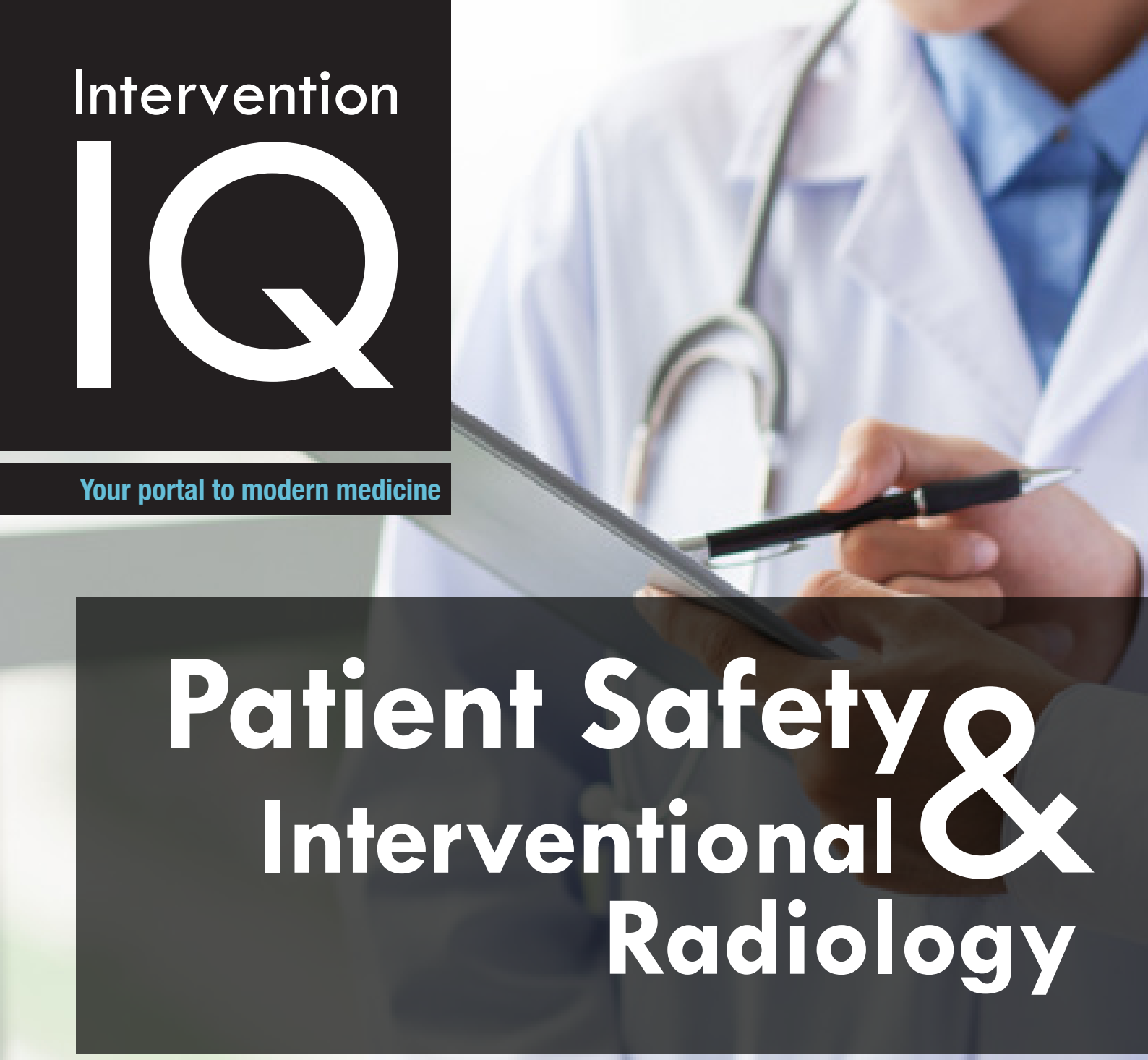
Intervention IQ

Your portal to modern medicine



Patient Safety & Interventional Radiology

Promoting safety through education and professional competence

Hospital management support their interventional radiology service

Interviews, reports & case studies from the world of image-guided minimally invasive therapy

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The IQ blog features interesting information about the latest developments in Interventional Radiology including interviews with leading specialists in the field.

Your contributions are welcome and we look forward to reading your views on the issues raised at
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to download the app.

A Welcome from the Editor

Dear Readers,

Patient safety should be the top priority for all doctors – in particular those who perform procedures with potentially higher complication rates.

Interventional radiologists carry out a wide range of minimally invasive image-guided treatments and delivering this care with the highest level of safety has always been a focus of our discipline.

This issue of Intervention IQ presents the pathways that have been developed in Europe to achieve these goals of patient safety – through education, training, certification and standardisation.

The appropriate level of education and training in interventional radiology (IR) has been stipulated in a European IR Curriculum. The curriculum forms the basis of the European Board of Interventional Radiology (EBIR) – the recently established certificate aiming to standardise IR expertise across Europe.

In accordance with these endeavours, continuous IR education is available throughout the year and provided by the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) and the European School of Interventional Radiology (ESIR).

Other important elements are best practice standards and guidelines for IR procedures and the IR Safety Checklist, helping to create a consistently high level of healthcare throughout Europe.

Although in most instances, IR is safer than the more traditional treatment methods, complications do exist. Programmes are in place, which allow interventional radiologists to register their complications, thereby sharing experiences and providing life-long education to fellow physicians.

I am proud to say that all of these efforts have resulted in a European network of highly trained and skilled interventional radiologists, with IR setting the standard for endovascular treatment in Europe.

However, despite best efforts, IR procedures are sometimes also performed by inadequately trained and non-certified physicians, who instead choose to follow a "See one, Do one, Teach one" philosophy. Performing IR procedures without suitable and transparent tuition should be considered malpractice, and it is vitally important for those offering IR treatments to undergo appropriate training, as well as test and develop their knowledge regularly.

The bar has been set high for patient care and safety in IR in Europe and it is now up to us to make sure that it is taken seriously by all parties involved in IR treatment.

Jim A. Reekers
Editor-in-Chief

Contents

An Introduction to IR

View 'An Introduction to IR' on your mobile or tablet by scanning the QR Code.

Patient Safety & Interventional Radiology

Many groups have a vested interest in patient safety and it is not hard to understand why – improving patient safety can save money, reputations and, most importantly, it can save lives. In addition, cuts to medical funding caused by the recent economic crisis have increased the demand for evidence-based medicine and clearly defined standards of practice.

Interventional radiology (IR) is a cutting-edge radiological sub-discipline providing minimally invasive treatments performed under image guidance. Although, as with any medical intervention, IR procedures carry an element of risk, this is much lower than the equivalent surgical options. The high-quality and low-risk care IR provides is, by nature, conducive to high patient safety and leads to less pain, shorter recovery times and fewer complications.

Intervention IQ gives an exclusive behind-the-scenes look at the discipline and investigates how it safeguards patient safety and treatment quality through education and professional competence.

IR has revolutionised the way some of the world's most complex illnesses are treated

What is Interventional Radiology?

Interventional radiology is a rapidly growing field of minimally invasive image-guided medicine that has revolutionised the way some of the world's most complex illnesses are treated. The unique characteristics that define IR paint a picture of a discipline that is patient friendly, cost effective, innovative, safety conscious and extremely versatile.

