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fujiXposure newsletter – spring 2008

The Royal Children's Hospital, Melbourne replaces its existing PACS system with FUJIFILM Synapse

The Royal Children's Hospital, Melbourne, recently replaced an existing AGFA PACS system with a FUJIFILM Synapse PACS as part of the Victorian Department of Human Services (DHS) HealthSMART equipment and service upgrade program.

This was the first time in Victoria that FUJIFILM had replaced an existing PACS with the Synapse PACS.

This transition from an existing filmless electronic environment to the FUJIFILM Synapse system will now be used as a benchmark by other health facilities looking to make a similar conversion.

The Royal Children's Hospital Medical Imaging Department Manager, Rod Truran, said the 12-month transition process is due for completion in September 2008.

> "...the implementation and integration of the transition process was very smooth..."

"Nine terabytes of report and image data has been migrated from the previous AGFA IMPAX PACS to the FUJIFILM Synapse system, so the project is most significant in terms of clinical staff being able to access patient's previous images," Mr Truran said.

"Report data was transferred initially, while the migration of legacy image data takes much longer due to old storage media and equipment.

"Once the report data for every patient was transferred, the FUJIFILM Synapse system went 'live' at 5pm on Friday 7 December 2007.

"Despite having extra helpdesk staff on duty as well as FUJIFILM representatives, there were no significant issues during this mission critical stage as a result of FUJIFILM's preparation, training, rigorous testing process and the flexibility of the Synapse application."

Mr Truran said the implementation and integration of the transition process was very smooth.

"However, one hurdle we did have to overcome was the issue of staff assuming they would automatically understand the FUJIFILM Synapse system following their previous experience working in an electronic environment," he said.

"In fact, staff had to delete their previous PACS knowledge and be re-educated on the FUJIFILM Synapse PACS as it operates using a study-based PACS system, which is completely different to the previous RIS, patient-based system.

"Another major change during this period was the transition to Voice Recognition from digital dictation and typists. Voice Recognition has had a huge impact on turnaround times from up to nine days previously (four days on average) to literally hours and sometimes even sooner.

"As a result of receiving reports sooner, patient hospital stays have been significantly reduced with medical staff able to make faster decisions on suitable patient treatment options.

in this issue

"These vastly improved turnaround times has since made The Royal Children's Hospital, Melbourne very competitive in the market place.

"In fact, we can now compete with private practice when it comes to communicating results back to referring doctors," he said.

Mr Truran said after 15 years experience with PACS, the FUJIFILM implementation process was second to none and is a tribute to the expertise and dedication of the FUJIFILM team.

> "...these vastly improved turnaround times has since made The Royal Children's Hospital, Melbourne very competitive in the market place..."

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Message from Peter Carmody, General Manager, Fujifilm Medical Systems

The new FUJIFILM FCR Go is set to revolutionise the way radiographers view portable x-ray and I'm delighted to advise **that we are to release the first** demonstration of this impressive system at the RANZCR conference to be held in Adelaide from 16 -19 October 2008.

In fact, the FUJIFILM FCR Go is the first portable digital x-ray system to provide remote users with the same functionality and sophisticated image processing features that are available at a fixed radiographer workstation. This edition provides some insight into this system's outstanding capabilities.

For the first time in Victoria, FUJIFILM has replaced an existing PACS with a Synapse PACS. An interview with Rod Truran, Medical Imaging Department Manager at The Royal Children's Hospital, Melbourne, provides details of how the 12-month transition process evolved and also explains how this initiative will now be used as a benchmark by other health facilities looking to make a similar conversion.

We are also very pleased to congratulate the Barwon Health Project Team who recently won an accolade in the *Barwon Health Annual Quality Improvement Awards*. The implementation project was jointly undertaken by the Barwon Health Project Team and the FUJIFILM PACS Project Team. An article explains the complexities of this project and the extensive rollout process.

Finally, we provide an expert's view on *Digital Radiography: CR versus DR* written by Dr J. Anthony Seibert, Professor of Radiology, University of California, David Medical Centre, Sacramento, CA. Dr Seibert suggests it is time to reconsider the options, definitions and current capabilities of CR and DR technologies.

As always, we hope you enjoy all the stories in this Spring edition of *FujiXposure* and gain some practical knowledge that can be applied to your own clinical environment.

