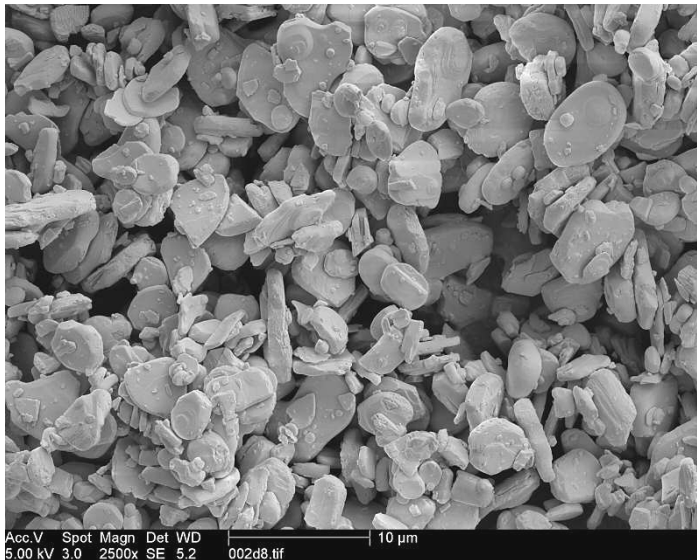


Agfa Dose Management
“Content”
v3



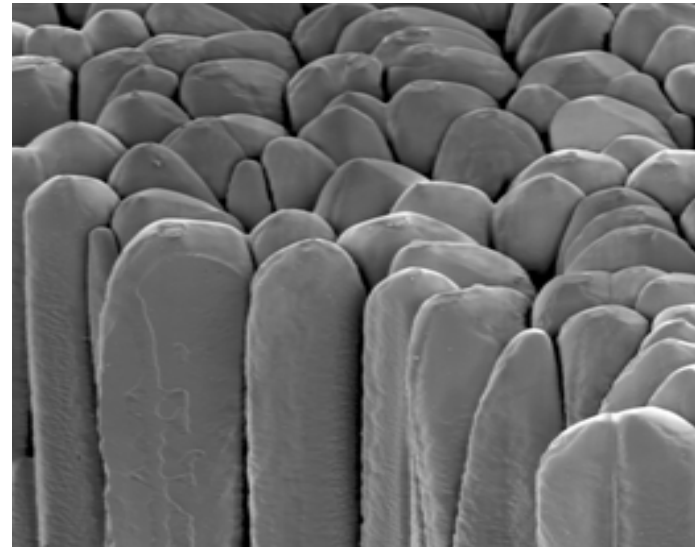
Agfa HealthCare offers both Powder and Needle Phosphor Detectors for DR and CR to begin your patient dose management program

Powder Phosphors Economical



- ✓ Gadolinium Oxysulfide (GOS) for DR
- ✓ Barium Fluoride Bromide for CR

Needle Phosphors High Efficiency



- ✓ Cesium Iodide for DR
- ✓ Cesium Bromide for CR

Top three reasons to choose Agfa CR & DR

1. Musica 2 Image Quality
2. NX Multi-Modality Workstation (all Agfa CR & DR), Agfa Dose Management tools, Workflow, Productivity & Flexibility
3. Highest Quality DR Panels with Potential Dose Reduction (Canon DR Panel/Cesium Iodine)

#3 Highest Quality DR Detectors

The DX-D 30C Wireless Detector offers the smallest pixel size available for a full size detector: 125 μ m. Each image contains more image information
And more image information means a more accurate diagnosis.

- Receptor type: Amorphous Silicon Technology
- Conversion screen: Cesium Iodide (CsI)
- Effective Image Area: 350 x 426 mm
- Size: 46 x 38.4 x 1.5 cm (18.1 x 15.1 x 0.6 inch)
- Weight: 3.4 kg (7.5 lbs) (incl. battery)
- Gray scale: 4,096 gradations
- Pixel Matrix: 3,408 (h) x 2,800 (v)
- (approx. 9.5 million pixels)
- Pixel Pitch: 125 μ m
- Resolution: 4 lp/mm
- Energy Range Standard: 40-150 kVp



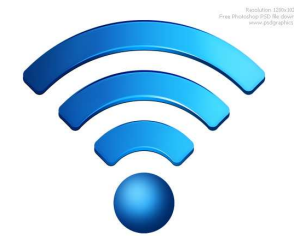
#2 NX QC, Image Quality & Dose Management

- The Agfa NX Multi-Modality Workstation for both DR and CR
- Designed by and for Technologists for Increased Productivity
- The same, intuitive user interface for DR and CR means workflow consistency
- The same, intuitive user interface for DR and CR means less staff training
- The same, intuitive user interface for DR and CR means more exposure and dose control and consistency




#2 NX QC, Image Quality & Dose Management

- NX on-board DX-D 100 supports both WiFi and Ethernet connectivity for RIS & PACS
- NX Integrated with the X-Ray Generator
- Dose Monitoring, Repeat/Reject and Structured Reports
- NX Includes Procedure Code Mapping for better workflow and productivity
- NX Includes MPPS supporting IHE Workflow
- NX Includes DICOM Storage Commitment
- ***Web access to RIS via WiFi!***



#2 NX QC, Image Quality & Dose Management


TEST-AGFA DRCRIMGQC AGFA  DX-D100

Patient
Full Name : TEST-AGFA DRCRIMGQC Comments : AGFA QC TEST
Patient Identification : 101 Add to Manual Worklist Edit
Birth Date :
Sex : Other

