RADIATION DOSE MONITOR

The DACS for Building a Low-Dose Culture

MED SQUARE

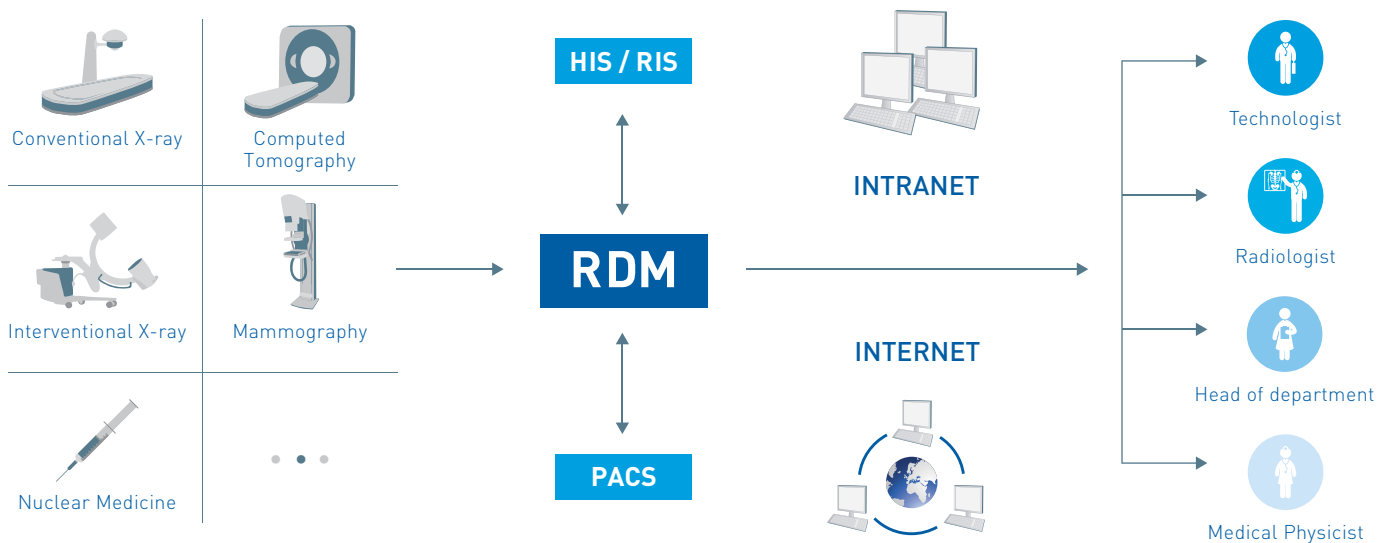# Radiation
Dose Monitor

/ WHAT IS DACS? /

DACS (Dose Archiving and Communication System) is to radiation dose reports what PACS is to DICOM images. DACS is a system for archiving and centrally managing ionizing radiation doses to which patients are exposed during medical imaging examinations.

/ RDM, OUR RADIATION DOSE MONITORING SOLUTION /

RDM is a software solution for collecting, controlling and analyzing radiation doses delivered to patients during medical imaging examinations. It helps improve clinical practices and optimize doses.

Compatible with all types of imaging modalities from all manufacturers, RDM is designed for all medical professionals involved in the dose cycle: technologists, radiologists, heads of department, medical physicists, etc. And thanks to its Web-based architecture, multiple control screens can be used without multiplying the costs.

At the very core of your department, RDM is an essential tool for reducing dose.

Conventional X-ray

Computed Tomography

Interventional X-ray

Mammography

Nuclear Medicine

HIS / RIS

RDM

PACS

INTRANET

INTERNET

Technologist

Radiologist

Head of department

Medical Physicist

Medsquare's DACS RDM interfaces with all of your information systems and fits seamlessly into your imaging network.

With RDM

STAY IN CONTROL AT ALL TIMES

- Display of all information relating to patients, examinations and acquisitions.

- Real-time monitoring of examinations and patients with advanced alert systems based on (national and local) Diagnostic Reference Levels, and automatic e-mail notifications.

- Dedicated screen for tracking alerts and finding their causes.

- Instant access to the patient's dose history for decision-making.

- Advanced pediatric dose management.

- Specific management of high-risk patients (pregnant women, radiation dermatitis, etc.).