New Fujifilm FCR Go – productivity, convenience and image quality

The new Fujifilm FCR Go is the first portable digital x-ray system to provide remote users with the same functionality and sophisticated image processing features available at a fixed radiographer workstation.

FUJIFILM Australia CR Product & Applications Manager, Ray Fenech, said the high performance FCR Go can help provide excellent patient care, image quality and convenience.

"Image review and image reprocessing can be performed quickly and easily at the patient bedside with all of the image optimisation and advanced image processing features of the popular Fujifilm CR Console also accessible on the FCR Go," Mr Fenech said.

"There are over 700 Fujifilm CR Consoles installed in Australia and the FCR Go workstation has the same look and feel.

"Featuring a built-in FCR Capsula XL CR system capable of 100 micron resolution, the FCR Go is set to revolutionise the way radiographers perform portable x-rays with images available in as little as 23 seconds.

"The FCR Go has the flexibility to be used in nearly every imaging environment including the operating room and neonatal wards. The ability to use a small cassette is particularly important when imaging neonates in an incubator, for instance.

"Its compact design and smart drive system makes the FCR Go very easy to manoeuvre and the CR cassettes are relatively lightweight with the 35x43cm cassette weighing less than 2kg," he said.

Mr Fenech said the portable Fujifilm FCR Go can also accommodate a wireless or hardwired connection to a facility's network, enabling the availability of patient work lists from the RIS.

"Images can be transmitted to PACS immediately following study completion for quicker interpretation," he said.

The impressive capabilities of the Fujifilm FCR Go will be demonstrated at the RANZCR conference to be held in Adelaide from 16 -19 October 2008.

Fujifilm FCR Go features at a glance

- Built-in FCR Capsula XL CR system
- Fast throughput of up to 94 images per hour
- Image availability in as little as 23 seconds
- Colour LCD touchscreen with image magnification for full screen display
- Telescopic arm featuring angulation and rotation for easy x-ray tube positioning
- Wireless communication for updates
- Outstanding quality comparable to other FCR and FDR images
- Lightweight and durable cassettes can be used in nearly every imaging environment – including the operating room
- Sleek, compact design and smart drive system

...the Fujifilm FCR Go is set to revolutionise the way radiographers perform portable x-ray..."

FUJIFILM

PACS Project Team wins an accolade for Barwon Health's successful transition to digital

The success of Barwon Health's transition to digital has earned the Barwon Health Project Team an accolade in the *Barwon Health Annual Quality Improvement Awards*.

From left to right: **Jeff Umbers**, Operations Manager, Barwon Medical Imaging (BMI); **Rachel Baker**, Radiographer, BMI; **Paul Cohen**, Chief Information Officer, Barwon Health; **Philip Brough**, Chief Radiographer, BMI; **Tom Conway**, FUJIFILM Project Director; **Janet McDonald**, Clerical Manager, BMI; **Jamie Osland**, RIS/PACS Administrator, BMI; **Jodie Ringin**, Radiographer, BMI

The implementation project was jointly undertaken by the Barwon Health Project Team and the FUJIFILM PACS Project Team.

Out of the six Award categories, the PACS Project was the Category Award Winner for an externally funded project in Category 2: 'Providing timely and accessible health services.'

Barwon Health – Victoria's largest regional health care provider – was the first public health care agency in the State to make the transition to digital as part of a major equipment and service upgrade by the Victorian Department of Human Services (DHS) over five years.

FUJIFILM Australia Pty Ltd was awarded the DHS contract in late 2006 to provide state-of-the-art equipment and services to manage, store and distribute images and information throughout Victoria's participating public health care agencies.

Since the contract was awarded, FUJIFILM FCR and PACS have been successfully implemented in five

...the Award was a tribute to the extraordinary work involving both teams for the implementation of an exceptional digital transition initiative...

Victorian Public Health Care Agencies – Barwon Health, Melbourne Health (Royal Melbourne Hospital), The Royal Children's Hospital Melbourne, Western Health (Footscray and Sunshine) and Bendigo Health Care Group.

FUJIFILM Medical Systems Project Director, Tom Conway, said the PACS rollout – which proceeded in stages over a period of nine months – was a large and complex project involving many stakeholders.

