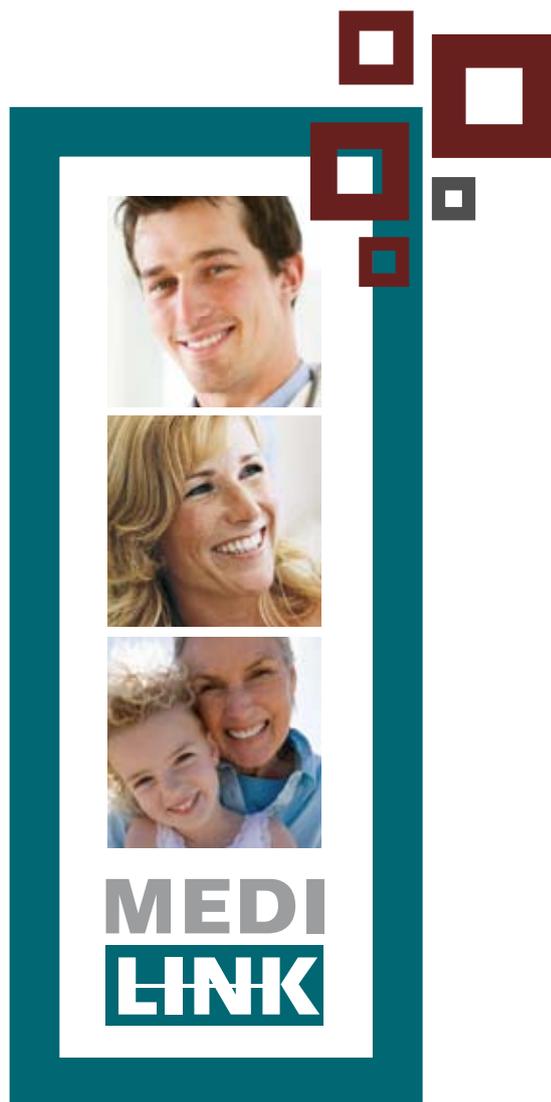


OSTEOCORE³ *Visio*



PROGRESS THROUGH INNOVATION



The future of Osteoporosis Diagnosis: OSTEOCORE 3 Visio

Osteoporosis is a severe and incurable disease, the effects of which are a real concern for ageing women. Bone fractures, vertebrae compressions, disability and morbidity are some of the effects of osteoporosis that can be prevented thanks to an early diagnosis.

To answer the need of a very fast and accurate diagnostic tool, also offering high resolution images, Medilink has developed the Osteocore 3 Visio.

A NEW APPROACH TO OSTEOPOROSIS DIAGNOSIS

Studies have shown that low bone density does not confirm that a fracture is inevitable. In order to predict the future solidity of the bone, physicians also rely on the structural and morphometric features of bone tissue. These factors of bone solidity have increased physicians' requirements for a tool offering **quantitative and qualitative information on bone structure**.

THE FLASH DIAGNOSIS: A TECHNOLOGICAL BREAKTHROUGH

A collaboration between Medilink and the CEA Leti, a prestigious laboratory internationally recognized for medical imaging, led to the development of the revolutionary and unique technology called the **Digital Flash Beam!**

The exam time is reduced to less than 2 seconds per site and scanning is avoided; as with a digital x-ray exam, acquisition time is nearly instantaneous.