Image Detail Generator/Detector errors

Exam Group : Bone Series Adult Edit
Exposure Type : Bone Survey LAT Skull Patch Images
Accession Number :
View Position : LL
Cassette Orientation : Portrait

Film size :
EI : 1246
TEI : 600
DI : 3.2



KVP (kV): 74 DAP (cGy cm²): 50.2
Exposure (mAs): 20 Density step :
AEC Mode : MANUAL Exposed Area :
AEC Position : No AEC Exposed Area :

Worklist Examination Editing Main Menu

80% 100%

4:54 PM

FullName : TEST-AGFA DRCKIMGQC

Comments : AGFA QC TEST

Patient Identification : 101

Birth Date :

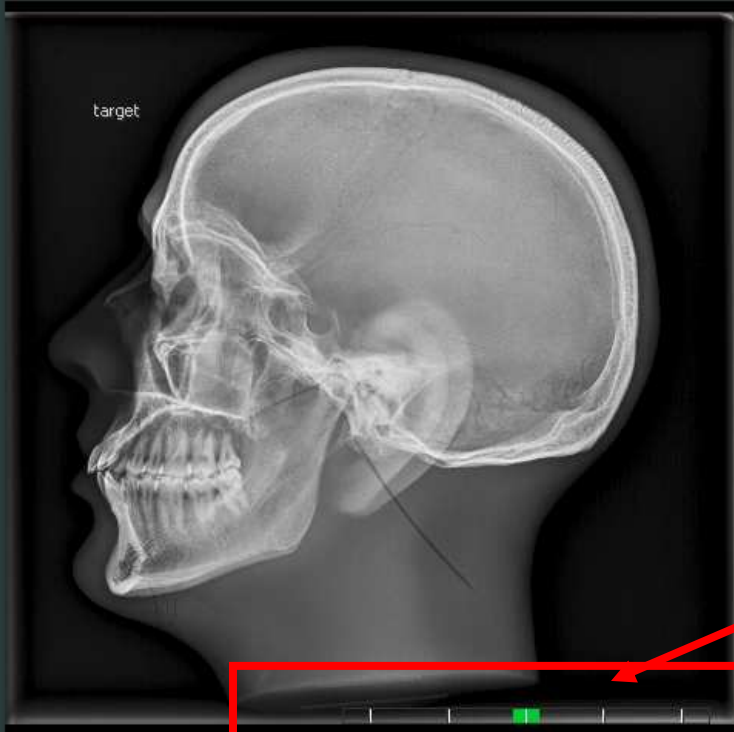
Sex : Other

Add to Manual
Worklist

Edit

Image Detail

Generator/Detector errors



Exam Group : Bone Series Adult

Exposure Type : Bone Survey LAT Skull

Accession Number :

View Position : LL

Cassette Orientation : Portrait

Film size :
EI : 602
TEI : 600
DI : 0

Edit

Stitch Images

IEC International standard "Exposure Index"
AND Extremely easy to read graphics!!!
On target = "green" / good

KVP (kV) : 74

DAP (cGy cm²) : 24.2

Exposure (mAs) 10

Density step :

AEC Mode : MANUAL

Exposed Area

AEC Position : No AEC

Exposed Area



Reject Image Print Image Send Image ID Add Image Close and Send All

Worklist

Examination

Editing

Main Menu

Patient Name : TEST XRAY BROWARD
Patient Identification : 101
Birth Date :
Sex : Other

Add to Manual
Worklist

Edit

Image Detail

Generator/Detector errors



2 X over = "yellow" / caution!

Exam Group : Bone Series Adult
Exposure Type : Bone Survey LAT Skull
Accession Number :
View Position : LL
Cassette Orientation : Portrait

Edit

Stitch Images

Exposure Parameters:
EI : 1246
TEI : 600
DI : 3.2

Navigation controls including L, R, zoom, pan, and other image manipulation icons.

KVP (kV): 74
Exposure (mAs): 20
AEC Mode : MANUAL
AEC Position : No AEC
DAP (cGy cm²): 50.2
Density step :
Exposed Area



Reject Image Print Image Send Image ID Add Image Close and Send All

Worklist Examination Editing Main Menu

Patient Name : TEST XRAY BROWARD
Patient Identification : 101
Birth Date :
Sex : Other

Add to Manual
Worklist

Edit

Image Detail

Generator/Detector errors



2 X under = "yellow" / caution!

Exam Group : Bone Series Adult
Exposure Type : Bone Survey LAT Skull
Accession Number :
View Position : LL
Cassette Orientation : Portrait

Edit

Stitch Images

EI : 269
TEI : 600
DI : -3.5



Navigation controls including buttons for L, R, zoom in/out, and a DOWN button.

KVP (kV): 74
Exposure (mAs) 5
AEC Mode : MANUAL
AEC Position : No AEC
DAP (cGy cm²): 11.4
Density step :
Exposed Area

Bottom navigation bar with buttons: Reject Image, Print Image, Send Image, ID, Add Image, Close and Send All.