"The smoothness and success of the implementation was largely due to the collaborative and selfless dedication of the joint project team members," Mr Conway said.

"As part of Phase 1, Barwon Medical Imaging (BMI) staff – comprising radiographers, radiologists, technicians, physicians, clerical staff and nurses across four locations – underwent training to operate the new FCR and FUJIFILM Synapse PACS system.

"Phase 2 of the transition involved Barwon Health's roll-out to the hospital wards, clinics, Intensive Care, Emergency and Operating Theatres, as well as Day Procedure Suites to enable all doctors, nurses and allied health professionals within the hospital to access the information," he said.

Mr Conway said he was delighted that the PACS Project was selected as the Award winner – it was a tribute to the extraordinary standard of work involving both teams for the implementation of an exceptional digital transition initiative.

Digital radiography: CR versus DR?

Time to reconsider the options, the definitions, and current capabilities

J. Anthony Seibert, PhD

Dr. Seibert is a Professor of Radiology, University of California, Davis Medical Center, Sacramento, CA.

Categorizing digital radiography systems is no longer as simple as "computed radiography" (CR) and "direct and/or digital radiography" (DR). The more technology changes, the more it changes

The CR versus DR issue is no exception, where historical boundaries of CR (with passive, cassette-based image acquisition and detector handling with offline processing) and the fully integrated DR system (with automatic processing and display) are now converging. Historically, CR has referred to the implementation of a cassette-based photostimulable storage phosphor (PSP) imaging plate reader and quality-control workstation that are packaged as an add-on system to existing X-ray devices using screen-film detectors. In contrast, DR has been touted as a totally integrated X-ray source-generator-detector solution with images displayed for review within the room shortly after the X-ray exposure. Now, "CR" technology (specifically using PSP converters) has been developed into integrated X-ray systems and has completely automated acquisition, display, and processing. Now "DR" technology has cassette-based detectors available for situations requiring more flexibility in positioning and multiple uses in conventional X-ray cassette trays and bedside portable radiography.

Computed radiography uses a PSP that transiently stores a latent image in the form of electrons in semistable traps within the phosphor structure, with subsequent data extraction using a stimulating point laser beam that scans the phosphor surface point by point. Line scan laser sources coupled to an array of microlens and photodiode light detectors stimulate and acquire data in parallel, reducing the readout time of a PSP imaging plate from about a minute to ≤10 seconds, which is comparable to other digital radiography detectors known for readout speed.

In its current definition, *DR* describes a multitude of digital X-ray detection systems that immediately process the absorbed X-ray signal after exposure and produce the image for viewing with no further user interaction. This fact has resulted in the use of the term *direct radiography* by many manufacturers, which has added to the nomenclature confusion, because of another use of *direct* that describes the conversion of X-rays into charge, which is described later. In terms of CR versus DR, inclusion of automated CR systems would fall into the DR category, along with optically coupled scintillator to charge-coupled device (CCD) camera systems, fiberoptically coupled rectangular CCD array slot-scan detector systems, complementary metal-oxide semiconductor (CMOS) detector systems, thin-film-transistor (TFT) flat-panel detector systems, and slot-scan photon counting detectors, which were recently introduced. The *CR* and *DR* acronyms no longer define the essence of digital radiography detector attributes, since distinct classification into these 2 broad categories is no longer possible and, in fact, often leads to confusion and "marketeering" claims and counterclaims.

In a recent publication by a multi-societal effort (including the American College of Radiology, the American Association of Physicists in Medicine, and the Society of Imaging Informatics in Medicine) to determine practice guidelines for the use of CR and DR in the clinical environment,[1] a consensus to title the work Practice Guidelines for Digital Radiography[2] was made to be inclusive of all types of digital radiographic systems, in recognition of the issues explained above. Likewise, in this article, the term digital radiography refers to all types of digital radiographic systems, including both those that had been historically termed CR and those historically termed DR.

So, how should one categorize current state-of-the-art digital radiography technology? One method promoted in this article considers 3 characteristics: 1) detector form factor; 2) image acquisition geometry; and 3) X-ray signal conversion method, as explained below. Various digital radiography detectors and attributes are listed in Table 1 on the next page.

> The *CR* and *DR* acronyms no longer define the essence of digital radiography detector attributes, since distinct classification into these 2 broad categories is no longer possible...