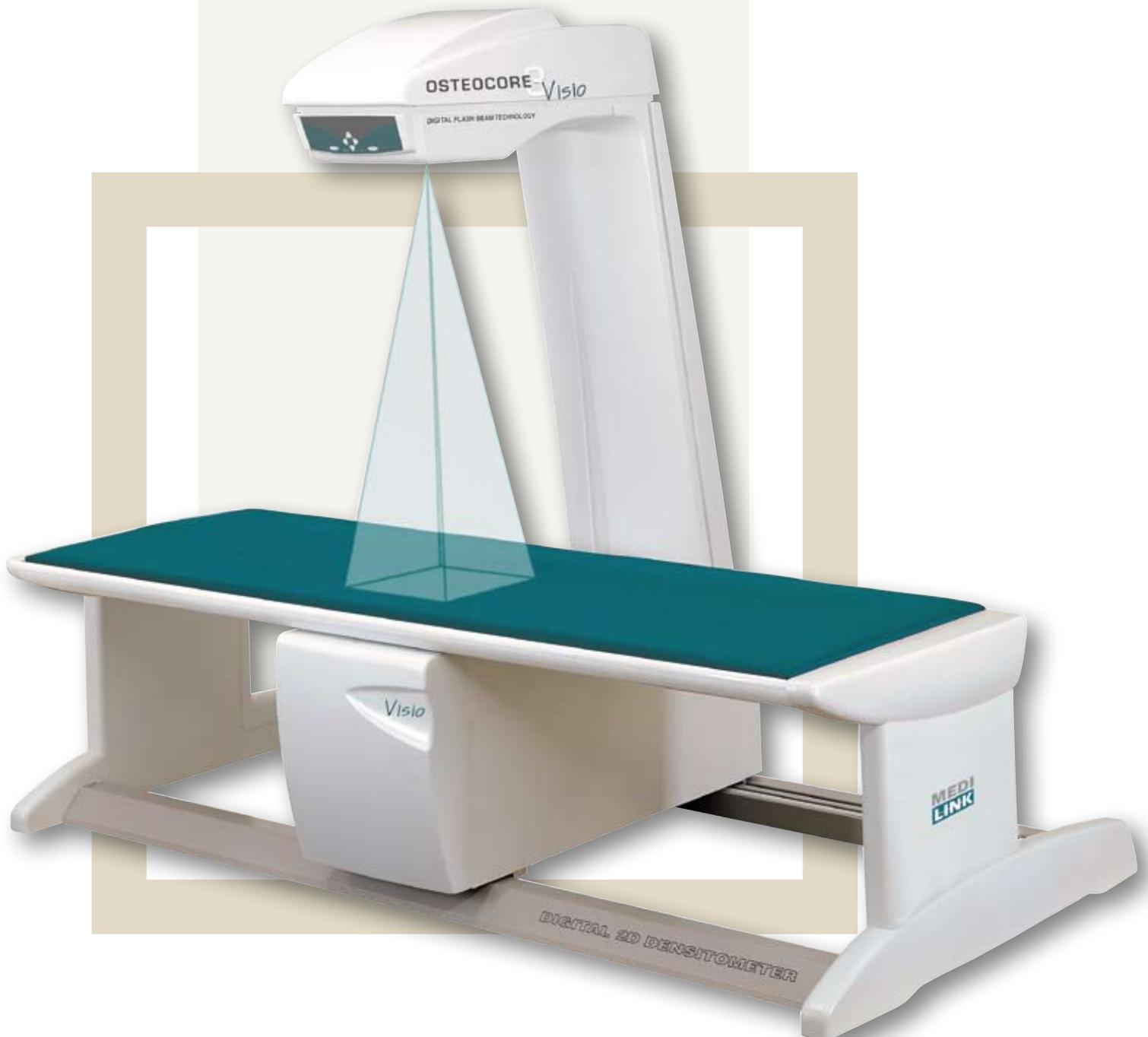
THE VISIO MODE IS NOT JUST AN EVOLUTION, IT'S A TRUE REVOLUTION

The OSTEOCORE 3 Visio offers a particular configuration; the digital flat panel detector is placed under the patient, entirely covering the examination region (Hip, Spine and Forearm). The flat panel detector offers optimal image resolution for precise BMD measurement and for exams demanding a visual evaluation such as vertebrae assessment. **The true revolution is the access to high resolution images, 127µm** on peripheral sites - most used in the orthopaedic field and in implant management.

When flat panel technology opens the way to radiological images in bone densitometry.

MULTIPURPOSE BONE HEALTH MANAGEMENT DEVICE

- Instantaneous image acquisition: 1.5 sec/site
- Highest image resolution on the market: 254 μm in BMD mode and 127 μm in Visio mode
- Optimal for all types of patients
- No mechanical movement during the examination
- Isotropic Image ensures no distortion
- Low exposure to radiation and monitoring of the delivered dose



APPLICATIONS AND MAIN ADVANTAGES

BMD APPLICATIONS: 254 μm



Multisite : Spine, Hip and Forearm

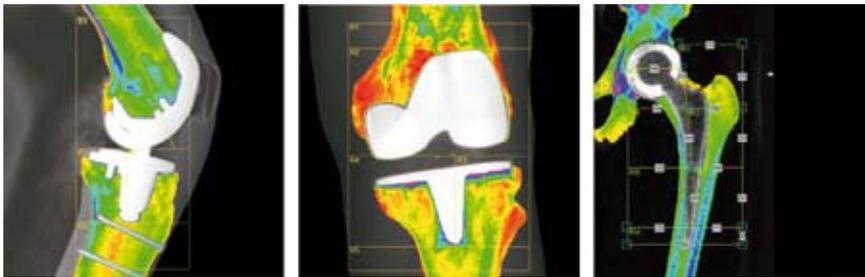
The examination for the three reference sites for osteoporosis detection, the AP spine, femoral neck and forearm, are performed in **only 1.5 seconds**. The quasi-radiological type images acquired offer remarkable accuracy. Coupled with a patented method for optimal positioning, isotropic images guarantee optimal precision in BMD calculation (better than 1%).