Patient Friendly

If patients were to choose their ideal treatment, it would undoubtedly be powerful and cutting-edge, yet safe and of proven efficacy. IR treatments have the potential to meet all of these requirements and are thus becoming increasingly popular with patients around the world.

Cost Effective

Increasingly, IR is being fully incorporated into hospitals around the world, and for good reason. Hospital managers recognise the value of being able to offer state-of-the-art IR treatments in their institutions and the skills interventional radiologists bring with them are useful in an array of clinical settings (see The Decision Makers, page 13 - 23).

Benefits of IR Treatments for Patients

Effective: IR procedures have been proven effective in numerous international studies.

Safe: IR procedures are recognised to be safe. Proper patient selection is key to ensuring procedures are safely carried out.

Minimally Invasive: An IR procedure is carried out through a tiny nick in the patient's skin and does not require open surgery.

Low Risk: IR procedures carry fewer risks than traditional, open surgery.

Local Sedation: General anaesthesia is seldom required, making IR treatment suitable for more fragile patient groups.

Quicker Recovery: IR's minimally invasive treatments enable patients to recover more quickly, and can often be treated as day cases.

Hospital managers also appreciate the long-term financial benefits that IR brings to their institutions. Many IR procedures can be carried out on an out-patient basis, freeing up hospital beds and reducing the costs of post-procedural care. IR procedures cost less than conventional surgical treatments and the lower complication rate they provide decreases the need for expensive corrective procedures.

Innovative

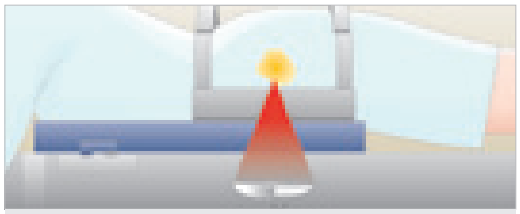
Interventional radiology is built on innovation – Charles Dotter, considered by many as the father of IR, founded the discipline based on his innovative and visionary ideas. Decades after the first IR procedures were carried out, IR technology continues to advance and diversify, offering patients a growing number of new and improved treatments, from vascular to oncological.

New Patient Groups

Interventional radiology has traditionally also been used to treat patients palliatively, or to treat patient groups for whom no other form of treatment is possible, and IR practitioners pride themselves on their ability to provide favourable solutions for patients. IR procedures are increasingly being adapted to suit newer patient groups with complex illnesses. Paediatric IR is gaining ground and the rise of obesity in the western world has led to a need for bariatric interventional procedures.

New Techniques & Devices

With such a wide range of treatments already available, it is hard to see how IR could possibly do more. However, research is currently being carried out on state-of-the-art, non-invasive treatments, robots are being tested as procedural aids and newer forms of energy are being looked into for use in IR's ablative procedures.



MR-Guided Focused Ultrasound (MRgfU), a new non-invasive IR treatment, can be used to treat various cancers

Intra-arterial Delivery

Interventional radiology's ability to administer drugs intra-arterially has revolutionised the way drugs can be used, affording doctors more control over dosages and reducing risks of error, particularly in the case of new cancer treatments. Researchers from modern fields of study including nanotechnology, gene therapy, angiogenesis and stem cell research are increasingly looking to IR to provide more direct methods of administering therapeutic particles.

Hospital managers also appreciate the long-term financial benefits that IR brings to their institutions

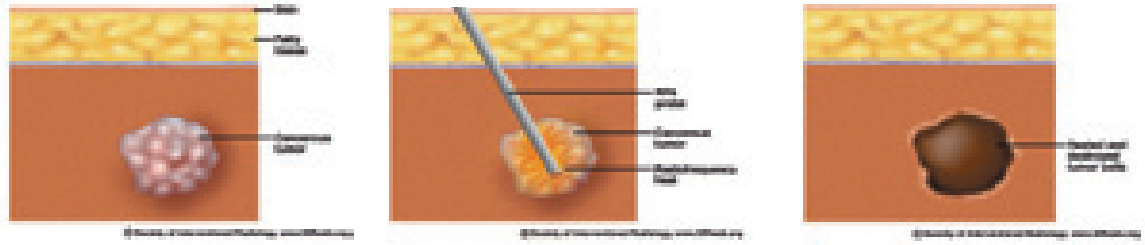
Safety Conscious

Interventional radiologists are dedicated to improving patient safety with numerous initiatives in place throughout the world. In Europe, an IR Patient Safety Checklist (see page 25) was recently published based on the World Health Organization sponsored Surgical Safety Checklist and the Dutch RADPASS. Despite its recent introduction, the checklist has already seen its first success and is proving a valuable tool for improving patient safety in Europe.

Best Practice Guidelines

Efforts are also being made to improve patient safety by standardising best practice guidelines. The Cardiovascular and Interventional Radiological Society of Europe (CIRSE) is an established leader in the creation of European quality assurance guidelines for IR. The documents produced by CIRSE are used in numerous ways – interventional radiologists use them to improve their safety practices and practitioners from other medical disciplines use them as references, in turn encouraging interdisciplinary co-operation. Use of the documents is not restricted to Europe alone and collaborations with the renowned Society of Interventional Radiology (SIR) in America has helped disseminate them far beyond the continent's borders.

Evidence of the influence of these documents in IR practice can be found in the large number of citations the documents garner each year. Highly-cited ▸



Radiofrequency ablation (RFA) is one of IR's most successful treatments for cancer and involves destroying tumours using high heat. © Reprinted with permission of the Society of Interventional Radiology 2004, 2012, www.SIRweb.org. All rights reserved.

documents of the past years cover topics including radiation protection[1], radiofrequency ablation of liver tumours[2] and the highly debated topic of chronic cerebrospinal venous insufficiency (CCSVI)[3].

Versatile

The arguably greatest attribute of IR is its versatility – few disciplines are better suited to treat as wide a range of illnesses as IR is. IR's versatile techniques have not only been proven effective but are quickly becoming gold standard treatments for an array of illnesses. All IR procedures are carried out under image guidance affording them high precision.

Cancer Diagnosis and Treatment

IR plays a key role in the treatment and diagnosis of various forms of cancer. Minimally invasive techniques are increasingly being used as primary treatment for cancer and IR's needle biopsy procedure offers a safe and accurate means of cancer diagnosis. While the surgical excision of tumours is generally accepted to offer the best long-term solution, it is often not possible. Tumours may be too difficult to access or too many in number to excise.

Certain patient groups are also too weak to undergo open surgery. IR treatments can be used in these complex cases to provide effective and milder forms of treatment. ▸

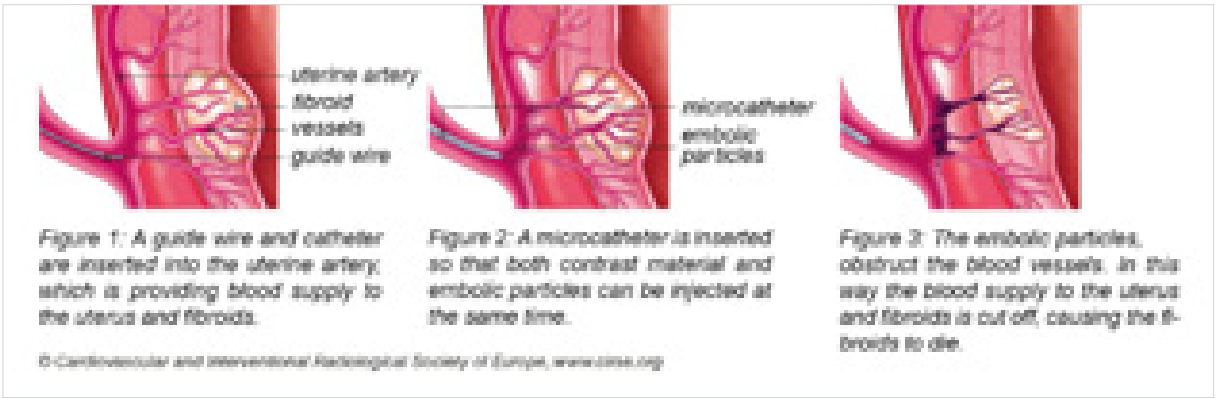


Figure 1: A guide wire and catheter are inserted into the uterine artery, which is providing blood supply to the uterus and fibroids.