- Multi-criteria search by protocol, procedure, equipment, period, user, etc.
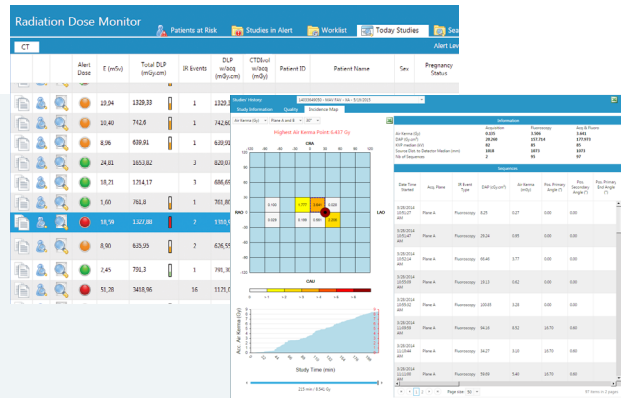
- Incidence map in interventional radiology: easily identify the Air Kerma point and PDS. Visualize the on-going procedure thanks to a time scale.

- Ability to attach any file or image to the patient records (portfolio).

- Re-evaluation of the CTDI according to the patient's morphology (SSDE – Size Specific Dose Estimates).

- Creation of search filters by population type (woman of child-bearing age, child by age group, weight, etc.).

IMPROVE YOUR PRACTICES

Advanced statistical analysis of dose data:

- Display the distribution of dose values according to the type of examination to identify examinations that deviate from the reference values.

- Identify all procedures and protocols that reveal anomalies and could be improved.

- Track the course of doses delivered to patients over time.

- Assess the level of compliance of your practices.

- Assess your professional practices.

- Keywords tag by medical indication (ex. heart disease, oncology, etc.) can be linked to the patient's records to refine searches and statistics.
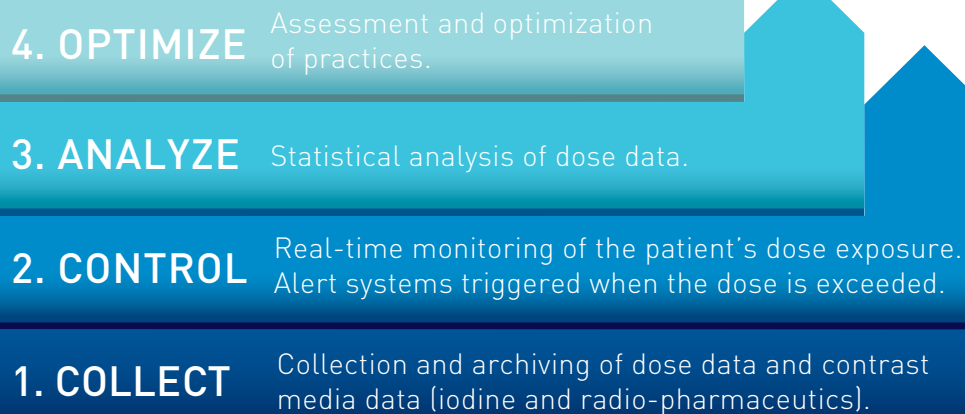

SHARE INFORMATION

- Complete export of all screen data and dose analysis reports in Microsoft Excel format.

- Automatic transfer of reports to HIS, RIS, PACS, etc.

- Custom call of RDM from your IT systems (HIS, RIS, PACS).

- Real-time access to the RDM web interface externally (internet/VPN) and internally (intranet).

- Alert e-mails sent automatically.

- Collection of DRLs and automatic transmission to the national authorities.
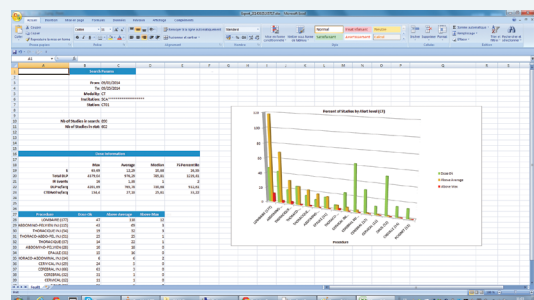
Towards Optimizing
patient dose exposure

