

What a difference a day makes-software upgrade 4.2

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Our Department

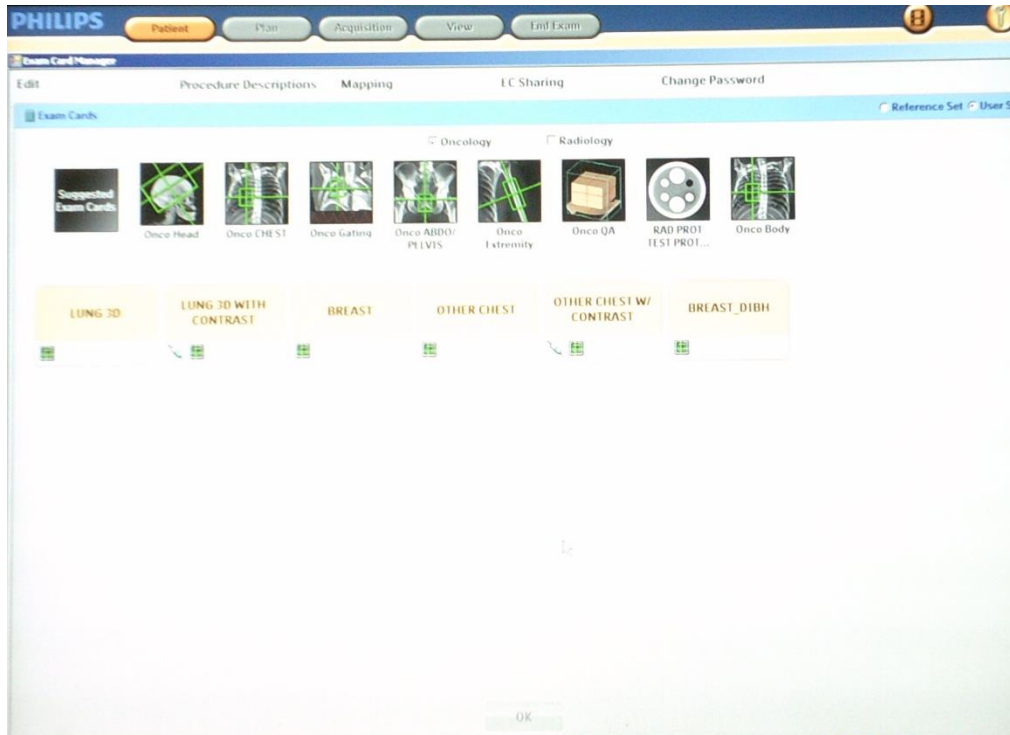
- 2 Philips wide bore scanners
 - 1 installed 2005 at Princes Royal Hospital moved to Queens Centre Cottingham 2008
 - 1 installed in Queens Centre 2007

User Interface



- Each area for scanning can be grouped together to make accessing scan protocols easier and scanner desktop less cluttered
- Can separate out oncology and diagnostic so only one set of protocols shows at any time

Exam Card Manager



- Easy to navigate and create new protocols as required
- Password protected so not available to everyone
- Protocols can also be created on the fly when setting up for scanning

Bug reporting

The screenshot shows a window titled "Bug Report Collector" with two tabs: "Collect" and "Archives". The "Collect" tab is active. The form contains the following fields and controls:

- Your Name**: A text input field with a red asterisk and a character count "(max 50 char)".
- Problem Headline**: A text input field with a red asterisk and a character count "(max 100 char)".
- Time of Event**: A dropdown menu, a time selection control, and buttons for "Now" and "Clear".
- Problem Description/Remarks**: A large text area with a scroll bar and a character count "(max 1000 char)".
- Frequency of Occurrence**: Two radio buttons labeled "Intermittent" and "Persistent".
- Bug Report Name**: A text input field.
- Bug Report Location**: A text input field containing "D:\Fms\BugRep\Packages" and a "Browse..." button.
- At the bottom, there are two buttons: "Collect Bug Report" and "Exit".