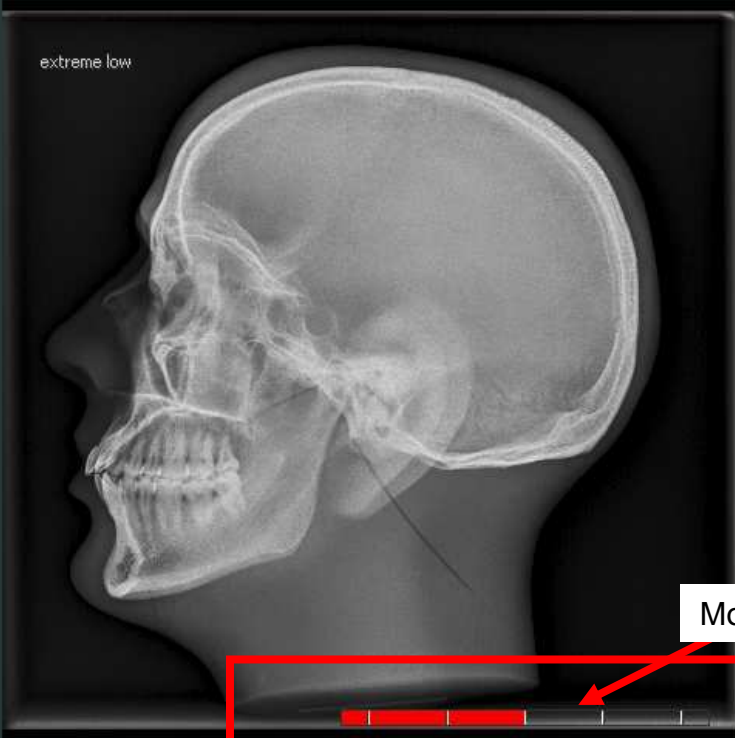
Footer navigation bar with buttons: Worklist, Examination, Editing, Main Menu.

Patient Identification : 101
Birth Date :
Sex : Other

Add to Manual Worklist Edit

Image Detail

Generator/Detector errors



Exam Group : Bone Series Adult
Exposure Type : Bone Survey LAT Skull
Accession Number :
View Position : LL
Cassette Orientation : Portrait
Film size :

Edit

Stitch Images

EI : 127
TEI : 600
DI : -6.7

More that 4 X over / under = "RED" / stop!!!



L R [Navigation icons] [Zoom icons] DOWN

KVP (kV): 74 DAP (cGy cm²): 5.79
Exposure (mAs) 2 Density step :
AEC Mode : MANUAL Exposed Area
AEC Position : No AEC Exposed Area

Navigation arrows

Reject Image Print Image Send Image ID Add Image Close and Save All

Worklist Examination Editing Main Menu

#2 NX QC, Image Quality & Dose Management

The screenshot displays the AGFA DX-D 100 DICOM viewer interface. The main window shows a lateral skull X-ray. The interface is divided into several sections:

- Patient Information:** Full Name: TEST-AGFA DRCRIMGQC, Comments: AGFA QC TEST, Patient Identification: 101, Birth Date, Sex: Other.
- Image Detail:** Exam Group: Bone Series Adult, Exposure Type: Bone Survey LAT Skull, Accession Number, View Position: LL, Cassette Orientation: Portrait, Film size: EI: 1246, TEI: 600, DI: 3.2.
- Technical Data (highlighted in red):**
 - KVP (kV): 74
 - Exposure (mAs): 20
 - AEC Mode: MANUAL
 - AEC Position: No AEC
 - DAP (cGy cm²): 50.2
 - Density step
 - Exposed Area
 - Exposed Area
- Image Overview (37/37):** A vertical strip of image thumbnails on the right side.
- Control Panel (right side):** Includes a search bar, a 'CONT.' button, and various technical controls such as KVP (60), mAs (0.200), mA (200), ms (1), and Max. ms. It also features focus controls and zoom levels (80%, 100%).
- Navigation and Action Buttons:** L, R, zoom, and rotation controls are located below the main image. Action buttons include Reject Image, Print Image, Send Image, ID, Add Image, and Close and Send All.
- Bottom Navigation:** Worklist, Examination, Editing, and Main Menu tabs.

A white text box with a red arrow pointing to the technical data section contains the following text:

DAP Meter measures actual tube output of open collimators!!!
Info included in DICOM header

#2 NX QC, Image Quality & Dose Management

The screenshot displays the AGFA DX-D 100 software interface. The top left shows patient information for 'TEST-AGFA DRCRIMGQC'. The main area features a large X-ray image of a skull in profile. To the right of the image, there are controls for image orientation (L, R, zoom, pan) and a table of exposure factors. A red box highlights this table, which includes KVP (74), DAP (50.2), Exposure (20), and AEC Mode (MANUAL). A text box with an arrow points to the exposure factors table, stating: 'All x-ray exposure factors configured into the system as defaults. Records changes & also included in DICOM header!'. On the far right, a vertical sidebar contains various controls, including a search bar, a 'CONT.' button, and several exposure factor sliders (KVP, mAs, mA, ms, Max. ms) and zoom controls (80%, 100%). The bottom of the interface has a navigation bar with 'Worklist', 'Examination', 'Editing', and 'Main Menu' buttons.

TEST-AGFA DRCRIMGQC

AGFA DX-D 100

Patient
Full Name : TEST-AGFA DRCRIMGQC
Patient Identification : 101
Birth Date :
Sex : Other

Image Detail
Generator/Detector errors

Exam Group : Bone Series Adult
Exposure Type : Bone Survey LAT Skull
Accession Number :
View Position : LL
Cassette Orientation :
Film :

KVP (kV): 74
DAP (cGy cm²): 50.2
Exposure (mAs): 20
Density step :
AEC Mode : MANUAL
Exposed Area :
AEC Position : No AEC
Exposed Area :

All x-ray exposure factors configured into the system as defaults. Records changes & also included in DICOM header!

KVP 60
mAs 0.200
mA 200
ms 1
Max. ms ---
Focus
80% 100%

Worklist Examination Editing Main Menu

August 9, 2012

#2 NX QC, Image Quality & Dose Management

R/R Reasons configurable...

