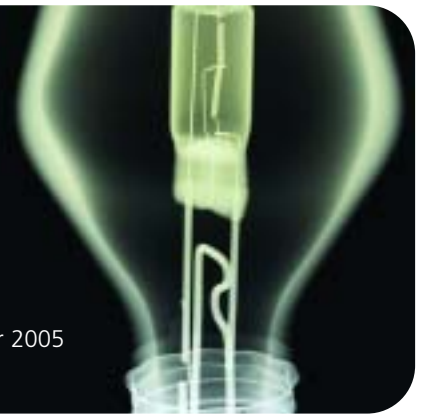


# Imagine

The bulletin for the **Radiology - Integrated Training Initiative (R-ITI)**

October 2005



## For Radiologists

### Welcome to this first bulletin from the Radiology – Integrated Training Initiative (R-ITI).

**Professor Janet Husband - President of the Royal College of Radiologists - introduces the R-ITI project and describes its strategic importance.**

The project is now in full swing and we want to inform you of our progress and more importantly invite you all to get involved.

The Integrated Training Initiative is critical to the future of Clinical Radiology in the UK because it will

allow more trainees than ever before to enter radiology, thereby increasing much needed training capacity. It represents a very exciting and highly innovative, modern approach to teaching which has the potential to be rolled out across the wider NHS in the longer term.

The project is the result of careful planning and development over the last 3 years and is based upon very solid educational foundations. We are grateful to the many experts who have helped us during this development phase, particularly Professor Janet Grant of the Open University.

... continued on back page >>>



**Professor Janet Husband**  
(picture courtesy of Hospital Doctor)

## ...by Radiologists

### RCR project lead, Dick Fowler, provides an overview of R-ITI starting with the pressing need for such a project . . .

#### The need:

We are currently not producing enough UK trained radiologists to meet clinical need. Calculations show traditional training will not produce the necessary increase in numbers. Training schemes are becoming saturated and consultant training time is pressurised by heavy service workloads. A different approach was required and the RCR kick-started the discussions for a remedy in 2001.

#### ITI - the solution:

ITI blends modern technology and teaching methods, particularly the use of re-usable electronic resources, whilst ensuring integration with traditional methods and maintaining the focus on clinical radiology. ITI training is designed to complement and enhance traditional workplace training, not replace it.

ITI expands capacity in training schemes by providing alternative, out of department,



**Dick Fowler**

training for part of the first three years of training. The expansion in the 4th and 5th years is achieved by other hospitals in training schemes taking a larger number of senior trainees. These, we believe, will be able to take a greater share of service work as they consolidate skills and knowledge acquired in the new core training.

The new elements of training will be delivered in purpose built facilities – the continued on page 2 over >>>

## Inside

'Harvesting' and the VCA - p3-4

e-learning and R-ITI - p5

Leeds Academy 'goes live' - p5

### Radiology - Integrated Training Initiative

(R-ITI) is a collaboration between



Royal College of Radiologists



... continued from front page >>>

academies – where e-learning, case review, skills lab activities and conventional teaching will be designed around clinical attachments.

#### The educational basis:

ITI aims to give the trainee a balanced and comprehensive route through core training in the first 3 years. The separate elements of training have been individually identified and resources made available. Here core knowledge, and skill acquisition are combined with reinforcement activities, such as case review.

ITI does recognise the value of apprenticeship style training in the clinical department, particularly procedural skills and patient (and clinician) interaction. However, the variability in case mix and availability of the consultant trainer (to teach, review and supervise) can undermine the value of workplace learning. ITI will ensure comprehensive preparation and the acquisition of many fundamental skills: not just psychomotor, but interpretive and analytical.

#### The resources:

You can see the detailed accounts of e-learning (eLD) and the Validated Case Archive (VCA) elements of this project elsewhere in this bulletin. The key to these resources is that they are comprehensive – the whole core curriculum is covered - and integrated. A trainee completing an e-learning session will be led to cases in the VCA for reinforcement, comparison of similar cases or presentations, practice and assessment (formative or summative). The eLD and VCA form the backbone of learning.

Our aim is to provide these e-resources to all training schemes not just the academy sites.

Conscious of the potential pitfall of diminishing technical skills by reducing clinical time, each academy is developing "skills lab" areas and activities. These may range from simple ultrasound scanning and biopsy techniques to more sophisticated virtual reality systems. We are hopeful that the innovative VR methods being developed by the CRAIVE group of the BSIR will soon be available for incorporation. These will include vessel puncture, catheter manipulation

and advanced biopsy techniques. Very exciting technology is emerging and we intend to use it.

#### Making it happen:

ITI training is being piloted in 3 first-wave academies in Leeds, Norfolk and Norwich and Peninsula training schemes. The academies form part of each training scheme and training is administered, as now, through the Deanery and local Training Committee and subject to the same scrutiny by TAC (or PMETB).