- Quick and easy to complete
- Done in around 2 minutes compared to 10 on old software
- Philips Technicians can dial in and assess any issues to try to pre-empt parts / Philips technicians required

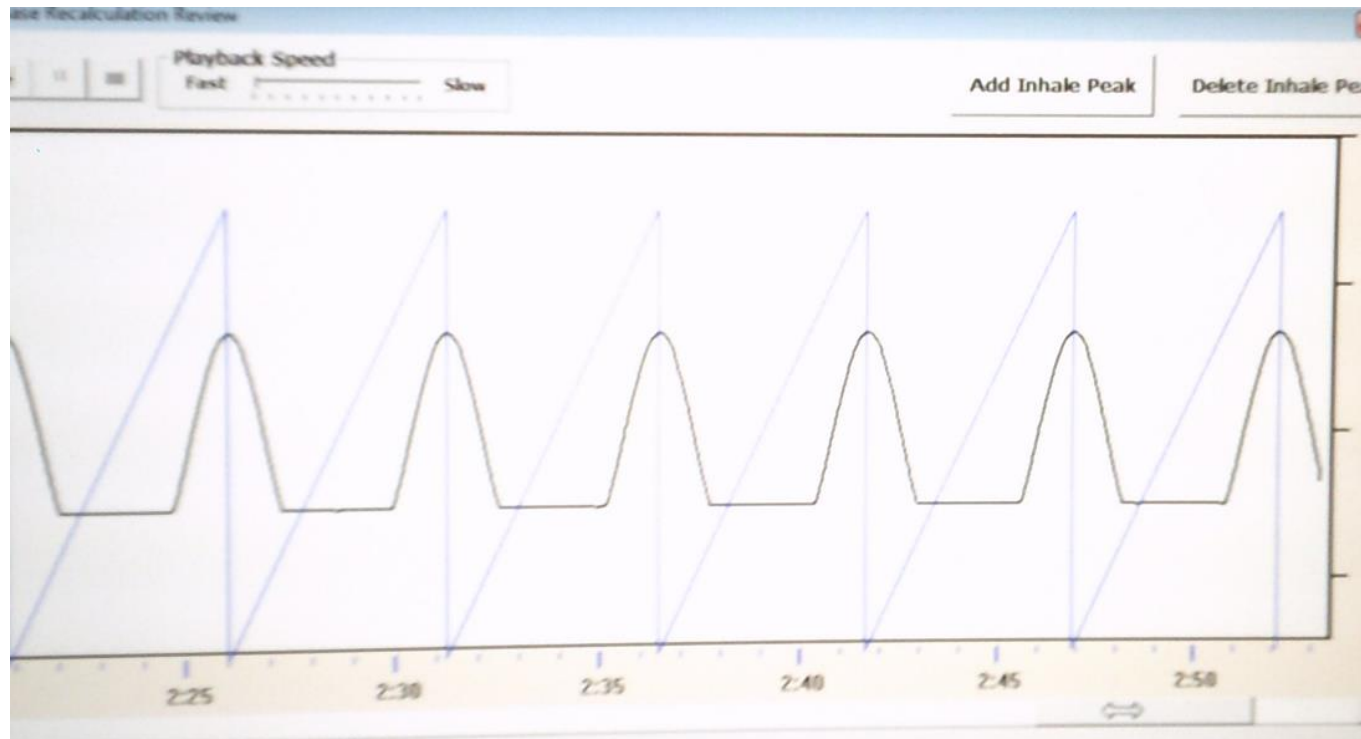
Morning QA

- Prior to software upgrade
 - Had to complete tube conditioning
 - Manually had to set to head phantom area run scan and draw of region of interest then re-set for body section and repeat
- Since Upgrade
 - Place phantom select tube conditioning and then the scanner completes tube conditioning and daily QA
 - Keeps a record of all QA completed so you can check back without having to redo measurements
- Morning QA completes quicker than before