Figure 2: A microcatheter is inserted so that both contrast material and embolic particles can be injected at the same time.

Figure 3: The embolic particles obstruct the blood vessels. In this way the blood supply to the uterus and fibroids is cut off, causing the fibroids to die.

Uterine artery embolisation relieves women of the debilitating effects of uterine fibroids.

One highly successful example can be found in uterine artery embolisation (UAE), or uterine fibroid embolisation (UFE) – IR's minimally invasive treatment for uterine fibroids. For decades, the main treatments available for uterine fibroids were debilitating myomectomies or hysterectomies. The milder UAE alternative, involves blocking the blood flow to the fibroid, thereby destroying it and keeping the patient's uterus intact.

In addition, IR can also play an adjunctive role, helping to increase the efficacy of traditional cancer treatments. Minimally invasive techniques can be used to shrink large tumours making them easier to excise and interventional radiologists can administer chemotherapeutic drugs intra-arterially, increasing the dose to the tumour and reducing harsh systemic side effects.

Cardiovascular Disorders

Cardiovascular diseases form one of the world's most deadly, and sadly most prevalent, disease groups. IR can be used to treat a wide range of cardiovascular disorders from more common conditions such as peripheral arterial disease (PAD), deep vein thrombosis (DVT) and varicose veins to rare genetic diseases such as hereditary haemorrhagic telangiectasia (HTT) and arteriovenous malformations (AVMs).

IR techniques are also widely used to treat the debilitating peripheral arterial disease known as diabetic foot (DF) which is caused by a partial or total blockage of the blood supply to the foot. Traditional surgical treatments for DF are harsh and can involve limb amputation in severe cases. Minimally invasive IR techniques gently re-establish blood flow to the affected foot, saving the patient's limb and reducing the heavy economic burden caused each year by unnecessary amputations.

Interventional radiologists are dedicated to improving patient safety

Emergency medicine has also benefited from IR's techniques where it is used to stop life-threatening bleeding and to re-establish tissue perfusion. Minimally invasive trauma management can be applied to hepatic and splenic injuries, renal trauma, pelvic and limb injuries and many other less common sites of traumatic bleeding. The importance of IR in trauma management is reflected in the increasing number of hospitals offering life-saving 24-hour IR services.

Stroke Treatment

Strokes are the leading cause of long-term disability and kill more than 137,000 people per year. Strokes occur when oxygen to the brain is cut off. This may be due to blocked (ischaemic stroke) or broken (haemorrhagic stroke) blood vessels. Time is of the essence for stroke treatment. With up to two million brain cells dying every minute the brain is starved of oxygen, only a marginal window of time exists for doctors to administer stroke treatment.

IR's treatments have revolutionised the way strokes are treated, helping to extend the treatment window for patients and offering healthcare providers options they could not have imagined 30 years ago. All IR stroke interventions involve the use of catheters or mechanical devices, no larger than the tip of a pencil.

Genitourinary Disorders

From complications in pregnancy and infertility, to treatments for prostate cancer and ureteral obstructions, IR also provides advanced treatments for a range of genitourinary disorders. ▸

Fractured vertebra

Quick setting bome cement injected into fractured vertebra

Download this image at iqonline.eu

In August 2009, studies published in the New England Journal of Medicine sparked outrage among many physicians and patients alike by claiming that vertebroplasty was ineffective.

The flaws in the misleading studies have since been brought to light and subsequent positive studies have confirmed the treatment's efficacy.

Vertebroplasty involves injecting a special cement mixture into the fractured bone to stabilise it.

IR techniques can also be used to treat some common causes of male and female infertility. Varicoceles, painful varicose veins of the scrotum, affect approximately 30-40% of infertile men and can be treated using an IR technique called embolisation. Blocked or narrowed fallopian tubes that can cause female infertility can dilate, and thus be treated, using special IR catheters.

Vertebral Compression Fractures

Vertebral compression fractures result from fractures in the vertebra which cause painful spinal distortions. Vertebroplasty is IR's successful treatment for the condition and involves injecting a special cement mixture into the fractured bone to stabilise it and relieve the patient's resulting pain.

by Tochi Ugbor

Find out more!
For more detailed information on the procedures IR offers, please visit www.iqonline.eu and view:

- **Patient Safety & Interventional Radiology**
- **Venous Interventions**
- **Trauma Interventions**
- **Women's Health**
- **Stroke Interventions**
- **Cancer Interventions**
- **Diabetes: An Interventional Response**

[1] *Miller D. L. et al. Cardiovasc. Intervent. Radiol. (2010), 33(2):230-239, "Occupational Radiation Protection in Interventional Radiology: a Joint Guideline of the Cardiovascular and Interventional Radiological Society of Europe and the Society of Interventional Radiology"*

[2] *Crocetti L. et al. Cardiovasc. Intervt. Radiol. (2010), 33(1):11-17, "Quality Improvement Guidelines for Radiofrequency Ablation of Liver Tumours"*

[3] *Reekers J. A. et al. Cardiovasc. Intervent. Radiol. (2011), 34(1):1-2, Cardiovascular and Interventional Radiological Society of Europe Commentary on the Treatment of Chronic Cerebrospinal Venous Insufficiency*

Professional Status

View 'Professional Status' on your mobile or tablet by scanning the QR Code.

A Global Network for a Global Discipline

When its first procedure was carried out, few could have conceived that interventional radiology (IR) would become the global phenomenon it is today. IR practitioners can be found in countries throughout the world, from sleepy rural settlements to buzzing urban metropolises.

IR's international appeal means that it takes a combined effort, on national, regional and global levels, to promote and represent the discipline as a profession. For this purpose, an active network of representative organisations and institutions has been built up over the past few decades with the aim of upholding the interests of IR practitioners and advancing the discipline.

A great number of national societies, including all those in Europe, are members of the Cardiovascular and Interventional Radiological Society of Europe (CIRSE)

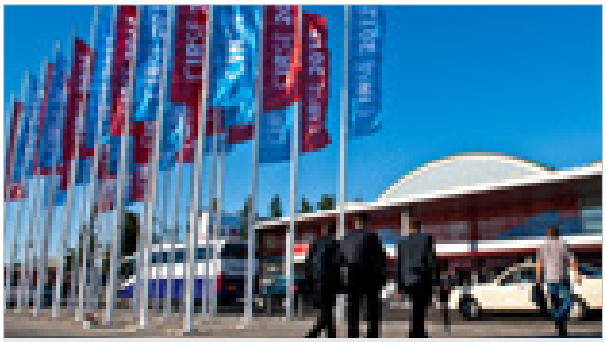
National Level

National Interventional Radiology Societies

National societies form the basic level of the network, helping their members pursue their interests in their respective countries and providing them with the support that generic trade unions cannot. It is within the framework of the national society that IR practitioners can gain access to valuable information on national training programmes, enquire about research grants and seek support when dealing with conflicts within their institutions. Most societies also organise congresses and meetings where their members can learn about the latest developments in the field. Furthermore, a great number of national societies, including all those in Europe, are members of the Cardiovascular and Interventional Radiological Society of Europe (CIRSE).