Radiologists in the 3 sites have done an enormous amount of work in designing and preparing the sites and working out the complex logistics of integrating the new methods with the existing structure. Each site has taken somewhat different approaches to the delivery, which is good. The variation will speed up the evolution of the ITI approach. We will learn important lessons for future implementation. The method will be carefully assessed before rolling out further, but the aim is to introduce ITI training across all training schemes in a phased manner.

#### A productive partnership:

This project is hugely ambitious – where we go today, other specialities may follow tomorrow. The Department of Health has invested significantly to see that ITI succeeds, both in the learning materials and in the academy sites. This project would not have progressed without this support and investment.

RCR officers, CEO – Andrew Hall - and other staff have supported this project whole-heartedly from the start in 2001, when Paul Dubbins identified the

workforce crisis and led us to look at different ways of training. There are many, many radiologists currently playing crucial roles in creating the vital e-resources.

#### Next steps?

Those working on this project have done everything possible to ensure the educational design is robust, the eLD and VCA are as well designed and comprehensive as possible and academies are ready for introduction of ITI. Radiologists throughout UK have committed time and energy to create the detailed curriculum, author eLD sessions and prepare cases for the VCA. A lot of good work has already been done and we are all indebted to these colleagues. Our thanks goes to all these colleagues.

#### BUT this project needs your support

**too.** We believe the ITI (or its development in future iterations) is the future of radiology training in UK. As Janet Husband says at the start of this bulletin, increasing training capacity is an essential step to increasing radiologist numbers and preserving our profession. None of us, from 1st year trainee to consultant nearing retirement, can afford to ignore this if we wish to see our profession prosper.

You may be approached to author eLD sessions, but we certainly need you to get involved in the creation of a comprehensive VCA. This will be a fantastic national resource for our profession, available to us all, and we need contributions from everyone.

You've heard it before, but yes, **THIS MEANS YOU!**



#### R-ITI on the road ... and on the web!

The R-ITI project now has a range of exhibition materials available and is creating supporting printed materials to promote the project. If you think the R-ITI team should be at your event, then contact Alan Ryan – Project Director – by e mail on [ritipd@mac.com](mailto:ritipd@mac.com)

The R-ITI website is also being re-vamped this month. The website will have more features, 'at a glance' guides to each of the Radiology Academies as well as showing the radiology community how it can get involved in this exciting initiative. Visit the website during October to find out more ... [www.riti.org.uk](http://www.riti.org.uk)



Emily Hines

## Head of the 'Harvesting' Team, Emily Hines, explains the process for capturing and validating the cases that form the VCA.

The Validated Case Archive is more than just a simple archive of images as it will contain in depth clinical information relating to the cases held. The objective is to develop a high quality, user friendly simulation of the radiology reporting experience. The three main components in the process for creating the VCA are:

- Harvesting (i.e. submitting) the images and that the information that relate to them
- Validating these for quality and learning potential
- Creating the national archive of cases.

We are now in the process of actively recruiting local harvesting leads as well as 'harvesters'. The process for the latter – collecting images and clinical data - is designed to be structured, convenient and flexible so that we can get as many radiologists involved as possible.

Submitting cases to the VCA is recognised as an educational activity, allowing professional recognition for every validated case that is provided. If you would like to become a harvester or would like more information on the process itself then please contact me or a member of my team on 01752 764411 or [harvester.support@riti.org.uk](mailto:harvester.support@riti.org.uk)

### Curriculum Vitae

Prior to joining the RITI project team, Emily held the post of Senior Lecturer at London South Bank University and she remains the committee secretary of the Association of Forensic Radiographers. Following qualification as a diagnostic radiographer Emily has gained experience in various London based Radiology Departments and specialises in Trauma, Dental and Maxillofacial and Forensic radiography.



### Harvest

Each clinical site that participates in submitting radiology cases will be supported by a 'harvesting lead' (nominated by the head of radiology training). They will act as local liaison and point of contact with the VCA team in Plymouth. The local 'harvesting' lead will receive a comprehensive guide to the whole process, practical training and support on the software being used. There is also access to a dedicated support and information line (01752 764411).

Consultant radiologists who are harvesters will be able to gain CPD points for their involvement – up to a maximum of 10 per year. For Specialist Registrars, each validated case will be equivalent to EuroRad case submission – allowing for CV citation.