The screenshot displays the AGFA NX QC software interface. At the top, patient information is shown: Patient Identification: M5656, Birth Date: 9/11/1922, Sex: Female. The main area features a large chest X-ray image. A dialog box titled "Select a reject reason" is overlaid on the image, listing various reasons for rejection: Image artifact(s), Grid artifact(s), Positioning, Motion blur, Under exposed, Over exposed, No image, Detector artifact(s), Other artifact(s), Mechanical failure, Electrical failure, Software failure, Inappropriate image processing, Double exposure, Other failure, and Unknown failure. A "Cancel" button is at the bottom of the dialog. Below the image, a toolbar contains buttons for "L", "R", navigation arrows, a refresh icon, "SIT", "STAND", and "DOWN". At the bottom of the interface, a row of buttons includes "Reject Image" (highlighted with a red box), "Print Image", "Send Image", "ID", "Add Image", and "Close and Send All". The bottom navigation bar has tabs for "Worklist", "Examination", "Editing", and "Main Menu". The AGFA logo is in the top right corner.

#2 NX QC, Image Quality & Dose Management

Reject report

Report created on: Maandag, 03 Juli 2007

Hospital: Gasthuisberg - Leuven

Department: Radiology - Pediatrics

Report period: Maandag, 02 Mei 2006 till Donderdag, 03 Mei 2006

Reject rate: **3.39%** (127 rejects of 2007 images)

Reasons (in % of rejects)	
Image artifact(s)	5.51%
Mechanical failure	1.57%
Over exposed	8.66%
Positioning	72.12%
Under exposed	
Unknown failure	

Reject %	
Abdomen	1/54
Chest	10/132
Leuven	23/501
	17/198
	5/129
	11/86
	42/643
	18/264

Structured Reports, raw data and rejected image export!!!

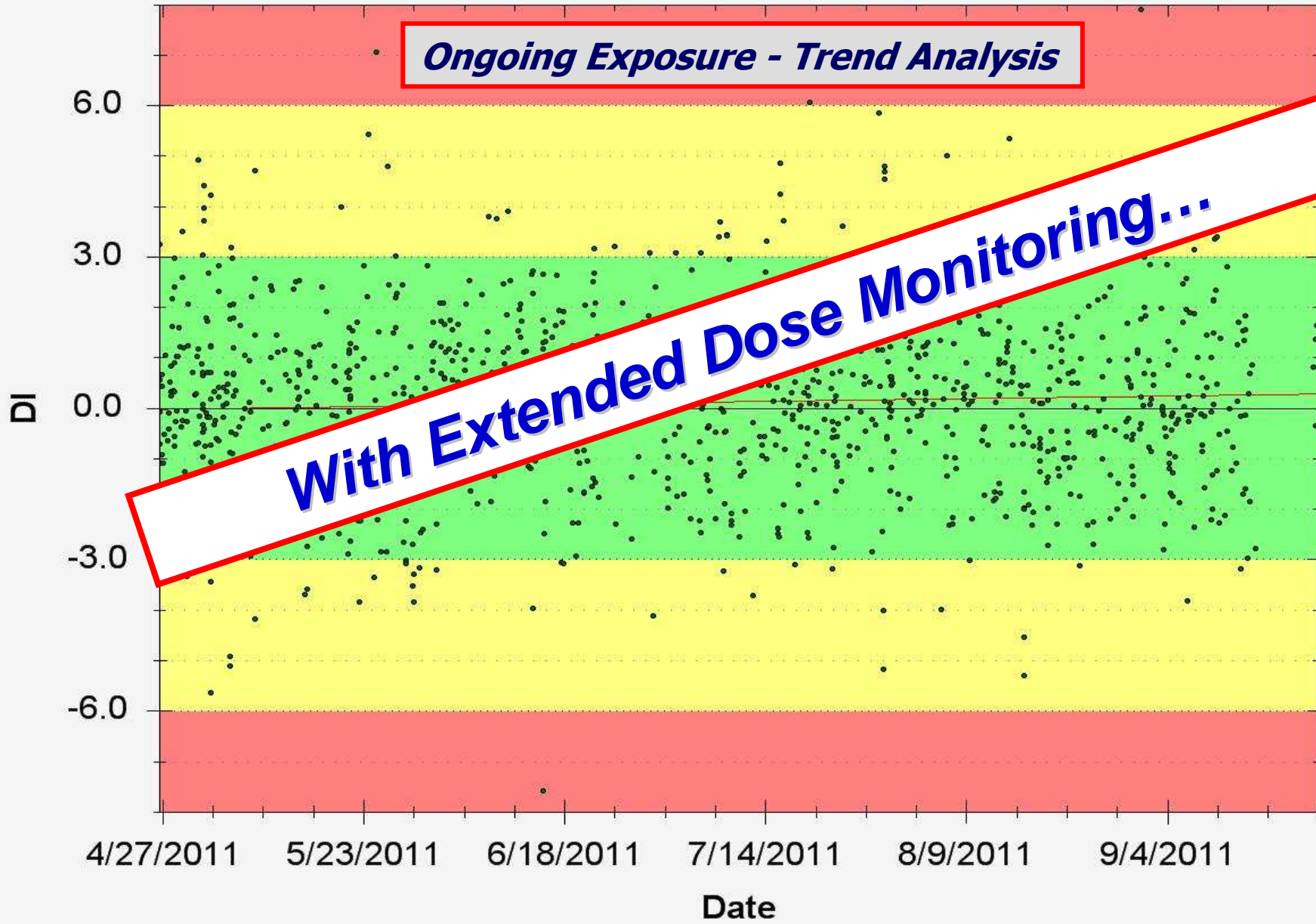
Reject % per operator		
Me	28.58%	2/7
Myself	0.5%	5/1000
And I	10%	50/500
UNKNOWN	12%	70/500