European Level

The status of IR differs in various countries depending on the local practices. However, interventional radiologists everywhere are open to similar opportunities, face similar challenges and strive for common goals. A key element for achieving these goals lies in forging alliances between national and international IR societies. Numerous representative bodies exist in Europe, helping to build bridges between the societies and providing larger scale platforms for scientific exchange.



Cardiovascular and Interventional Radiological Society of Europe

The Cardiovascular and Interventional Radiological Society of Europe (CIRSE) is the leading representative body for IR in Europe. The non-profit society aims to further the discipline by creating and disseminating best practice guidelines, supporting advanced IR research and innovation as well as organising various educational initiatives. These educational initiatives are managed by the society's non-profit foundation (CIRSE Foundation) which also provides educational grants to promising IR trainees and played an important role in the creation of the European Board of Interventional Radiology (EBIR). EBIR is the first European IR qualification and has helped standardise training in the discipline across the continent.

Logos of national interventional radiological societies around the world.

CIRSE also organises numerous key meetings including the renowned CIRSE Annual Congress and Postgraduate Course which is the world's largest and most comprehensive IR congress. First held in 1985, the congress has continually grown and its success is reflected in its high attendance numbers each year – over 6,000 delegates were present from more than 80 countries during CIRSE 2012. The congress boasts over 250 hours of state-of-the-art sessions, numerous product launches from the medical industry and various presentations on breakthroughs in IR research.

CIRSE is the leading representative body for IR in Europe.

CIRSE's status within the ESR helps to continue their strong relationship and collaboration

European Society of Radiology

Interventional radiology has always acknowledged its radiological origin – all interventional radiologists must undergo extensive radiological training and image-guidance is paramount for all IR procedures.

Interventional radiology is one of the subspecialties in the ESR's structure.

For this reason, strong ties have been formed with the renowned European Society of Radiology (ESR) – the largest representative body for diagnostic radiology on the continent.

CIRSE is an institutional member of ESR and a representative in numerous ESR committees.

CIRSE's status within the ESR helps to continue their strong relationship and collaboration – interventional radiology is one of the subspecialties in the ESR's structure and leading IR figures are always present during key meetings. Special sessions on IR are also held during the society's annual European Congress of Radiology. The congress has long been regarded as one of the most significant diagnostic radiological congresses in the world, attracting thousands of participants each year.

CIRSE is the leading representative body for IR in Europe

European Union of Medical Specialists

Established 1958, the European Union of Medical Specialists (UEMS) is the oldest medical representative body in Europe and supports over 50 different medical disciplines. These disciplines are organised into 39 Specialist Sections which aim to promote and defend the interest of the different specialties in Europe. Attaining specialist status from the UEMS is of particular importance for modern disciplines like IR that are not yet as widely known as more traditional ones. Indeed, being welcomed into the UEMS means being accepted by the European medical community at large.

On 25 April 2009, members of the UEMS voted to establish a division for IR under the auspices of their Radiology Section. With the positive vote on the establishment of an IR division within the UEMS, the discipline was recognised as a distinct medical specialty in its own right and, by the same token, interventional radiologists as distinct medical specialists. The division has since been instrumental in the on-going efforts to promote IR in Europe, while at the same time opening up new avenues for IR's future development.

Global Level

Global Statement

No global representative body exists for IR. However, in 2008, leading IR figures came together to create a document that would provide a unified definition of the discipline and its clinical pathways. The result of their efforts was the Global Statement Defining Interventional Radiology which has since become the mission statement for the discipline and is used to promote it around the world.

The statement, which was endorsed by 42 different societies and represents over 10,000 interventional radiologists, covers key topics including training, research and quality control. It highlights the discipline's evolution, its current global impact and future direction.

by Tochi Ugbor

[1]*Cardiovasc. Intervent. Radiol. (2010), 33(4);672-674*

The statement is currently used to promote the discipline around the world.

See "Innovation, Education, Intervention in Education and Training" at iqonline.eu

Access the Global Statement Defining IR by visiting the Springer Link website http://link.springer.com/article/10.1007/s00270-010-9932-9?no-access=true

Logos of national interventional radiological societies around the world.

The Decision Makers

View 'The Decision Makers' on your mobile or tablet by scanning the QR Code.

Unlocking IR's Full Potential

5 minutes with Prof. Erika Denton

Consultant Radiologist, National Clinical Director for Imaging at the Department of Health, UK

Prof. Erika Denton

Q: Professor Denton, your view of there being an inadequate provision of interventional radiology (IR) in England is well documented. What has been the consequence of this on patients and medical institutions?

A: It must be said that England has had fantastic IR services from centres of excellence led by some of the country's leading interventional radiologists, such as Prof. Andy Adam, Prof. Tony Watkinson and Dr. Tony Nicholson, just to name a few. However, these doctors and their hospitals only cover the need for IR procedures of a small geographic region. People from more rural areas often do not have access to much-needed IR services, such as trauma interventions or uterine fibroid embolisation (UFE) which is often required by women whose fibroids are causing them severe problems, such as very heavy menstrual bleeding.

> **"Networking is essential to improve access to IR. There are challenges in developing effective operational delivery networks, but there are already good examples in the UK*"**

I am of the firm opinion that all patients should have the same choices when it comes to treatment options, regardless of where they live. Right now there is considerable variation in provision of IR throughout the UK, particularly for potentially lifesaving emergency and out-of-hours procedures. The larger centres therefore have the responsibility of extending IR beyond their patient radius by training interventional radiologists from other institutions and, together with support from the Department of Health and NHS Improvement create IR services in co-operation with neighbouring hospitals.

Q: Today's patients show an increasing desire to take control of their own health, often seeking state-of-the-art IR procedures. How and why should institutions support them to make informed decisions?

A: I think that hospital staff and administrators should imagine every patient is one of their loved ones, their child, mother or brother. This ensures everyone understands and supports patients seeking the best and least invasive treatments and gives them all the information they need to make an informed decision and decide what is best for them.

> **"A good, well-resourced IR service can contribute to significant savings (both financial and non-financial) along care pathways in both planned and emergency care*"**

Q: How can patients benefit from a superior IR service in terms of treatment quality and safety?

A: I think one of the best examples illustrating the benefits of IR service is treatment of the diabetic foot. Due to the constantly increasing prevalence of diabetes in an aging population, the number of major amputations in patients with Type II diabetes has nearly doubled over a 10 year period*. The use of IR techniques, especially when applied from an early stage, significantly reduce the risk of amputation and therefore improve quality of life.

Q: How essential is IR's integration in emergency treatment protocols?

A: IR plays a major role in emergency medicine. Due to the unexpected nature of emergencies, IR's formal integration into trauma care naturally requires 24-hour IR cover. There are many ways in which this can be done, either by moving the patient to the IR or the other way around. Either way, the acute admissions unit must have a formal and organised plan in place. Working ad hoc in such situations is not acceptable. The trauma service interventional radiologists provide must be part of recognised care. ▸

Q: In your experience, what financial and non-financial benefits does a well-resourced IR service bring to a hospital?