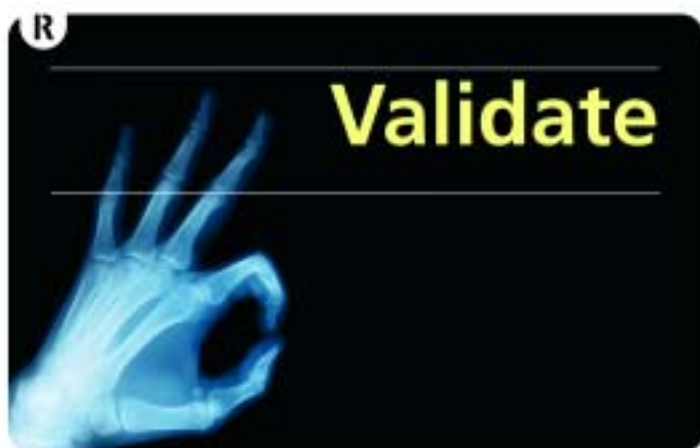
## What is the Validated Case Archive?

The VCA is a national archive of RCR validated radiological cases that are approved for core training (pre - FRCR) in radiology. It is expected that the VCA will expand in the future to encompass training in years 4 and 5, further subspecialty training, archiving of rarer cases and pathology, CPD for consultants and even FRCR examinations and revalidation.

The software for collecting (harvesting) cases for the VCA has been developed and is now available for use. A harvesting team, led by Emily Hines, is now installed in Plymouth and will be collecting and collating cases submitted to the VCA. It is hoped that ALL radiologists across the nation will contribute cases to the VCA to make it a truly comprehensive national archive.

It is expected that up to 10,000 cases will be available for the new intake of SpRs into the Academies. In order to achieve this, a minimum of 500 cases is requested from each training scheme across the nation (10 cases per consultant within each training scheme). We are hoping that all consultants will contribute their suitable core training cases whether they are involved directly in training or not.

The RCR has agreed to provide CME/CPD credit for consultants supplying cases that are validated and similar recognition for trainees submitting cases that are validated. There is no limit on the number of cases that can be submitted by any individual but



## Validate

Every case submitted will be validated by at least two expert, specialist radiologists. Their role is to confirm that the case reference information is correct in terms of technique, anatomy, finding and diagnosis as well being anonymised and having real learning potential. A validation tool enabling submitted cases to be approved (validated) has been created and is ready for use. There is also the necessary support and induction for this process to happen smoothly and effectively for those who get involved.



## Validated Case Archive

The validated case archive itself will enable trainee radiologists to learn from the validated cases collected. It will allow them the opportunity to gain in depth knowledge, do self assessment as well as the potential for obtaining automated feedback on diagnostic performance. Trainees will be able to log onto the VCA, initially at a local level in the academies, and search the archive for cases for specialism, anatomy and technique. With the VCA in place, tutors will be able to select cases for trainees to use for learning. Both will be able to track progress in structured and supported way.

## Archive (VCA) and how will it work?

the RCR will only be able to approve a certain maximum number of CPD hours per annum. (See the RCR web site for the latest details.) The RCR will also publish a list of contributors (training schemes, trusts and individuals) and will recognise the largest contributors with appropriate awards.

The idea behind the VCA is to enable trainees to obtain concentrated experience in a controlled PACS-like working environment using validated cases with known radiological findings and diagnoses. The aims are to help trainees rapidly develop the skills required for assessing and interpreting radiological investigations before and during their clinical attachments, and to provide cases for trainees to practice on after working through an e-learning session. Trainees will be able to access these cases without requiring input from trainers and will be able to view them in a flexible, user friendly and easy to access learning environment. Trainees will also be able to undertake self assessments and formal assessments to test their ability to detect radiological signs and also test their skills of deduction.

The VCA will require the input and use of highly structured data describing each case including patient demographics, clinical history, radiological investigation, radiological findings (or signs), radiological diagnosis and if available, the final pathological diagnosis. This structured data has been collected and collated in the form of tables called ontologies. An image or an image set

will also be required. It is desirable that all images provided for cases are in the DICOM format to give maximum flexibility for image manipulation. However, it is realised that until all departments have robust PACS systems this is not possible. The harvester software and system will therefore be able to collect cases in non-DICOM format - including JPEG, TIFF, BMP. Other file types will be handled in later versions. Single images, multiple images and DICOM stacks (e.g. full CT and MRI investigations) will be handled by the software.

The VCA is a new way of collecting and using radiological cases for training. It will be a unique resource for trainees and potentially for many other uses in the future. It is **our** VCA and we should ensure that we make it a national archive to lead the world and to be proud of.



If you wish to submit cases for the VCA you can log onto the R-ITI website ([www.riti.org.uk](http://www.riti.org.uk)) and obtain further information about the ITI and about how to submit cases or how to become a regular harvester.

**Phil Cook**  
RCR R-ITI Project Lead

# E Learning and R-ITI

The 'eLD' (electronic learning database) is the ITI collection of e-learning resources that will cover the core curriculum for the first 3 years of radiology training. The curriculum has been split into several modules, largely following the format of the FRCR 2A examination (Modules 1-6), but expanded to include specific modules on Radionuclide Radiology (7) and Physics, Basic Sciences and Professional Issues (8).