Hip Flash comparison

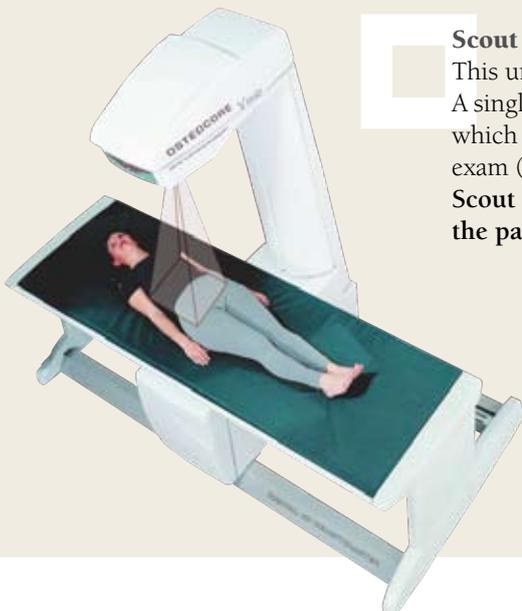
A bi-dimensional system is the most suitable for a fast and accurate comparison of the two femurs.

ORTHOPAEDIC MODULE AND VISIO MODE: 127 μm



The orthopaedic module featured on the OSTEOCORE 3 Visio software is **the ideal tool for bone health management**. In BMD mode it calculates the density of the bone around the prosthesis on the most current sites (hip and knee). An automatic ROI dedicated to orthopaedic applications also calculates the bone density for the elbow, shoulder, feet and hand, thus supplying the physician with the most pertinent information.

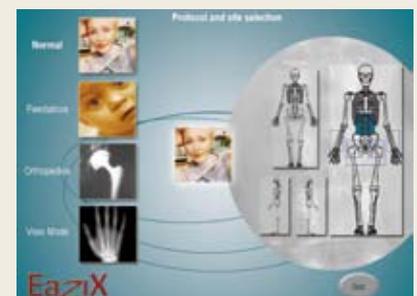
USER FRIENDLY AND INTUITIVE SOFTWARE



Scout scan

This unique feature is made possible by our state-of-the-art bi-dimensional technology. A single energy viewing identifies the precise location of the bone in the field of the detector, which then automatically repositions itself to center the bone, making sure that not a single exam (no valuable time) is wasted.

Scout scan eliminates the need to reposition the patient and avoids needless manipulations.





Whole body

A whole body examination is completed in a record time of only 3 minutes and requires a very low dosage of radiation for treatment in weight loss, sports medicine and growth hormone treatment.



FVA (Flash Vertebral Assessment)

The unique, high-level of performance of the OSTEOCORE 3 Visio in single energy mode finally opens the door to an **accurate diagnosis of vertebral fracture risk** by complementing the densitometric results.

The image resolution allows for even the smallest vertebral deformation or compression to be precisely measured (morphometric capabilities) and classified*. The diagnosis is complete and thorough and helps in making decisions on what treatments and therapies are appropriate.