A: Today we have plenty of evidence that UFE and endovascular aneurysm repair (EVAR) revascularisation of the lower limbs for ischemia do not only spare many patients a hysterectomy or an amputation, but are also cost effective. Of course when looking at this you have to include the wider costs for the healthcare system, including such aspects as workdays missed after major surgery versus speedy recovery time, etc.

Q: How can hospital administrators contribute to giving patients the opportunity of benefitting from interventional radiology?

A: In order to unlock IR's full potential, it is vital to create the proper environment, especially in terms of staffing and technology. The most important factor in this, of course, is putting together a good IR team with dedicated nurses and, if possible, creating a proper IR department with its own beds. An on-call rotation for dedicated IR radiographers should also be established. Of course there should be enough state-of-the-art equipment, and interventional radiology should welcome the opportunity to share this with colleagues from other disciplines if necessary to ensure provision of modern facilities.

External link: www.improvement.nhs.uk/documents/IR_Guide.pdf

As Professor of Radiology at Norfolk & Norwich University NHS Trust and the National Clinical Director for Imaging at the UK Department of Health, Professor Denton considers it one of her top priorities to make high quality imaging services accessible to the entire population.

In her role as advisor to government departments and ministers she has been a strong supporter of interventional radiology, fostering the establishment of IR services throughout the UK.

* Interventional Radiology: Guidance for Service Delivery, A Report from the National Imaging Board, 2010

Patients Benefit from Specialist Co-operation

5 minutes with Dr. Aleš Herman

Hospital Director, Institute for Clinical and Experimental Medicine IKEM Czech Republic

Dr. Aleš Herman

Q: What awakened your interest in interventional radiology (IR)?

A: I cannot say that as a hospital director I am more interested in IR than in other departments, but I consider it to be a very important subdivision of radiology.

My original medical profession was in interventional cardiology. During my interventional work I realised that many of the tools and methods we interventional cardiologists were using were invented or further developed by interventional radiologists, such as percutaneous transluminal angioplasty (PTA) which was developed by Charles Dotter, the first clinical use of stents by Julio Palmaz, the coronary catheter invented by Kurt Amplatz, the retrievable caval filter developed by Rolf W. Guenther, just to name a few. It was this realisation that made me stop thinking of interventional radiologists and cardiologists as two opposing groups and rather see them as two very specific professions which should co-operate for the benefit of their patients.

> "Our yearly limb salvage rate exceeds 80%"

Q: Which advantages does IR have for patients, the other collaborating departments and your institution generally?

A: IR, if performed correctly and with skill, can do incredible things for patients with both vascular and non-vascular pathologies. IR-based methods can spare the patient extensive surgery or at least change an urgent procedure to a scheduled one. There is not enough room here to mention all of the important IR procedures, which is why I will concentrate on high frequency procedures at the IKEM and other ones having specific importance for our hospital. From the great variety of vascular interventions we mostly perform stent-grafting in both the thoracic and abdominal aorta in scheduled and urgent cases. Our most important vascular intervention is infrapopliteal angioplasty. In co-operation with our department of diabetology and foot care, we perform 200 – 300 infrapopliteal PTAs per year and our yearly limb salvage rate exceeds 80%.

Institute for Clinical and Experimental Medicine, IKEM, Czech Republic

Other IR procedures that are particularly important to us are those treating kidney and liver transplantation complications by vascular and non-vascular means Thanks to these interventions, I am happy to say that in most cases we can avoid extensive surgery.

> "Thanks to these interventions, I am happy to say that in most cases we can avoid extensive surgery"

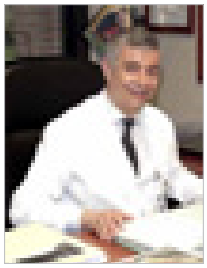
Our main aim is to offer our patients efficient procedures involving the least possible invasiveness in both, diagnosis and therapy, and IR has contributed greatly to this aim.

External link: www.ikem.cz

The Revolution of Interventional Radiology

5 minutes with Dr. Oliviero Rinaldi

Chief Medical Officer, European Institute of Oncology IEO, Italy, Specialist in Public Health, Master in Statistics for Quality Assurance in Healthcare



Dr. Oliviero Rinaldi

Q: What made you support interventional radiology (IR) in your institute?

A: The integration of IR in oncology was a natural process since our institution was opened in 1994. At that time, Prof. Umberto Veronesi, IEO's scientific director, started including interventional radiologists in the daily management of patients affected by cancer trying to reduce the invasiveness in some procedures. Every day the integration of IR in our clinical activity became more and more helpful by minimising invasiveness and increasing treatment options.

European Institute of Oncology IEO, Italy

Q: Which benefits does IR bring to everyone involved?

A: In this new era of oncology, I think it is almost impossible to avoid taking advantage of the many benefits IR has to offer. Patients have new and more effective treatments at their disposal, when only some years ago surgery was the only option.

The revolution of the minimally invasive treatment approach, with both curative and palliative aims for liver disease as well as lung tumours, opened a totally new scenario in oncology. It is something like a new platform which can support the clinical activity of other specialities. In the modern multidisciplinary management of oncology patients, all specialties are involved in the treatment process following the general principle of minimising invasiveness while remaining cost efficient. In this, IR can contribute in streamlining already established processes and open new opportunities for other specialists, for example in pre-surgical portal vein embolisation, tumour downsizing with intra-arterial chemoembolisation or liver disease control with intra-arterial treatments in patients undergoing chemotherapy.

> **"In IR, technological improvements mean better results, less invasiveness and more treatment options with lower costs"**

Q: How is IR integrated into treatment protocols? Is there a formal arrangement between the departments?

A: Ideal integration of IR services can only be achieved through a multidisciplinary clinical approach. This principle also applies to other departments and specialists who in the past used to work in a solitary way, with very few options for exchanging their experiences. Historically, tumour boards were the first step towards this kind of multidisciplinary work.

Today, we have many tumour boards focused on specific topics. They represent the backbone of our clinical activity and none of them could possibly avoid discussing their patients with other specialists before planning appropriate therapy.

Q: In what way has your institution benefited from offering the cutting-edge services of IR?

A: Generally speaking, medicine and mainly oncology is a continuously evolving field where research and improvements are continually incorporated into daily clinical practice. This is true for almost every speciality, but it is absolutely crucial for those with a high technological content such as surgery and IR. In IR, technological improvements mean better results, less invasiveness and more treatment options with lower costs. IEO is a comprehensive cancer centre, making clinical research and technological as well as scientific improvements its core aim. ▸

Q: How important is it for institutions to cater to patient demands such as less invasive approaches?

A: Hospitals are built for patients and not for physicians. We are involved in the process of helping them in the best way we can. We need to find the right balance between the needs of increasingly well-informed patients and procedures supported by scientific evidence.

External link: www.ieo.it

Increasing Patient Referrals

5 minutes with Prof. Marcel Levi

Chairman of the Executive Board
Amsterdam Medical Centre, The Netherlands

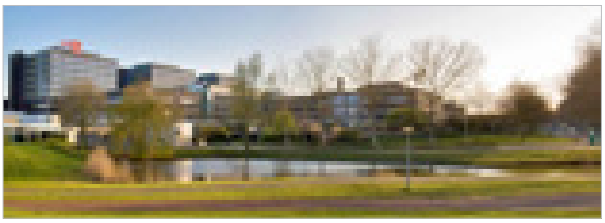
Prof. Marcel Levi

Q: Why did you start supporting interventional radiology (IR) at the AMC?