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Table 1. Digital radiography technology attributes. Categories include X-ray to signal conversion methods, conversion materials, signal coupling methods, and detector form factor, including associated devices.

Technology	X-ray to signal	Conversion materials	Coupling methods	Detector form factor
PSP	Indirect: electron trapping and photostimulated luminescence	BaFBr (unstructured)	Light guide with PMT	Cassette + PSP reader Integrated mechanical plate changer
		CsBr (structured)	Microlens array and CCD	Cassette + PSP reader Integrated cassetteless
Flat-panel *a*-Si TFT array	Indirect, scintillator Integrated cassetteless	Gd_2O_2S (unstructured)	Photodiode + TFT array	Wired or wireless cassette
		CsI (structured)	Photodiode + TFT array	Integrated cassetteless
	Direct, semi-conductor	*a*-Se	HV electrodes + TFT array	Integrated cassetteless
CCD	Indirect, scintillator	Gd_2O_2S (unstructured)	Optical lens	Integrated cassetteless
		CsI (structured)	Optical lens	Integrated cassetteless
		CsI (structured)	Fiberoptical	Mechanical slot-scan
CMOS crystalline Si	Indirect, scintillator	CsI (structured)	Photodiode + CMOS array	Wired or wireless cassette Integrated cassetteless
Photon counters	Direct	Xe gas	HV electrode + antenna array	Mechanical slot-scan
		Solid state Si	Amplifier circuits	Mechanical slot-scan

TFT= thin-film transistor; PSP = photostimulable storage phosphor; a-Si = amorphous silicon; CMOS = complementary metal-oxide semiconductor; CCD = charge-coupled device;BaFBr = barium fluorobromide; Si = silicon; CsBr = cesium bromide; CsI = cesium iodide; a-Se = amorphous selenium; Gd_2O_2S = gadolinium oxysulfide; Xe = xenon.

Detector form factor considers aspects such as "cassette" versus "cassetteless" (Figure 1) and "passive" versus "active" operation. A majority of cassette-based digital detectors are based on PSP technology as a direct replacement for screen-film, thus providing a cost-effective means to achieve digital image acquisition, while at the same time allowing great positioning flexibility. Passive operation allows an asynchronous coupling of the X-ray exposure and storage of the image signal on the phosphor. Subsequent processing is performed by physically inserting the cassette/ phosphor plate into an image "reader" to render the radiograph. Multiplexing of several rooms to 1 reader is possible but is also time-inefficient and potentially limiting in busy, high-throughput rooms. An alternative is a cassette-based TFT-array detector for use with portable radiography examinations and as a "drop-in" to cassette trays in general radiographic rooms. This detector uses a wired electronic connection to the X-ray generator to actively integrate and read out the X-ray image after exposure. A CMOS detector in a cassette configuration for mammography is available as a replacement for screen-film mammography. Wireless interfaces will likely soon appear on such detector systems. Image display shortly after the exposure and good positioning flexibility are benefits; damage to the detector by unintentional mishandling is a potentially costly drawback.

Cassetteless digital detectors are part of an integrated X-ray generator, X-ray tube, and detector system. The basic meaning of "cassetteless" indicates that the image is acquired and subsequently displayed at the in-room technologist console for review and manipulation with minimal user interaction. The earliest "cassetteless" systems had PSP plate changers with automated acquisition, point-scan laser readout, image processing, and display, with individual processing times on the order of a minute. Recent introduction of line-scan laser excitation of the PSP imaging plate reduces readout time of a large 35 × 43-cm field-of-view (FOV) detector in as few as 5 seconds, with automatic processing and display. This is comparable to many large FOV optically coupled CCD and flat-panel TFT arrays, which comprise the majority of cassetteless digital radiography systems. In the extreme are "real-time" flat-panel systems specifically manufactured for fluoroscopic imaging that also provide radiographic capabilities. Other cassetteless radiographic systems include slot-scan acquisition devices in which the image is produced by scanning a collimated beam and detector array across the FOV over a time span of seconds.