Reject % per NX Station		
NX1	20%	100/500
NX2	0%	0/7
NX3	1.8%	27/1500

Chest - AP CHEST PORTRAIT - 0-1.5
Room: local host - Detector Type: DX-G

Linear Regression

Ongoing Exposure - Trend Analysis



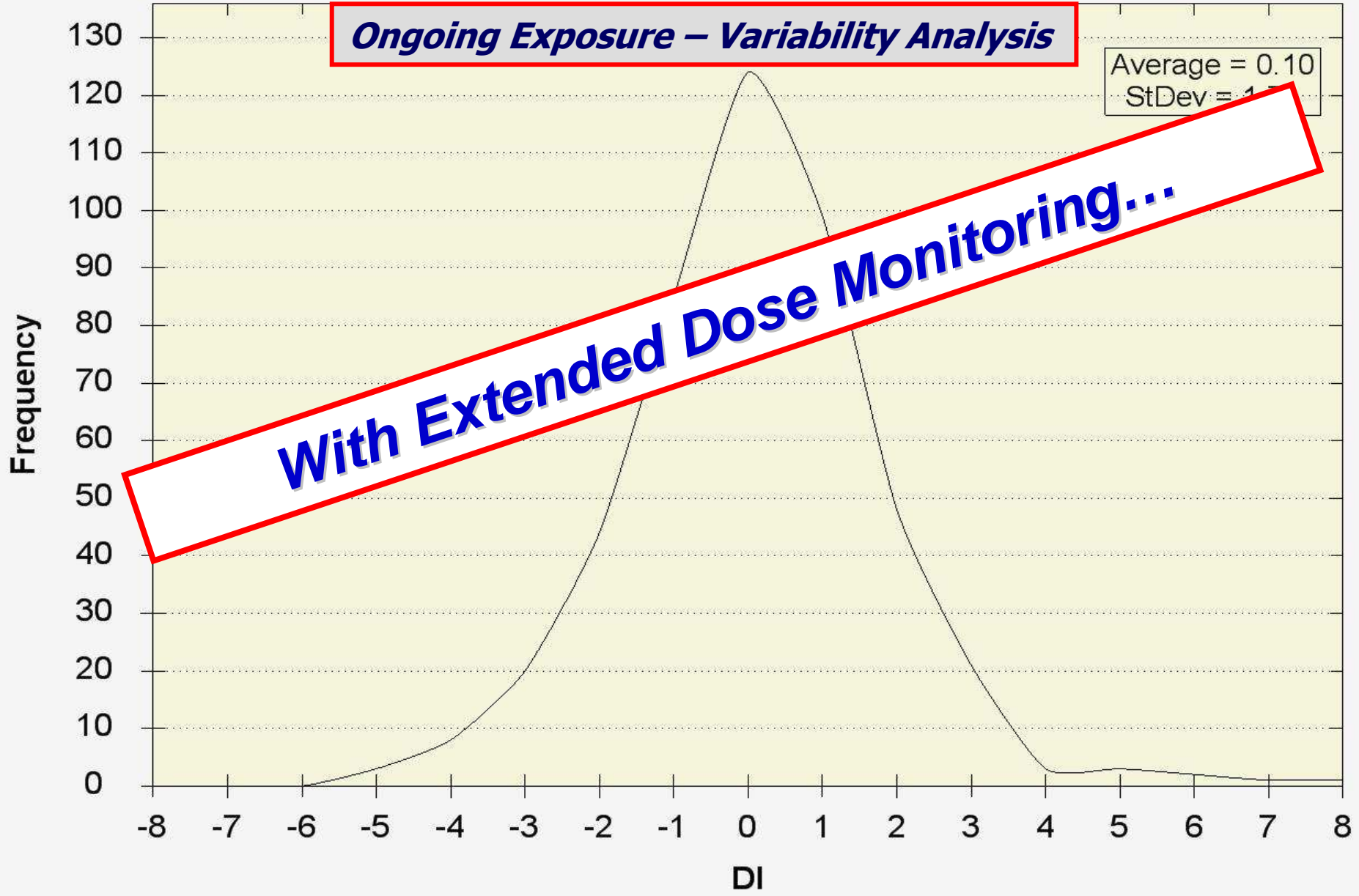
With Extended Dose Monitoring...

Chest - AP CHEST PORTRAIT - 0-1.5
Room: local host - Detector Type: DX-G

— Distribution

Ongoing Exposure – Variability Analysis

Average = 0.10
StDev = 1.7



#2 NX QC, Image Quality & Dose Management

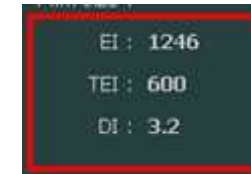
IHE REM Profile:

- Supported at the modality level by all Agfa DR and DR Systems!!!
- Structured Reporting for Management
- Automates data collection
- Useful component for a site Radiation Safety Program

- Ask about it when purchasing/upgrading
 - Check products IHE Integration Statement
- Discuss your reporting/analysis preferences with your Dose Info Reporting vendor
- Consider legacy system strategies