A: We have had a strong IR department for quite a long time and an especially active IR presence in the fields of vascular, neuro- and gastrointestinal interventions. IR has completely changed the outlook on many of the diseases we treat, enriching the service we can provide to our patients. This is a big asset to the hospital's image, but most of all it offers great benefits to the patients which no hospital administrator can ignore.

Q: How do the interventional radiologists co-operate with the other physicians in your hospital?

A: At the AMC, interventional radiologists co-operate very closely with other specialists and referring physicians, such as surgeons and internal specialists. This interdisciplinary effort is incredibly important and I fully support a professional set up which has made interdisciplinary treatment discussions much more efficient. It has been embraced by all specialists involved, as they can see that since working so closely together there has been an improvement in the care they can offer their patients and an overall increase in the number of patient referrals to our hospital. Treating complex diseases requires a complex approach. From our experience we can say that it truly pays off, though, and our patients benefit from it greatly.



Amsterdam Medical Centre, The Netherlands

Q: How has your hospital benefited from the service provided by your interventional radiologists?

A: Our service does not only attract individual patients, but we have also witnessed a steady increase of referrals to our institution from specialists of other hospitals who see our service as a benefit to their patients. At the moment, we have six interventional radiologists working in the department as well as a continuous stream of interventional radiologists in training.

External link: www.amc.nl

Enhanced Global Exposure

5 minutes with Armelle Dion & Sophie Weil

Director of Equipment (until July 2012)
Director of Equipment (from July 2012)
Strasbourg University Hospitals, France

Armelle Dion and Sophie Weil

Q: What made you interested in and support the interventional radiology (IR) service at your institution?

A: The numerous benefits that IR brings to patients would be reason enough to support this service at the Strasbourg Teaching Hospital. Of course, it is also very important to us to encourage a service that helps us enhance our global exposure. IR procedures and all the new clinical practices that can be developed also arouse great intellectual interest, which makes it particularly exciting to get involved in such projects.

Furthermore, the quality of our medical and paramedical team is a real chance for the Strasbourg Teaching Hospital. Indeed, not only is our medical team of international reputation, which is obviously great for our image, but Prof. Gangi (interventional radiologist at the Strasbourg Teaching Hospital) is also eager to help our institution work on better financing patterns and offer the best service possible to our patients. The whole team's commitment leads us to do our best to support the IR service.

Strasbourg Teaching Hospital, France

Q: Which benefits does IR bring to patients, the other collaborating departments and your institution generally?

A: Thanks to IR, new treatments and medical procedures can be introduced. Several medical disciplines are concerned by these innovative methods, especially oncology. Indeed, over the last few years, the treatment of specific tumours has been significantly improved, thus dramatically increasing chances of recovery. In addition, IR has proved very useful in pain treatments, which is another significant benefit for many patients whose suffering can now be soothed. As populations age, due to well-known demographic reasons, it becomes even more necessary to foster IR procedures allowing for quicker recovery and shorter hospitalisation.

> **"It is important for Strasbourg Teaching Hospital to support the IR service, whose achievements contribute to our national and international reputation"**

We also strongly believe in the new medical collaborations that can be forged between IR and the other departments of the Teaching Hospital. We already mentioned oncology, but other disciplines such as vascular surgery would greatly benefit from the development of common procedures and/or surgical techniques. Thanks to Prof. Gangi's commitment and skills, we have been able to initiate new collaborations, not only within the institution but also with research centres like the Centre National pour la Recherche Scientifique (CNRS) as well as national and international medical teams, and even with industrial partners.

In terms of image, it is important for Strasbourg Teaching Hospital to support the IR service, whose achievements contribute to our national and international reputation. Being a reference centre in IR allows the institution to attract more patients and strengthen our regional position.

Furthermore, as a Teaching Hospital, one of our main missions consists in supporting research and education. Our IR service helps us fulfil this mission by ▸

taking part in national and international research programmes, publishing on new medical techniques and allowing French and foreign doctors to train in Strasbourg.

> **"Offering the latest technology, innovation and quality helps us attract both patients and doctors"**

Q: IR is one of the fastest developing disciplines of modern medicine. Why is it important for institutions to offer such cutting-edge services?

A: In an increasingly competitive environment, it is essential to take good care of the hospital's image. Indeed, offering the latest technology, innovation and quality helps us attract both patients and doctors, despite the poor medical demographic situation in France, especially for radiologists. Thanks to a strong IR team, we appeal to and keep talented doctors who help strengthen the team, reinforce our high standards and implement new treatments. Good working conditions are another factor attracting doctors to our hospital. This includes the latest IR equipment with reduced X-ray exposure in high-tech operating rooms, which we can offer thanks to our partnerships with the industry.

As for patients, although the French funding system tends to discourage innovation in healthcare, we think that we as a Teaching Hospital ought to support the extra cost of these cutting-edge technologies so that we can publish their beneficial outcomes, raise awareness, and then eventually benefit from a change in financing patterns. However, this is a great challenge for Strasbourg Hospital and its overdrawn budget, and we would appreciate any help coming from regional and other stakeholders to do the financial lobbying.

We also hope that patients will come to the teaching hospital not only for IR procedures but more generally for its whole range of activities, hence helping finance complex IR procedures.

Finally, in terms of investment, it is strategic to be at the forefront of this fast developing discipline, otherwise one could easily fall behind other centres and face a technological gap which soon will be impossible to bridge.

Q: Less invasive procedures are proving more popular with patients. How important is it for institutions to answer the patient demand?

A: The patients are, of course, the core raison d'être for a hospital: how could we not take into account their wishes, especially in a competitive environment? Patients want smaller scars, less side effects and early discharge, all of which is also beneficial to the hospital.

But more than just the demand for less invasive procedures, we pursue the larger goal of best quality and safety. And when you read the comments of patients who have been treated by our IR department, you will soon realise that they praise not only the technical aspects and outcomes of the procedure, but also the high quality of human relationships and characters on both, the medical and paramedical staff.

That the patient is treated with kindness and dignity is, of course, nothing that can be dictated from above. It has to come from within a great team, which we are fortunate to have.

External link: www.chru-strasbourg.fr

5 minutes with Gunnar Tepe

Professor of interventional radiology (IR) and Head of Diagnostic and Interventional Radiology at RoMed Academic Hospital of Rosenheim, Germany

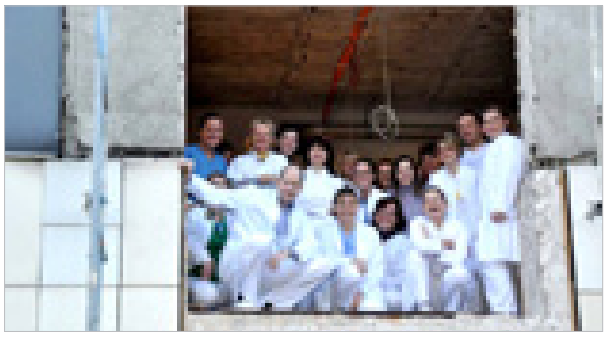
Prof. Gunnar Tepe, EBIR

Q: Can you briefly tell us about the current situation at the Diagnostic and Interventional Radiology department at Klinikum Rosenheim Hospital?