Scanner Reconstruction Times

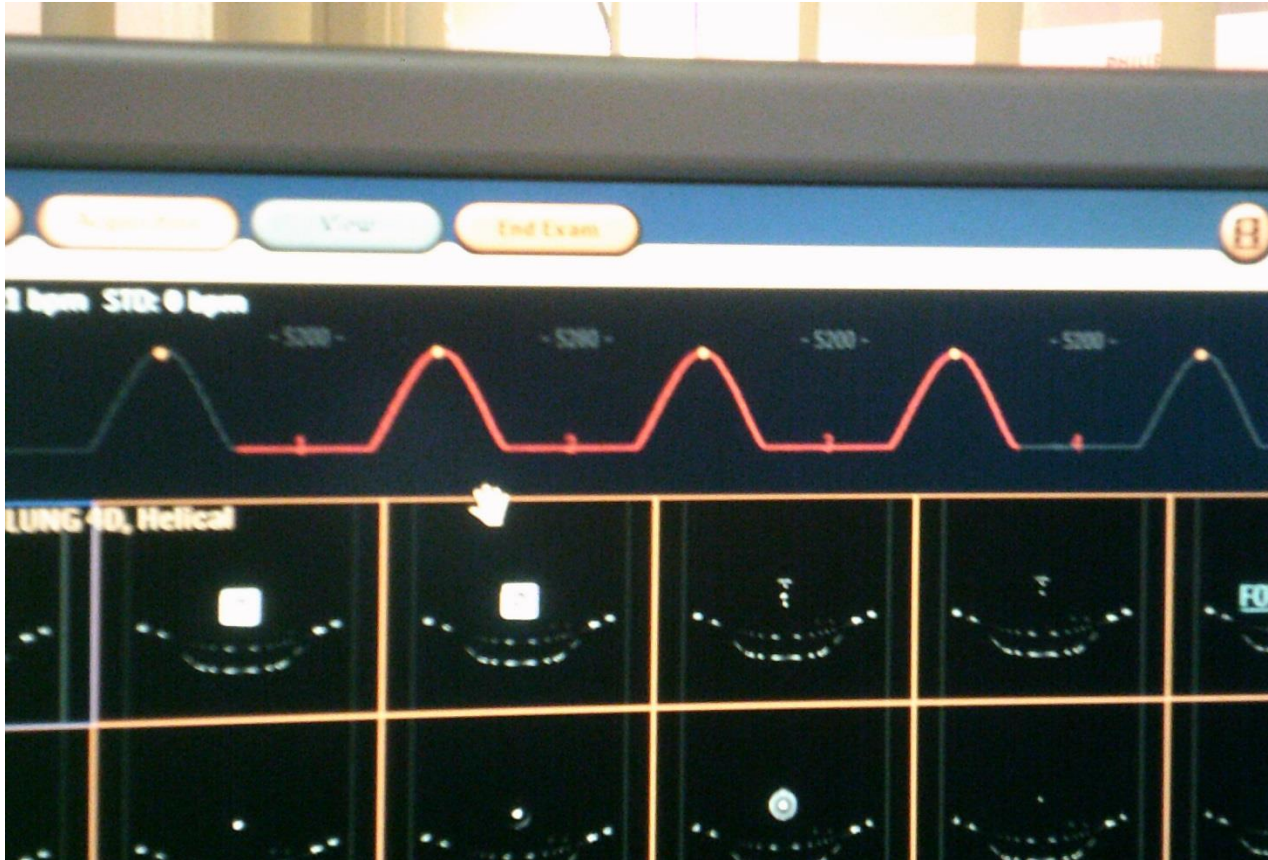
- Prior to the upgrade
 - reconstruction of a 4DCT was taking on average 30mins to reconstruct (maximum recorded 55mins)
 - Patient could be tattooed, had there nurses chat and left the department before scan could be fully checked
 - Could only do one patient in each half day session due to reconstruction time
- Since Upgrade
 - Reconstruction takes up to 10 minutes
 - Scan images can be checked for artefacts, drop out and assessed to see if scan is suitable for planning prior to patient coming off bed
 - Can do as many 4D scans in a day as is required

Old Style Breathing Trace



- Prior to upgrade no way to tell when scan had taken place so the whole trace had to be checked and ammended

New Style Breathing Trace



- Now scanner highlights the scan area so you just have to amend the relevant parts of the trace