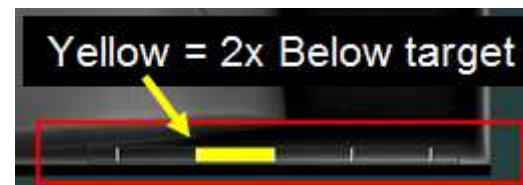
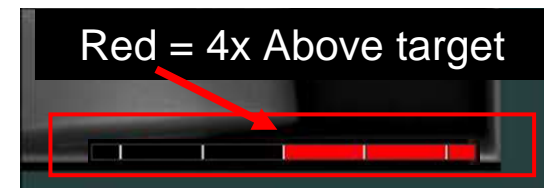
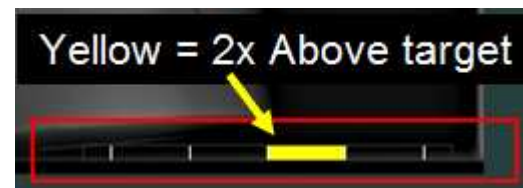
#2 NX Dose Management Summary

Agfa NX gives the technologists *instant exposure information during the exam acquisition* displaying the IEC Standard Exposure Index, Target Exposure index and Deviation Index. All of this data is also sent to PACS for display and storage in dedicated DICOM fields!



Only Agfa NX also gives the technologists instant exposure feedback in an easy to understand color graphic display right on the preview image!

- Green On target
- Yellow when $\frac{1}{2}$ or 2X the Deviation Index
- Red when $\frac{1}{4}$ or 4X the Deviation Index



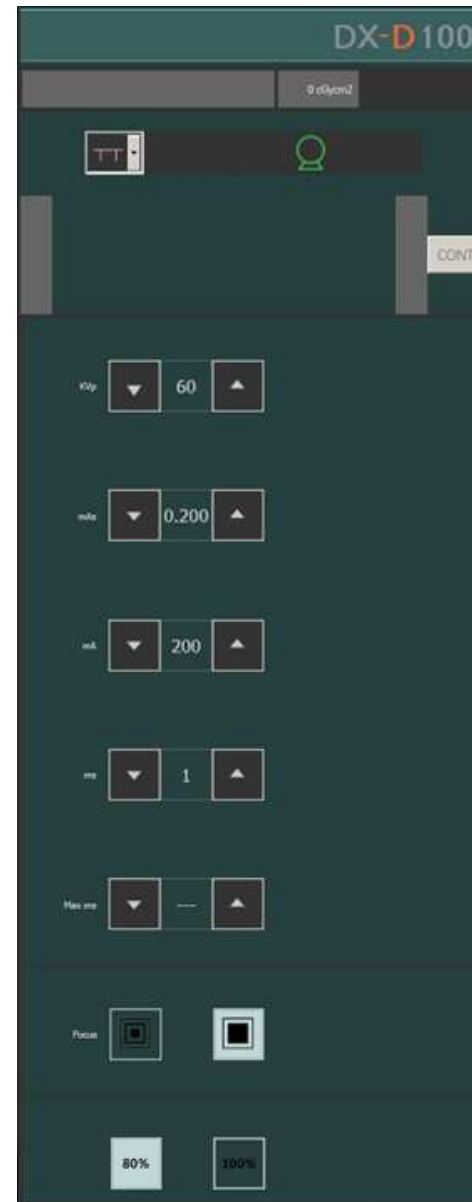
#2 NX Dose Management Summary

With the optional DAP Meter on Agfa DR Systems [Dose Area Product Meter], *the actual radiation output is instantly measured, displayed on the NX Exam screen and sent to PACS!*

KVP (kV): 74	DAP (cGy cm ²): 50.2
Exposure (mAs): 10	Density step:
AEC Mode: MANUAL	Exposed Area:
AEC Position: No AEC	

#2 NX Dose Management Summary

The Agfa NX Workstation is fully integrated with the DX-D 100 X-Ray Generator gives the technologists the standard exposure factors for the exam and sends the exposure factors to the PACS for storage!



#2 NX Dose Management Summary

Need Dose Management and exposure documentation for your portable exams?

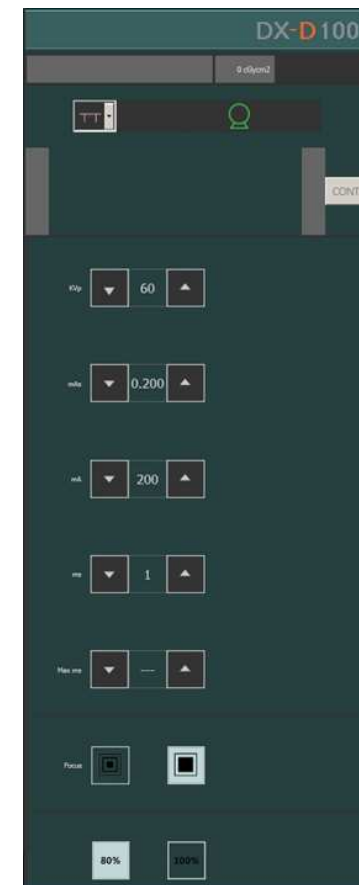
The Agfa NX Workstation does that. Can your DR Portable?