A: I've been at Rosenheim for three-and-a-half years and I'm in a really great professional position because almost the whole department is being restructured for the better and is being equipped with new machines.

For example a brand new angiography machine has recently come into service. This is housed in a specially designed room dedicated to endovascular procedures, where we mainly do peripheral interventions but also other procedures such as transjugular intrahepatic portosystemic shunt (TIPS) and aortic prostheses, when we work together with the surgeons.

> **"We now offer new services that we couldn't have before"**



The team looking out from the first floor of the department before the new MRI scanner is put into place.

Q: How were the improvements initiated?

A: Change was already underway before I started work at the department; for example it was already arranged to get new MRI equipment in-house whereas previously MR imaging was contracted out to a private practice. I saw that several things were not really optimal and I tried to convince those in charge of the hospital that we could make further changes for better patient treatment and work flow.

Preparation of the new MRI room.

Q: How did the hospital management respond?

A: If you simply petition for change on your own it's often not so easy to get a positive response, which is understandable. The approach I used together with the hospital administration was to request an official analysis of the department's physical structure and workflow organisation, including the patient journey, to support what I was saying. The hospital administration contracted an external consultancy to carry out this task and restructuring is now underway according to the results of the analysis. The structure of the department had not changed for 30 years and the hospital management was looking to achieve improvements in patient safety and efficiency.

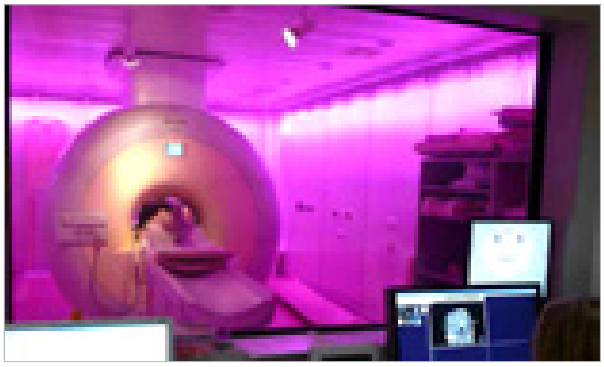
Q: What specific improvements have been made?

A: One example is the multidisciplinary meeting room, where we meet other physicians on a very frequent basis to discuss cases. Previously, this was located in the middle of the department, which meant that access to the room was difficult and people had to move through other working rooms to get there. ▸

Now however, we have a separation of function onto two main floors: one floor is for patients and one floor is for staff, resulting in a more streamlined environment.

Previous allocation of space was inefficient and there were, for example, large rooms housing only small machines. The new structure allows us a greater scope to position new machines that are necessary for the latest modalities.

It takes time to carry out such plans, the step-by-step-process that began two-and-a-half years ago is still underway. Being in the middle of a challenging rebuild means there are inconveniences from time to time – like construction noise. But this is just temporary and will be worth it for the resulting improvements in the working environment. In light of our caseload, our job is now much easier to do and workflow has already been enhanced a great deal.



The new MRI room in action with adjustable lighting.

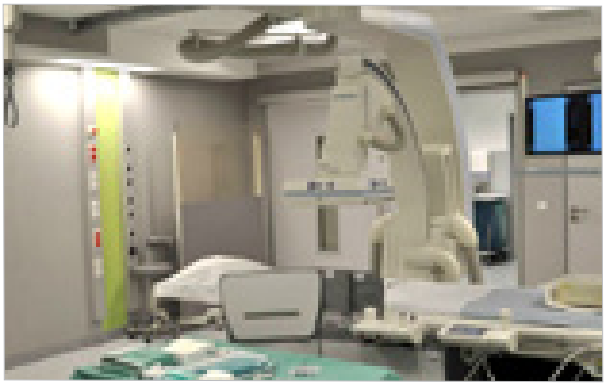
Q: How have the hospital services been improved?

A: We now offer new services that we couldn't have before, like teleradiology. For this to be possible, dedicated rooms with special systems and staff are needed; all of which we now have.
The patient experience has also improved with separate purpose-built waiting areas for outpatients and inpatients. Another new angioroom is being set up, in connection with a room for ambulant outpatients, where they will be able to wait after a procedure and then return home after a short observation period, as long as it is safe to do so. These are improvements which increase the quality of a patient's visit to the hospital.

Klinikum Rosenheim is part of a single organisation that includes three smaller hospitals in more rural areas. Naturally, the small hospitals do not offer every possible service but, when circumstances allow, patients can stay at their local hospital and visit the large hospital for diagnostic or interventional procedures before returning to their local hospital at the earliest opportunity.

"Recently, we [the interdisciplinary team] went on an alpine walk together with patients who weren't able to walk before treatment, so you can see how well we work together"

This arrangement allows the small hospitals to keep their patients and still serve the local community while providing, through the large hospital, things which they could not have before. As patients can choose to stay at the hospital nearer to home, it's a more comfortable and convenient experience for them. ▸



New angiography suite.

"We also share specific equipment … This allows us to get the most out of our machines and prevent them from standing idle"

Q: Has the restructuring had any effect on your research activities?

A: As part of the reconstruction, a new, dedicated room for clinical studies has been built as a base for the study nurses. I have organised three such study nurses who work in our hospital in areas like radiography but also support studies by performing patient contact, follow up and other administrative tasks. Carrying out clinical studies means that we gain access to new technology which is of benefit to patients.

"The mountain calls you": a walk to an alpine cabin, with patients who were not able to walk before treatment.

Q: How is collaboration between IR and other departments?

A: We have daily interdisciplinary meetings to discuss patient cases and decide on the best course of action. For peripheral interventions such discussions would typically involve IR, vascular surgery, and angiology. It's a really good collaboration. Recently, we went on an alpine walk together with patients who weren't able to walk before treatment, so you can see how well we work together!

Every day, I also attend at least one interdepartmental review meeting because I want the personal contact with the physicians and I try to meet with a range of colleagues. So one day I meet with surgery, another day with paediatrics, then neurology and so on.

We also share specific equipment, an angiography machine with the gastrointestinal department for example. This allows us to get the most out of our machines and prevent them from standing idle.

Q: What is the best way to ensure improvements are made?

A: Among the physicians, it is satisfying to do new things and have access to new technologies but an unavoidable consequence of expansion is the extra work involved. It is natural for people to question the need of an increased workload. That is the most challenging thing, to convince others to join you on the path to something new.

Patients learn more about new treatment modalities.

It is very important to get the support of the hospital administration and in our case I think we have something that is really precious: we have worked together to develop and implement something very positive. Our ideas have been realised due to the willingness of the administration to listen to the physicians and a shared commitment to improving the situation together.

RoMed Kliniken

External link: www.romed-kliniken.de/de/main/klinikum_rosenheim.htm

Images kindly supplied by Prof. G.Tepe/Klinikum Rosenheim.

Patient Safety and Treatment Quality

View 'Patient Safety and Treatment Quality' on your mobile or tablet by scanning the QR Code.

Interventional Radiology Safety Checklist

Improving Safety, One Tick at a Time

Prof. Michael J. Lee, EBIR
Beaumont Hospital
Dublin, Ireland

While it may be true that to err is human, making mistakes is also a luxury that is not afforded to all humans alike – for medical doctors, a simple mistake can have fatal consequences and must be avoided where possible. Numerous studies have been carried out examining the tragic impact human error can have on clinical practice. A landmark study released in 2009[1] was one of the first to draw attention to a simple yet effective solution to the problem – the Safety Checklist.