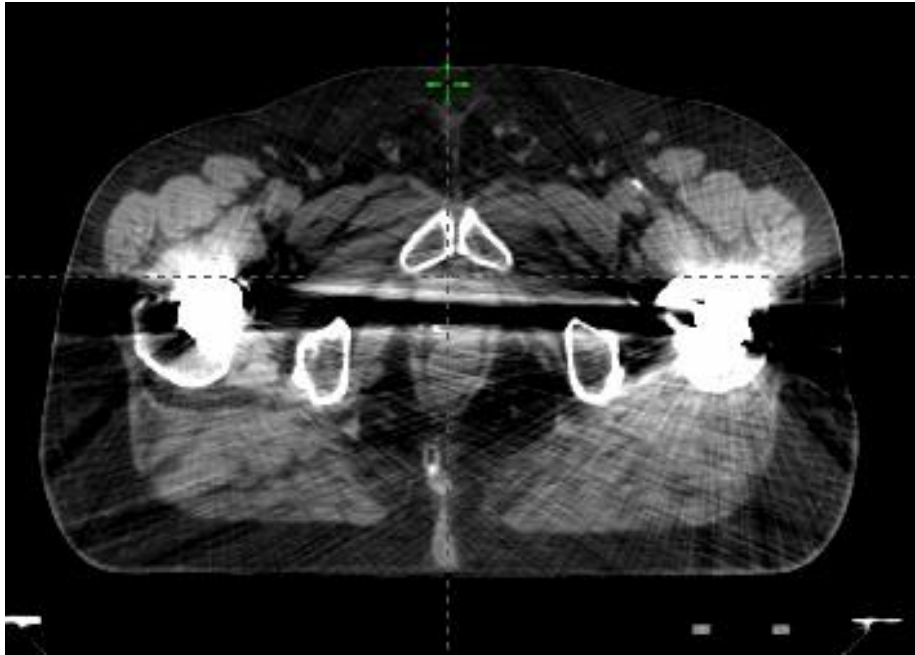
Other benefits

- The drop out events between the Varian RPM system and the scanner since up grade has reduced
- Tends only to be after generator runs if at all that the loose communication
- Rare occurrence and tends to be due to a node being closed and not due to scanner / RPM interface

OMAR (Orthopaedic Metal Artefact Reduction)

- Patients with joint replacements or spinal pins used to have to go to MRI to be able to see all tissue for delineation due to the drop out on the CT scan caused by the metal implants
- This meant extra visits or longer time in the hospital for the patient
- Staff time was lost as they had to attend MRI with the patient to ensure set up accuracy and also to take / return immobilisation equipment
- Could cause problems with pelvic preparation as if bowels were required to empty and bladder full could not guarantee the patient would be able to do both scans without requiring additional time for prep
- Put extra pressure on MRI slot availability

Pelvis scanning without OMAR



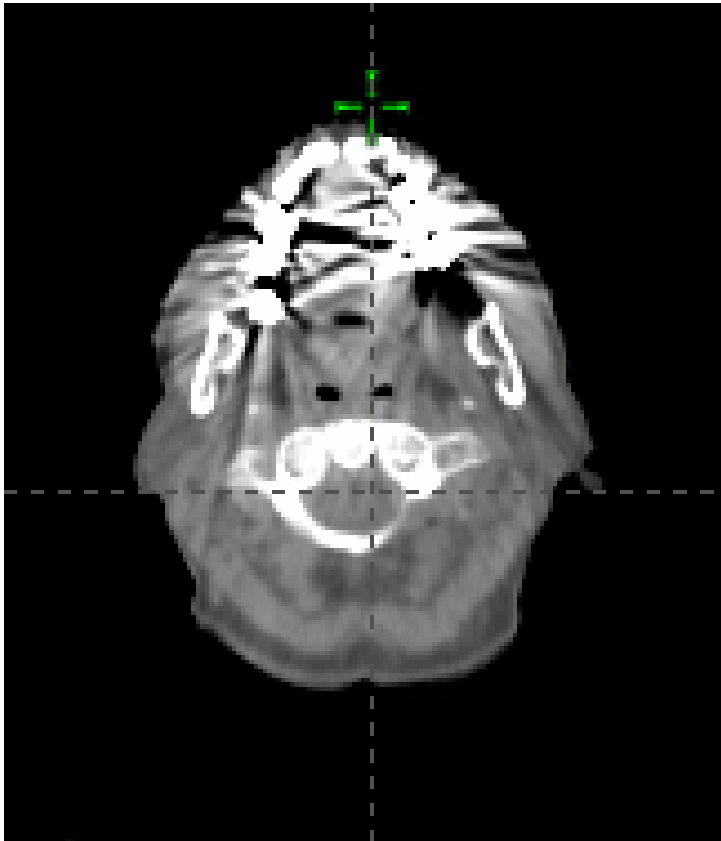
- Expected drop out across the image
- Difficult to delineate
- MRI will be required to aid with planning
- Extra visits for the patient