EI : 1246
TEI : 600
DI : 3.2

Green = On target



KVP (kV): 74 DAP (cGy cm²): 50.2
Exposure (mAs): 10 Density step:
AEC Mode: MANUAL Exposed Area:
AEC Position: No AEC



#2 NX Dose Management Summary

Dose Management with Agfa NX DR & CR Workstations:

DR:

- Cesium based “needle” detectors
- Agfa Dose monitoring graphic dose display
- Industry Standard Exposure Index (EI)
- Target Index (TI)
- Deviation Index (DI)
- Actual Tube output DAP Meter
- Actual Exposure Factors, kVp/mA
- IHE Structured Report (REM Profile)
- Repeat / Reject Program
- Structured Report, Raw data and rejected image output

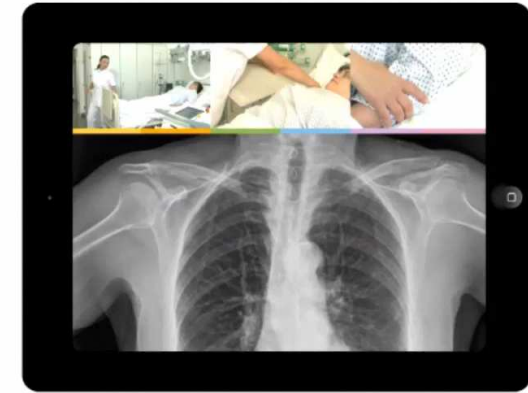
CR:

- Cesium based “needle” detectors
- Agfa Dose monitoring graphic dose display
- Industry Standard Exposure Index (EI)
- Target Index (TI)
- Deviation Index (DI)
- IHE Structured Report (REM Profile)
- Repeat / Reject Program
- Structured Report, Raw data and rejected image output
- Auto QC2 with over 25 AAPM tests done with 2 exposures!



#1 MUSICA²

- Industry 'Gold Standard' Image Processing
- Automatic & Exam independent!
- Soft Tissue, Bony Detail & all details in-between in Single Image
- Tube and Line Placement in Single Image
- No reprocessing required on NX or PACS
- Image consistency across CR and DR modalities