**(classification using the semi-quantitative visual method by H.K. GENANT)*

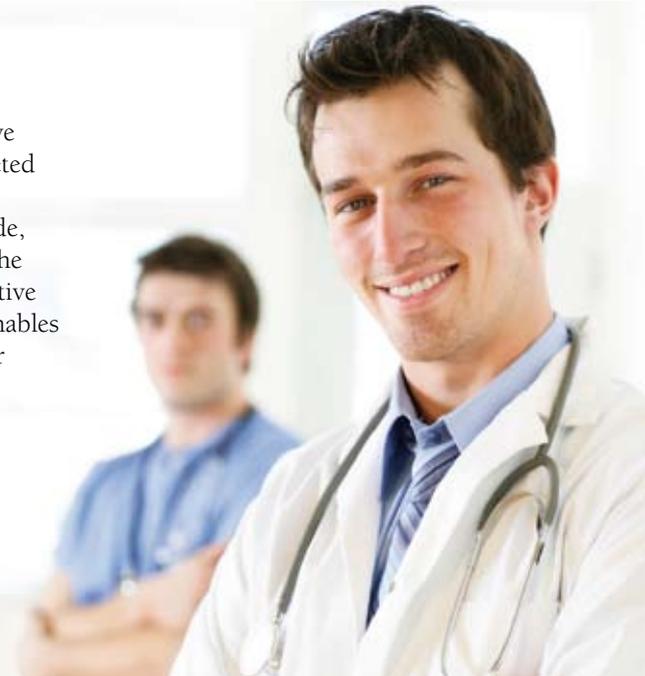
Paediatrics

The examination speed and the particularly low radiation doses make the OSTEOCORE 3 Visio perfectly suited for paediatric purposes. The quick exam eliminates problems caused by the child moving, while successfully reducing the overall stress associated with a procedure.



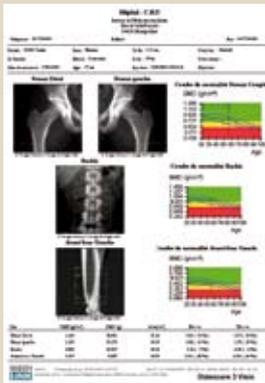
Visio Mode

The obtained quantitative data can then be completed by visual information obtained from Visio mode, with **127 µm images**. The combination of quantitative and visual assessment enables a complete follow-up for implant management.



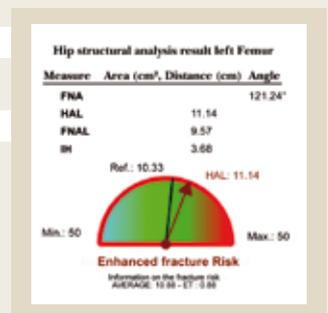
Multi report and patient monitoring report

With the one-page multi-report feature, it is possible to view and examine up to four areas simultaneously. The OSTEOCORE 3 Visio also allows for efficient patient follow-up using a Progression Report to simultaneously show several examinations of the same site.



Morphometric tools and personalised ROI

The exclusive OSTEOCORE 3 Visio software offers **accurate morphometric tools** such as length, area and angle measurements of any part of the bone in order to deliver new parameters for the analysis of the bone structure. (For example, Hip Structure Analysis gives additional information to complete osteoporosis diagnosis). These measurements yield more information, and help to better qualify the bone status.



Technical Specifications

X-RAY SYSTEM : OSTEOCORE 3 VISIO, Digital Flash Beam Bone Densitometer

Scan technology:

Digital Flash Beam® Technology, a patented bi-dimensional X-ray beam

X-ray characteristics:

- Switched X-ray tube delivers two successive X-ray flashes at 75 and 140 kV
- Dynamic filtering for even better energy splitting
- Patented anti-scattering grid

Detector technology:

- Flat panel detector 20 x 20 cm
- Bone Mineral Density (BMD) Mode: pixel pitch: 254 µm
- Visio Mode: pixel pitch: 127 µm

Acquisition method :

- DXA cone beam with detector located under the table while generator is in the top of the arm
- Innovative Patented Reconstruction Imaging Method (P.R.I.M.E.) developed with the CEA/Leti for Whole Body / F.V.A. scan reconstruction

PATIENT & PRACTITIONER COMFORT: Expanded Capabilities for a Productivity Breakthrough

Scan area size:

- Whole Body: 200 x 65 cm using P.R.I.M.E
- Multi-site: 20 x 20 cm: no scan required
- Isotropic image without magnification

Patient positioning:

- All operations accessible from the workstation
- Scout scan: positioning with the S.E.V. (Single Energy Viewing)
- Arm and laser positioning controllable via the front control panel

Reference database:

- Caucasian, Asian, African, Turkish, Hispanic, NHANES III, Japanese and Korean
- Possibility to create own reference data
- Database importation
- Multi-lingual software available

Feedback tools:

- Patient letter Editor
- Patient data importation from another unit for an accurate follow-up

Connectivity (Archiving and DICOM)