Image acquisition geometry distinguishes instantaneous acquisition of a large-area digital image with a short exposure time versus a sequential, long exposure time acquisition of a slot-scan device. Most digital detectors for radiography use a large-area FOV geometry, which allows short exposure times to decrease the probability of patient motion. However, detected scatter from the patient reduces image contrast and consumes a fraction of the digital range of the detector with essentially useless information. Thus, an antiscatter grid is often used with thicker body parts (it is used in essentially all adult imaging except extremity examinations) and incurs a relatively large dose penalty (typically double the patient dose) because of the loss of primary radiation. The slot-scan geometry with pre- and post-patient collimation produces a narrow fan-beam incident on a scintillator coupled to a time-delay-integrate CCD photodetector array.[3] Since at any instant only a small fraction of the patient volume is irradiated, the amount of scatter is reduced to low levels, and the amount of detected scatter is extremely low because of postpatient collimation and a small detector area. Grids are not required, which results in good dose utilization; image acquisition times, however, are extended into seconds, and the detector/collimator configuration makes positioning a challenge for nonstandard imaging protocols.

X-ray signal conversion is described by indirect, direct, or photon-counting methods. All digital detectors produce an output signal, usually in the form of electrons or holes (positive ions), which represent a quantity of charge that is proportional to the number of X-rays absorbed at a specific detector element (del) position. The magnitude of the charge is converted to a voltage and then to a digital value for storage in the image matrix at the corresponding del location in the detector plane.

Indirect refers to the conversion of X-rays into secondary information carriers, such as absorbed X-ray energy to light energy conversion in a scintillator, or to stored electrons in semistable traps within a storage phosphor and subsequent stimulation with a laser and light emission. For each X-ray photon absorbed, a large amplification of light photon carriers is produced on account of the large energy difference of X-rays (keV) versus light (eV) or energy required to trap electrons in a storage phosphor (eV). Regardless of the method by which secondary light photons are formed, the large numbers are directed to a wavelength-matched sensitive photodiode-TFT array via direct optical coupling, to a CCD area detector by lens-optical coupling, or via a light-guide pickup to a photomultiplier tube in a PSP reader device. Charge amplitude is generated in response to the amplitude of light intensity (and thus X-ray intensity). A proportional voltage is produced and digitized to form the digital gray-scale image. Thus, scintillator-based TFT arrays, optically coupled CCD camera systems, and fiberoptically coupled CCD slot-scan systems as well as all PSP systems are classified as indirect acquisition devices.

Cassette versus Cassetteless Detectors

Cassette	Point-scan PSP	R	M	
	TFT with Gd_2O_2S	R		
	CMOS with CsI	R	M	
Cassetteless	Line-scan PSP	R	M	
	Optically coupled CCD	R		
	Slot-scan CCD array	R	M	
	TFT Indirect detection	R	M	F
	TFT Direct detection	R	M	F
	Photon counting	R	M	

R = Radiography
M = Mammography
F = Fluroscopy

FIGURE 1. *Digital radiography detectors can be categorized into "cassette" and "cassetteless" in terms of form-factor and functional operation. The inset legend indicates the applications for each of these DR system technologies. "CR" (PSP) and "DR" are represented in both areas. TFT = thin-film transistor; PSP = photostimulable storage phosphor; CMOS = complementary metal-oxide semi-conductor; CCD = charge-coupled device; CsI = cesium iodide;* Gd_2O_2S *= gadolinium oxysulfide.*

Direct, in the context of this article (unlike the use of this term by many manufacturers that produce indirect acquisition DR devices), refers to the method of acquisition and conversion of absorbed X-ray energy into electron/hole pairs (charge) using semiconductor converters such as amorphous selenium (a-Se), solid-state silicon, or high-pressure gas. These direct acquisition detectors have a voltage applied to electrodes on opposite surfaces of the absorber/semiconductor material to separate and collect the generated electrons and holes. A small amount of energy (on the order of 50 eV) is needed to produce an ion pair for a-Se; for a 50-keV absorbed X-ray, hundreds of charge information carriers are generated. Similar amplification of charge per absorbed X-ray photon occurs in other direct converters as well. Electric field lines direct the ion pairs to the collection electrodes without lateral spreading, thus providing high intrinsic resolution by accurately mapping the X-ray photon absorption event to the corresponding del position.