4. OPTIMIZE   Assessment and optimization of practices.

3. ANALYZE   Statistical analysis of dose data.

2. CONTROL   Real-time monitoring of the patient's dose exposure. Alert systems triggered when the dose is exceeded.

1. COLLECT   Collection and archiving of dose data and contrast media data (iodine and radio-pharmaceutics).

RDM TECHNICAL CHARACTERISTICS

Modality integration, collection of dose data
· DICOM RDSR (Radiation Dose Structured Report)
· DICOM Dose SC (Secondary Capture)
· DICOM MPPS (Modality Performed Procedure Step)
· DICOM Header
· External dosimeter
· Manual entry of dose data

HIS/RIS connectivity
· Automatic submission of HL7 and DICOM RDSR dose reports
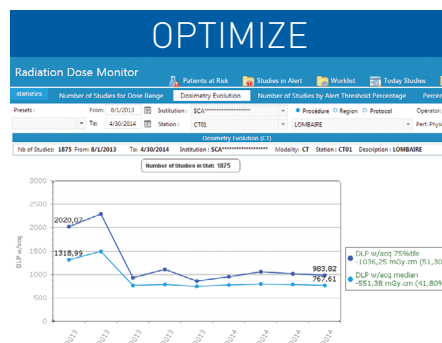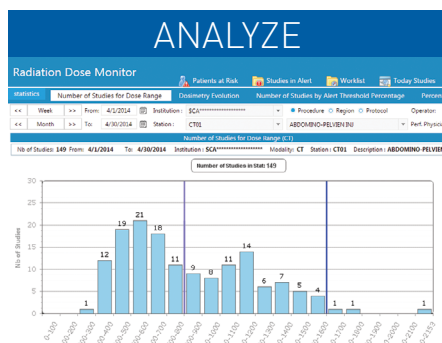· Reception of HL7 messages (fusion, update, etc.)

PACS connectivity
· Automatic downloading in DICOM Query/Retrieve of the patient's dose history
· Automatic sending of dose reports to PACS in RDSR format

Web 2.0 interface

CONTROL

ANALYZE

OPTIMIZE

/ E-MAIL ALERTS MODULE /

This module automatically sends an e-mail when the dose threshold defined in RDM is exceeded. This e-mail contains detailed information about the alert and the examination and is sent to each recipient defined in the system.

/ PACS HISTORY MODULE /

This module is a decision-making tool for the radiologist before performing an examination. It queries the PACS, automatically retrieves dose values from previous examinations, and calculates the accumulated dose per anatomical region.

/ WORKLIST MODULE /

This module retrieves the list of examinations scheduled for the day. Before starting an examination, the radiologist can consult this list to access the patient's dose history along with the dose accumulated per anatomical region.

/ HL7 IHE INTEGRATION MODULE /

This module accepts HL7 messages sent by HIS/RIS to ensure the integrity of patient/examination data (fusion, update, etc.).

/ RDM MODALITY MODULE /

This module has been designed for old systems that are incompatible with DICOM and have an external ionization chamber. The RDM Modality module connects to the Worklist server to retrieve the list of examinations scheduled for the day.

/ HL7/RDSR SENDER MODULE /

RDM collects dose reports using different techniques (MPPS, screen captures, etc.). The HL7/RDSR Sender module translates the dose reports into DICOM RDSR or HL7 format and sends them automatically to the RIS/HIS and/or the PACS.

/ DOSE REPORTS EXPORT MODULE /

This module enables a list of dose reports to be easily generated and sent to the national authorities in the required official format. The module also keeps a log of past assessments that have been sent.

Why
Medsquare?

Medsquare provides innovative solutions for the medical imaging environment.

Our solutions (burning, printing, archiving, secured web image distribution through the internet, etc.) are currently being used in more than 450 university hospitals and private clinics in France and more than 2000 around the world.

Founded in 2006 as a French company based in Paris, Medsquare is a key partner of the world's leading radiology equipment manufacturers, who offer our peripheral devices and software to their customers bundled with the sale of their DICOM modalities (CT, MR, XA, etc.).

RADIATION DOSE MONITOR (RDM)

Medsquare is also a leading player in the DACS (Dose Archiving and Communication System) market. Our patient dose management system – Radiation Dose Monitor (RDM) – enables healthcare institutions to collect, control and analyze radiation doses delivered to patients during medical imaging exams. RDM helps improve clinical practices and optimize doses.

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MPTronic

RDM, distributed by Medsquare   RDM, powered by our partner MPTronic

CE   Medical Devices 93/42/EEC

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