

BMA™

high resolution digital x-ray

Bone MicroAnalysis
Bone MicroArchitecture
Breath Measurement Accuracy



- High Resolution Digital Radiology for osteo-articular imaging.
- Qualitative and quantitative analysis of joint and bone tissues.
- Destruction measurement of bone microarchitecture by Fractal Texture Analysis.
- A new standard of X-Ray unit for musculoskeletal radiology and diagnosis of Osteo-arthritis, Rheumatoid-arthritis and Osteoporosis.

Microarchitecture quantification of calcaneus

D3A Medical Systems
18 rue Lavoisier 45 Ville
09194 Villefranche Cedex 2
Phone number : 33 (0)4 68 00 00 00

Microarchitectural analysis

Patient:
Last name: *****
First name: CAMELLE
Date of birth: 29/04/1949
Sex: Female
Ethnic group: White
Patient height: 156cm
Patient weight: 45.4 kg

Examination:
Date of examination: 16/Mar/2006 - 11:09
Procedure:
Acquiring by:
Acquisition rate: 40k/s (4k/s)
Adjustment parameters: 37kV - 100 mAs
Dist: 31 cm
Aperture serial number: *****

Results:

Date of examination	Acquisition rate	Value	T-Score	Z-Score
16/Mar/2006	40k/s (4k/s)	0.476	-2.086	-1.814

Normal curves:

D3A MEDICAL SYSTEMS

Joint Space Width measurement

Status: Reviewed

Image 1 of 1

First Previous Next Last

Display Settings Measurements Image Analysis Adjust Measurements File Info Markup Review

Left Measurements	Right Measurements	Measurement Display
min JSW (mm): 10.756	min JSW (mm): 7.413	<input checked="" type="checkbox"/> min JSW
Area (mm ²): 558.152	Area (mm ²): 434.438	<input checked="" type="checkbox"/> min JSW Limits
Crosshair: No	Crosshair: No	<input checked="" type="checkbox"/> JSW
Equip. min JSW (mm):	Equip. min JSW (mm):	

Shape Parameter (mm): Show Graph

Optasia Medical



Standard Configuration

Mobile unit including:

GANTRY

- Horizontal axis rotating C Arm supporting image detector and X Ray tube
- Vertical axis rotating column allowing C arm up & down movement

GENERATOR

- high frequency generator : 40 kHz
- power: 3 kW
- high voltage: 40 to 120 kVp*
- current: 25 mA (at 120 kVp) to 75 mA (at 40 kVp)
- output: 0.5 to 125 mAs (safety timer set at 2 s)*
- power supply: 230 V / 16 A
- all generator parameters are monitored by software
- X-ray parameters are automatically settled by an Anatomical Program

* possibility to limit kV and mAs by software

X-RAY TUBE

- focus size: 0,3 mm and 0,6 mm
- rotating anode (3000 RPM, heat capacity 150 kJ)
- target: tungsten (W)
- fixed collimator*
- FDD: 800 mm

* optional light centering device and adjustable collimator

IMAGE DETECTOR

- High resolution digital detector
- field of view: 12 x 12 cm (optional 17x24 cm and 24x30 cm)
- pixel size : 50 x 50 microns
- output level: 12 bits

WORKSTATION

- central unit (Windows operating system)
- DVD ROM archiving system (DICOM archive compatible)
- frame grabber board
- flat screen monitor
- key board including touchpad

SOFTWARES (D³A PROPRIETARY)

- digital image acquisition, visualization and archiving software

OPTIONAL ACCESSORIES :

- Deskjet printer
- Film printer Sony UP990 AD
- HR display (flat screen + video card)
- Patient chair

Applications Packages

OSTEOPOROSIS APPLICATION

- Bone Micro-Architecture Quantification (MAQ)* by Fractal Texture Analysis (FTA)* with normal curve and Acquisition Control Technique (ACT)*
 - Precision phantom
 - Ankle positioner, patient chair, deskjet printer
- * D3A proprietary

OSTEO-ARTHRITIS APPLICATION

- Knee Analyzer to quantify joint space narrowing (OPTASIA proprietary)
- Knee positioner, light centering device and adjustable collimator, deskjet printer

RHEUMATOID ARTHRITIS APPLICATION

- Visualization of bone erosion and cyst.

EFFECTIVE DOSE

< 2µSV for a calcaneum exam

REGULATORY APPROVAL

- CE marking in conformity with the 93/42/EEC directive
- Class IIb

DIMENSIONS

- Mobile Unit:
L = 1070 mm, W = 630 mm, H = 1890 mm, Weight = 254 Kg
- Ankle positioner:
L = 810 mm, W = 770 mm, H = 560 mm, Weight = 32 Kg
- Patient chair: Weight = 14 Kg