Photon-counting detectors are currently configured in slot-scan geometry, composed of either high-pressure gas or solid-state silicon. These detectors measure absorbed X-ray photon events individually as counts instead of energy integration like all other detectors.[4] Since a count will be tallied independent of the photon energy, a signal-to-noise ratio advantage of up to 40% is achieved for the same number of X-ray photons absorbed in the detector compared with energy integration detectors, as there is no bias toward higher energy photons, and elimination of other noise sources accompanying an energy-integrator detector is possible. A limitation is the maximum count rate that can be sustained.

So, what is the "best" digital radiography detector? There is no straightforward answer, as advantages and disadvantages are based upon multiple comparisons of the following characteristics: detective quantum efficiency (DQE), spatial resolution, contrast resolution, dose efficiency, acquisition and display speed, radiographic positioning flexibility, image quality, ability to use existing radiographic equipment, integration with information systems and electronic networks, system costs, service costs, detector longevity, and survival in a hostile environment (eg, trauma imaging), among many other benchmarks. Matching an appropriate digital radiography device with its intended clinical purpose is an exercise in determining actual needs and patient throughput requirements prior to evaluating the type of DR system that will best meet those needs in a cost-effective and efficient manner.[5,6]

Matching an appropriate digital radiography device with its intended clinical purpose is an exercise in determining actual needs and patient throughput requirements prior to evaluating the type of DR system that will best meet those needs

Conclusion

The terms CR and DR will continue to be used, but collectively we must think beyond the traditional CR versus DR comparisons, past the issues of X-ray converter materials, to clinical relevance, cost-effectiveness, dose efficiency, image processing functionality, overall image quality, proper use of digital radiography attributes (eg, variable speed characteristics and dose index values), quality-control phantoms and automated computer routines to verify proper function, patient throughput, uptime, reliability, longevity, service, and optimization in the clinical arena. Insisting on DR systems that can self-monitor and verify optimal performance through the automated analysis of quality-control phantom images will move the industry toward providing these important tools.

Finally, while dose efficiency is important, it shouldn't be the overriding consideration in determining the type of imaging system that best meets a specific clinical need, as all DR systems that are approved by the U.S. Food and Drug Administration must demonstrate a reasonable image quality over a typical range of incident exposures for clinical procedures. More important is an understanding and use of exposure index values that describe the "effective speed" of the detector to ensure that overexposures that are otherwise difficult to discern do not become the standard of practice as a result of complacency and/or ignorance.

References

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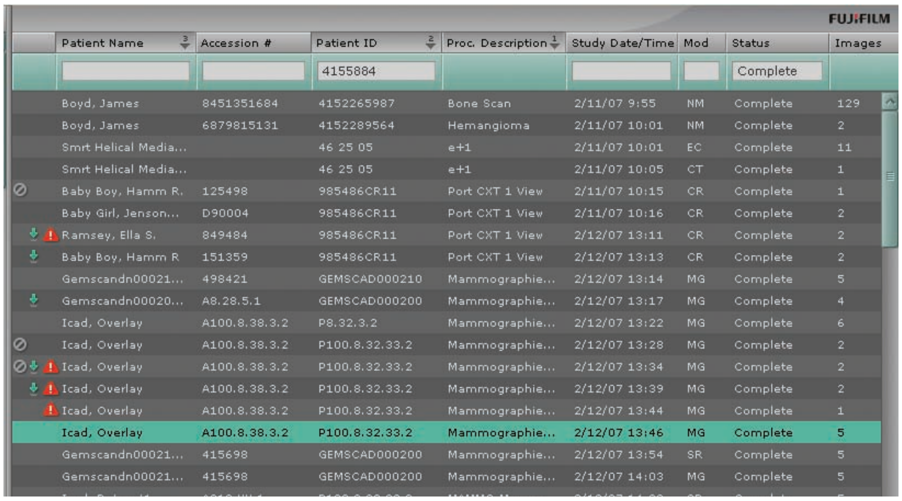
FUJIFILM introduces its new Synapse Software Version 3.2.1