CONVENTIONAL



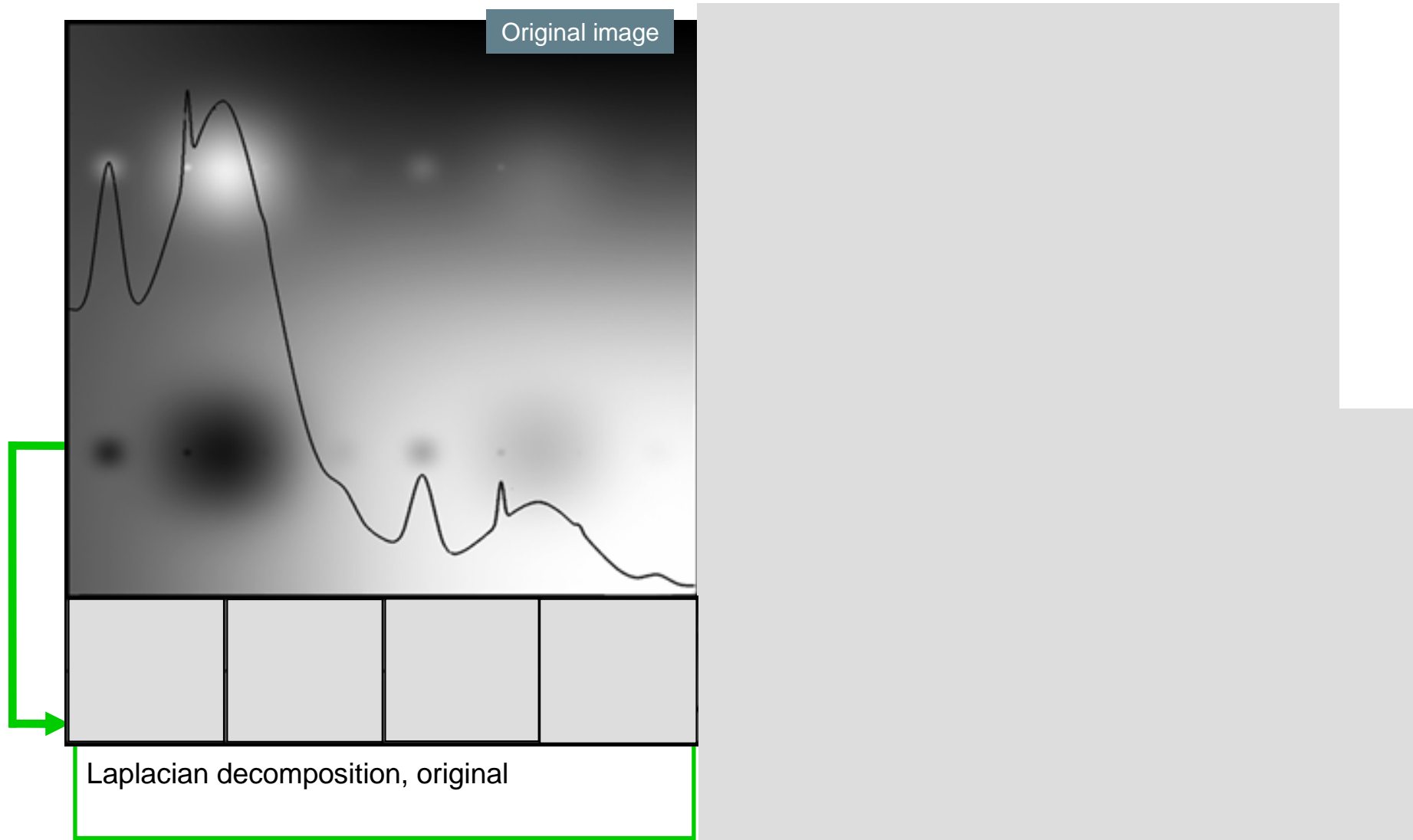
MUSICA



MUSICA²

CR Technology

- MUSICA is multiscale image contrast amplification



MUSICA² DR & CR Image Processing

Raw



MUSICA



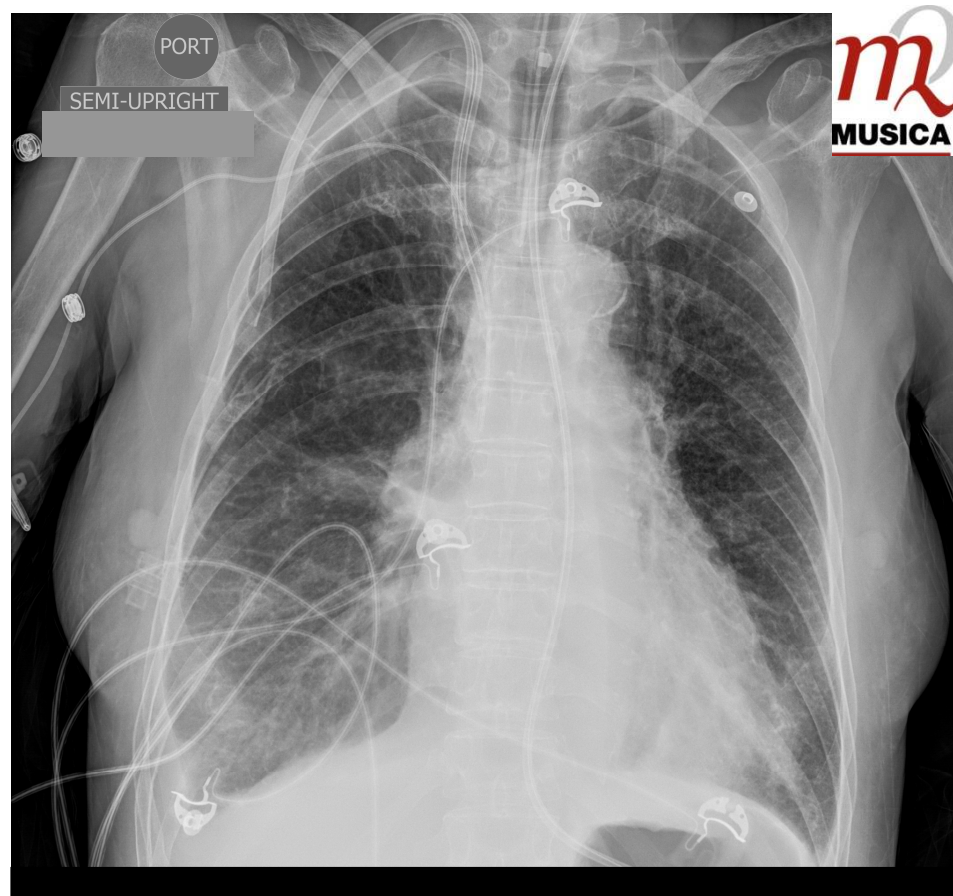
MUSICA²



Image Quality and Dose Management *Requires Advanced Image Processing*



Non Agfa DR

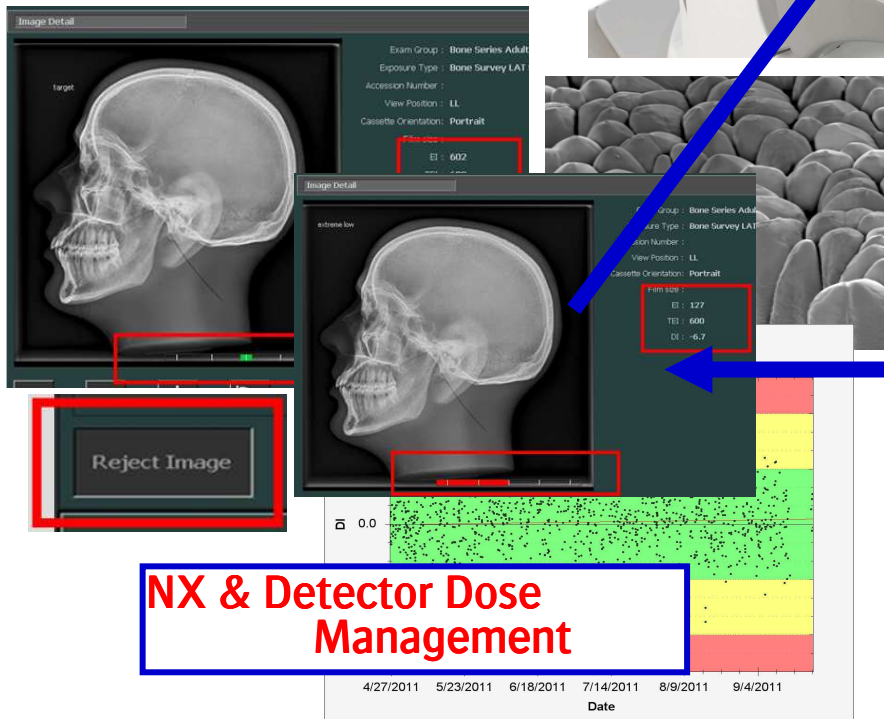


Agfa DX-D With MUSICA²

Great Individually..Unbeatable Together!!!



Agfa NX Multi-Modality, High Productivity Workstation



NX & Detector Dose Management



Agfa MUSICA2 Image Processing: High Productivity & Very Dose Tolerant