For each module, Module Editorial Teams (METs) have been recruited. All the members of these METs are acknowledged experts in their field, active members of their subspecialty groups and have recent training experience.

## Supporting the RCR curriculum

These editorial teams have created a detailed curriculum, broken down by module, to cover core training as specified in the RCR Structured Training Document (STD). The curriculum has been specified in terms of e-learning sessions of approximately 20 minutes duration and each session has been designed to deliver detailed learning objectives. This laborious and essential piece of work is now completed and gives us for the first time a detailed curriculum, expressed as learning objectives, which we can all use in training. It puts flesh upon the syllabus of the STD and has identified about 1,200 sessions, equating to 400 hours of learning. This is why the project represents the most ambitious e learning project in UK healthcare – and a model for other specialties to follow.

The purpose of these eLD sessions is to provide the trainee with all the knowledge resource needed for the first 3 years of training. They should effectively replace the 'didactic' topic lectures that we all give every year. When available, the eLD will effectively remove the need for these lectures, freeing radiologist trainers to use that time for other training activities. The sessions are, of course, also re-usable;

so trainees can access the information as many times and in any sequence that they wish, from within the training scheme or from home, unlike conventional lectures.

The sessions will be interactive and engaging, encouraging the trainee to become practically involved in the knowledge acquisition process as well thinking about clinical issues. We are NOT creating an electronic text-book! We believe that material presented in this way will support the trainee more effectively and enhance training by preparing the trainee better for their speciality rotations/attachments. The design of ITI is, as the name implies, for integrated training and the eLD will be closely integrated with the Validated Case Archive (VCA) and other resources and particularly with clinical and speciality training.

As elsewhere in the project these resources will be available to everyone over time. They will not just be available in the academies where the ITI method of training is being trialled.

Commenting on current progress with the eLD, the RCR lead Dick Fowler says, 'If you haven't been asked to write a session, don't take umbrage, this is a huge undertaking. If your area of expertise coincides with the unallocated sessions, please email without delay as we need you now! If it doesn't, email me anyway and let me know what you would like to author in the future. This material will be revised and renewed constantly to ensure that our trainees have the most up to date material available to them. The next edition is just around the corner. Believe me, your turn will come.'

To those of you that have authored or are in the process – thank you. Your work is invaluable; this is truly a project 'for radiologists by radiologists'. It will be the greatest feat of specialty co-operation that has ever been in any specialty. When we have completed the eLD (well, first iteration anyway!) we can all be truly proud.'

Dick Fowler can be contacted via [Richard.Fowler@leedsth.nhs.uk](mailto:Richard.Fowler@leedsth.nhs.uk)



**Leeds Radiology Academy "goes live" ... full story in next bulletin. Pictured (above) are the class of 2005.**

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### Central role of Radiology

The Department of Health (DH) has played a central, essential role in this new development by giving unwavering support, with high-level ministerial backing, and a large investment of many millions of pounds. The DH appreciates the central role that Clinical Radiology plays in modern medicine and together and by collaborating, we are confident of delivering our objectives.

ITI is what it says it is - a new integrated approach to training. It offers integration of the best of traditional

training with the best that modern methods and technology can offer. In addition it will integrate with the academies, and the newer methods will also be delivered within the local training schemes. Although this project is often dubbed "the academies project" it is much more about a new way of training rather than about the environment where it is delivered.

I see the ITI not as an RCR project, but a radiologists' project. The RCR is the vehicle and the guardian of copyright, materials and standards on your behalf. We will ensure the quality of the materials and the appropriate use of them.

### Join us now

Please read the overviews in this bulletin and begin to contribute your knowledge and your cases – or both!

This is your chance to become part of the most exciting development in postgraduate medical education anywhere in the world. Your contributions will be gratefully received; you will receive CME points and be publicly acknowledged on the RCR website. We are well on the way in this exciting journey. Visit the R-ITI website to find out how.

[www.riti.org.uk](http://www.riti.org.uk)

## R-ITI at RCR annual meeting 2005 . . .



R-ITI project director Alan Ryan (left) talks delegates through the validated case archive.



RCR Dean Gill Markham visits R-ITI stand



RCR Chief Executive Andrew Hall (left) looks at the e-learning material



RCR R-ITI leads Dick Fowler (left) and Phil Cook (right)

### Quotable Quotes

**Barbara Greggains** – R-ITI patient representative : 'The Validated Case Archive will provide a breakthrough in the quality of patient care as trainee radiologists will be exposed to a wider range of cases during training.'

**Dilip Oswal** – trainee at Leeds Academy : 'The eLD is very good. More so as I could access it at home. It was very fast and image loading speed was good too – even when 'wireless' using my laptop. I can learn from home now !'