complete with updated Graphic User Interface and other enhancements

By David Frick, Product Manager – PACS, FUJIFILM Australia Pty Ltd



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	Patient Name	Accession #	Patient ID	Proc. Description	Study Date/Time	Mod	Status	Images
			4155884				Complete	
	Boyd, James	8451351684	4152265987	Bone Scan	2/11/07 9:55	NM	Complete	129
	Boyd, James	6879815131	4152289564	Hemangioma	2/11/07 10:01	NM	Complete	2
	Smrt Helical Media...		46 25 05	e+1	2/11/07 10:01	EC	Complete	11
	Smrt Helical Media...		46 25 05	e+1	2/11/07 10:05	CT	Complete	1
	Baby Boy, Hamm R.	125498	985486CR11	Port CXT 1 View	2/11/07 10:15	CR	Complete	1
	Baby Girl, Jenson...	D90004	985486CR11	Port CXT 1 View	2/11/07 10:16	CR	Complete	2
	Ramsey, Ella S.	849484	985486CR11	Port CXT 1 View	2/12/07 13:11	CR	Complete	2
	Baby Boy, Hamm R	151359	985486CR11	Port CXT 1 View	2/12/07 13:13	CR	Complete	2
	Gemscandn00021...	498421	GEMSCAD000210	Mammographie...	2/12/07 13:14	MG	Complete	5
	Gemscandn00020...	A8.28.5.1	GEMSCAD000200	Mammographie...	2/12/07 13:17	MG	Complete	4
	Icad, Overlay	A100.8.38.3.2	P8.32.3.2	Mammographie...	2/12/07 13:22	MG	Complete	6
	Icad, Overlay	A100.8.38.3.2	P100.8.32.33.2	Mammographie...	2/12/07 13:28	MG	Complete	2
	Icad, Overlay	A100.8.38.3.2	P100.8.32.33.2	Mammographie...	2/12/07 13:34	MG	Complete	2
	Icad, Overlay	A100.8.38.3.2	P100.8.32.33.2	Mammographie...	2/12/07 13:39	MG	Complete	2
	Icad, Overlay	A100.8.38.3.2	P100.8.32.33.2	Mammographie...	2/12/07 13:44	MG	Complete	1
	Icad, Overlay	A100.8.38.3.2	P100.8.32.33.2	Mammographie...	2/12/07 13:46	MG	Complete	5
	Gemscandn00021...	415698	GEMSCAD000200	Mammographie...	2/12/07 13:54	SR	Complete	5
	Gemscandn00021...	415698	GEMSCAD000200	Mammographie...	2/12/07 14:03	MG	Complete	5

FUJIFILM has introduced its new Synapse Software Version 3.2.1 comprising an updated Graphic User Interface (GUI) as well as a range of other enhancements designed to improve functionality.

FUJIFILM's Synapse PACS provides an innovative seamless solution for managing, storing and distributing images and information throughout a healthcare facility.

The new GUI on Version 3.2.1 incorporates several new workstation features, Power Jacket updates, new shortcuts, additional tool bar functions and new display properties.

Vibrant colours have also been introduced for a more distinctive look and feel, as well as icons that provide users with clearer notifications of reservations, STAT cases and cached studies.

Synapse 3.2.1 has introduced further enhancements to the Mammography functionality, providing further support for Computer Aided Diagnosis (CAD), enhanced image display with linking of Mammography images for zooming, panning, window level and quadrant viewing of images with MSQA compliant image overlays.

Workstation enhancements include new DICOM transfer tool sets, DICOM images header display, teaching file management with Key Image Notes, creation of DICOM file datasets that can be burnt to CD, additional hot keys for further workflow efficiencies and further enhancements for MRI Multiphase Series Splitting.

Reading protocol improvements provide the user with the flexibility to customise the reading process for further improved reading workflow.

FUJIFILM's history and experience in image processing, the digital transformation of radiology, as well as innovation in women's healthcare imaging have combined to provide leading edge technology in this field

FUJIFILM's environmental initiatives

FUJIFILM Group Green Policy

Sustainable development is the most important issue for our planet, the human race and all business entities in the 21st century.

FUJIFILM actively engages in environmental protection programs in line with a corporate philosophy that sees "caring for and preserving the environment as the basis for corporate activities."

Since 2003, the FUJIFILM Group has designed all new products and improved existing products based on its own design regulations that take the environment into consideration.

The FUJIFILM Group aims to reduce the environmental burden at each stage of its product's lifespan – from R & D to materials procurement, manufacturing, sales and use of FUJIFILM products by customers, as well as the distribution of these products from one stage to the next.

Moving forward, FUJIFILM will continue to work toward "sustainable development" in keeping with a changing society and environment.