Pelvis scan with OMAR



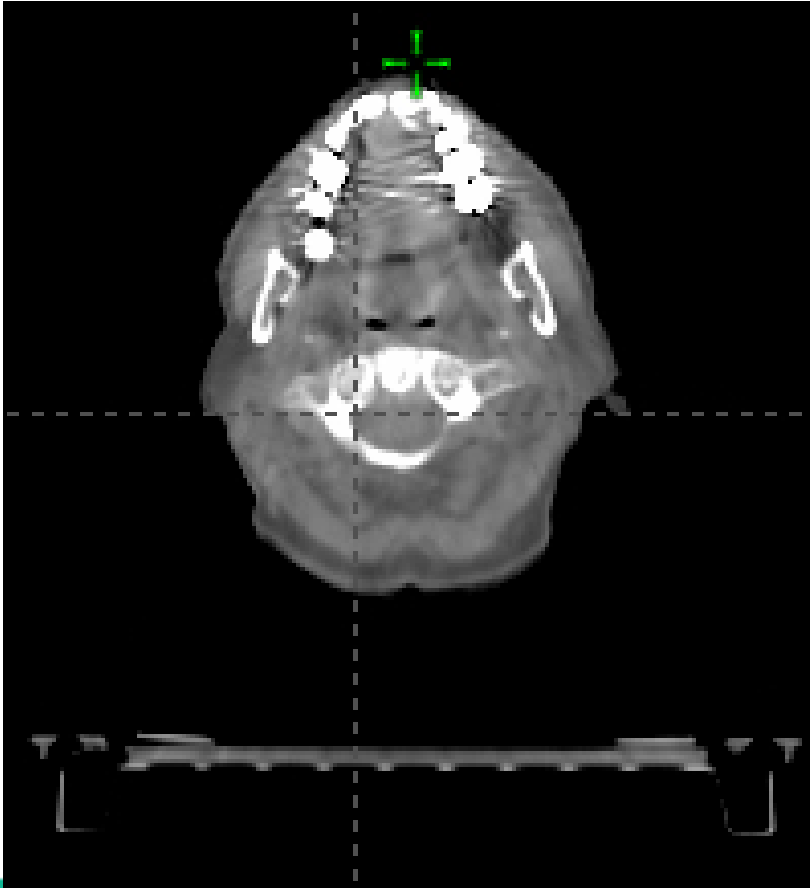
- OMAR reconstruction
- No drop out across the image
- Decent definition allowing more accurate planning
- No need for extra MRI scans to delineate tissues
- No dose penalty

Head And Neck without OMAR



- Like metal work in the pelvis there can be considerable artefact seen when a patient has fillings or a fixed metal plate
- Depending on the site being treated this can be problematic

Head and Neck with OMAR



- OMAR reduces the amount of artefact seen
- Again no dose penalty
- Can be selected prior to scan or reconstructed after the fact

OMAR continued

- Should not be used where the metal in question is too close to the skin's surface
- Not suitable for pacemakers

Air Calibrations

- Completed the same way as previous software versions
- Completed once weekly
- Takes less than 10 minutes
 - CT used to be 20 minutes
 - CT2 used to take anywhere between 25-40 minutes

Philips support

- Apps training when required
 - After up grade
 - New staff
 - New techniques
 - As required and arranged
- Technical support
 - Through bug report
 - Phone / email with on site technicians