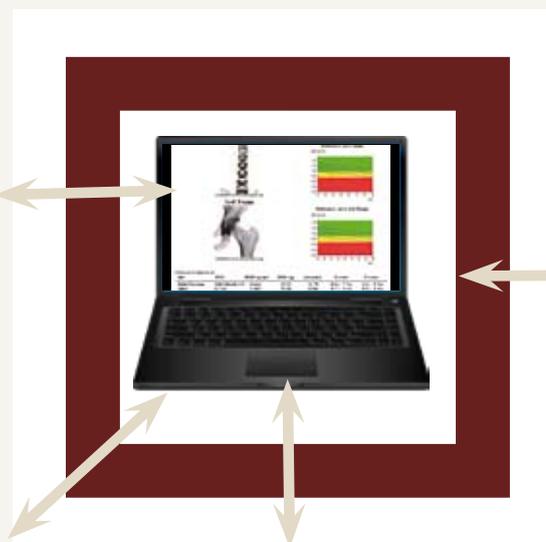
Workstation

Connect to the device's data from a distance.

Prescriber
Gynecologist
Orthopaedist
General practitioner
Endocrinologist
Rhumatologist...



Radiologist in private practice
or adjacent hospital



PACS

Exam room



IMAGE ACQUISITION: Best Performances in the Worldwide BMD Market

Clinical applications and scan times:

- AP & Decubitus Lumbar Spine (Scoliotic Spine Analysis): 1.5 sec. (no scan)
- Proximal femur: 1.5 sec. (no scan)
- Forearm: 1.5 sec. (no scan)
- H.F.C. (Hip Flash Comparison) 7sec.
- Whole body BMD & Body Composition (option): 3 min.
- F.V.A. (Flash Vertebral Assessment) for Morphometry, and Total Spine Assessment (option): 30 sec.
- Paediatrics: BMD spine, total body and FVA (option)
- Orthopaedics: Hip, knee, lateral knee, elbow and shoulder (option)
- Small animals (option)
- Visio mode (option)
- FRAX tools

Precision:

In vitro CV <0.5% (in vivo \pm 1%)

X-ray dose :

- Patient effective dose: Femur < 4.8 μ Sv
Spine < 8.4 μ Sv
- Operator dose at 1 m: negligible (0.11 μ Sv)
- Operator dose at 3 m: negligible (0.01 μ Sv)

Quality control :

Bi-material external phantom, software facilities for trend plotting.

CONNECTIVITY : Paperless Densitometry

Image Communication:

DICOM 3.0 format with Send Class, Print Class, Worklist Class, Storage Class, RIS/HIS

Image capacity storage:

Storage possible on CD, DVD and hard drive.

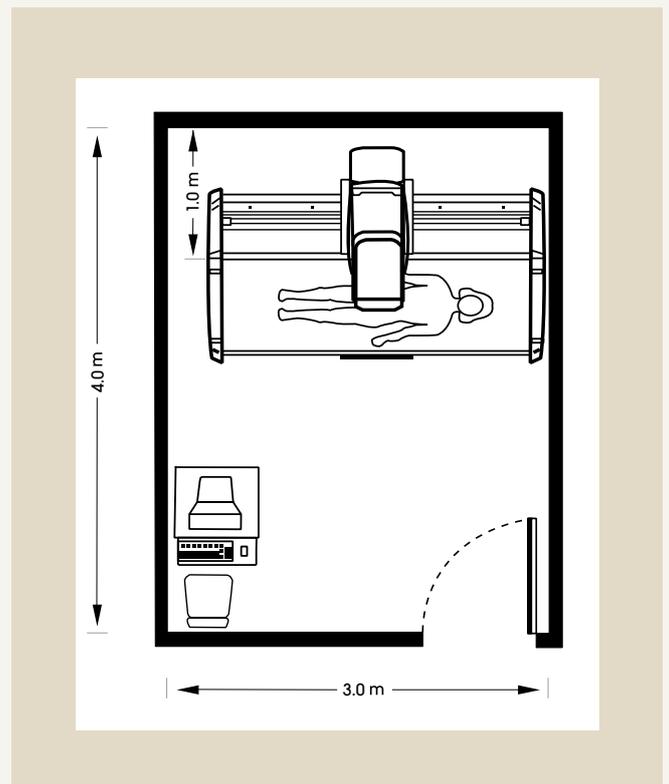
5 MB per multisite exam: 24 000 exams can be stored on a 120 GB hard drive.

DICOM Compliant

RIS & PACS

Email

Tele-maintenance
and tele-training





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