In 2011, the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) created the first international safety checklist for interventional radiology (IR). Only one year after it was published, the checklist is already proving a valuable tool for improving IR patient safety in Europe.

The checklist is proving a valuable tool for improving IR patient safety in Europe

How Ticking Boxes Can Save Lives

According to CIRSE President and co-author of IR Safety Checklist, Professor Michael J. Lee, "The advantage of a safety checklist for IR is that its ensures that human error in terms of forgetting key steps in patient preparation, intra-procedural care and postoperative care are not forgotten"[2]. In addition, implementation of the checklist in his institution, Beaumont Hospital in Dublin, Ireland, has also "…helped build rapport within the IR team and most importantly, it has meant that all patients receive appropriate peri-procedural care and medications that help prevent complications." This is comparable to the experience at the AMS, Academic Medical Centre, in the Netherlands which has employed a similar checklist for several years.

Currently in place in various hospitals … it has led to significant improvements in the safety dynamics

How the Checklist Works

The checklist was created by an expert group of interventional radiologists and tested in four European hospitals. First published in 2011, the single-page document was based on the WHO Surgical Checklist and the Dutch RAD PASS Safety Checklist for IR. Comprising three sections – "Procedure Planning", "Sign-in" and "Sign-out" – the checklist can easily be modified to suit the requirements of individual hospitals.

A Forecast for Success

The renowned Surgical Safety Checklist, sponsored by the World Health Organisation (WHO), was the first medical safety checklist to gain widespread acclaim from various institutions around the world. The WHO Surgical Safety Checklist was used as a model for CIRSE's IR Safety Checklist and is therefore seen as an indicator of the possible benefits that implementing the IR Safety Checklist can bring. ▸

Procedure Planning	✓ Helps collect important information on the patient's medical history (e.g. allergies to contrast agents) ✓ Helps the medical team prepare for possible complications ✓ Completed by the IR or ward nurse
Sign-in	✓ Lists the immediate checks that must be performed when the patient is in the IR suite (e.g. confirmation of patient identity) ✓ Completed by an IR resident, nurse or IR staff while the patient is in the room
Sign-out	✓ Helps plan and collect information on follow-up tests and treatments required ✓ Completed by the operating IR

The WHO Surgical Safety Checklist first came into the limelight when the results of a year-long pilot study on the checklist were published in the New England Journal of Medicine in 2009[3]. The study highlighted how the list had led to reductions in complication rates of over 33% and significant decreases in mortality rates. Subsequent studies estimated that as many as half a million deaths per year can be prevented simply by implementing the Checklist[4]. The WHO Surgical Safety Checklist is now being used in over 1,800 hospitals around the world.

A Promising Future

Despite its recent introduction, CIRSE's IR Safety Checklist has already seen its first successes. Currently in place in various hospitals throughout Europe, it has led to significant improvements in the safety dynamics of these institutions. The IR Safety Checklist was also well received by the European Commission's Health and Consumers Directorate-General and CIRSE representatives have been invited to Brussels for talks on patient safety in IR.

CIRSE hopes that the widespread adoption of the checklist will lead to improvements in patient safety within Europe and also well beyond its borders. The society has made the checklist available, free-of-charge, on its website.

by Tochi Ugbor

To download a copy of the checklist, please visit www.cirse.org

[1]Haynes A. B. et al. N Engl. J. Med. (2009), 360:491-499, "A Surgical Safety Checklist to Reduce The Morbidity and Mortality in a Global Population"

[2]Lee M.J., et al. Cardiovasc. Intervt. Radiol (2012), 35:244-246, "Patient Safety in Interventional Radiology: A CIRSE IR Checklist"

[3]Haynes AB. Et al. N Engl. J. Med. (2009), 360:491-499

[4]de Vries E., Hollmann M., Smorenburg S. et al. (2009 Development and validation of the Surgical Patient Safety System (SURPASS) Checklist. Qual. Saf. Health Care 18.121-126

Let's Talk About It

Complications Meetings and How They Help Improve Patient Care

It goes without saying that complications during medical procedures are a very unpleasant and undesirable thing. Nevertheless they are a topic that cannot be avoided in the pursuit of improving patient care and furthering any specialty. Standardised documentation of complications is an essential quality parameter which enables patients, hospital administrators and healthcare politicians to make an informed decision regarding treatment options. Having recognised this a long time ago, interventional radiologists have been exchanging their experiences with complications for decades and even established a meeting especially dedicated to this topic.

Complications are unfavourable but not learning and allowing others to learn from them is unforgivable.

Prof. Klaus Hausegger, EBIR
General Hospital Klagenfurt, Austria

The ICCIR Complications Meeting

The International Congress on Complications in Interventional Radiology (ICCIR) was initiated in the year 2000 and has been hosted on a biennial basis by Prof. Klaus Hausegger and the CIRSE Foundation in the Austrian city of Poertschach. Allowing for doctors who have ▸

submitted case reports to attend the congress free of charge, the ICCIR strongly encourages all participants to share their experiences with their colleagues in numerous discussion sessions which form the core of the congress.

The three-day programme, including more than 40 case discussions, offers a comprehensive overview of complications in numerous interventional radiology (IR) procedures. Due to its relatively small size (around 250 participants), the meeting however has a familiar feel, giving doctors (juniors in particular) the possibility to contribute without inhibitions. Apart from interventional radiologists, the ICCIR also attracts vascular surgeons, oncologists and gastroenterologists, once again showing IR's strong links to its neighbouring specialties.

ICCIR also attracts vascular surgeons, oncologists and gastroenterologists, once again showing IR's strong links to its neighbouring specialties

Dealing with Complications in Everyday Clinical Practice

In Prof. Hausegger's clinical experience, it has proven useful to discuss complications neutrally within the team in order to find the root cause. Complications caused by organisational gaps can sometimes be avoided by implementing safety checklists (see page 25); all members of the team have to be aware of the extent and limitations of their abilities, and corrective measures, if necessary, must be determined by the head of the team.

What makes it difficult for interventional radiologists to keep track of post-procedural complications is that most IR wards do not have hospital beds, making patient contact and thorough follow-ups a lot harder. This problem can only be avoided by consistent clinical rounds carried out by the interventional radiologist.

Open and interactive case discussions are pivotal to ICCIR's educational programme.

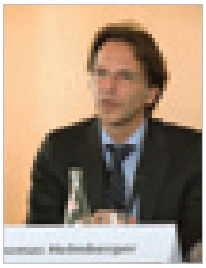
As Prof. Hausegger points out, it has become irremissible to gather data not only on the nature of a complication, but also on its frequency in each hospital in order to be able to compare the institute to national and international standards. With that, general and relatively frequent problems such as access site complications must be covered as well as procedure specific complications such as stroke rate in carotid stenting.

One of the best ways to avoid complications, however, is to see them coming. Knowing what problems can occur greatly helps interventional radiologists to prevent them, which is why the ICCIR is such an important tool in the improvement of patient care.

by Petra Mann

External link: www.iccir2012.org

Germany Sets New Standards in IR Quality Management



Prof. Thomas Helmberger, EBIR
Klinikum Bogenhausen
Munich, Germany

It has been a few years since the German Society of Interventional Radiology (DeGIR) implemented its ground-breaking quality management programme. The objective was to maintain and improve interventional radiology's high standard of care and professional status across the country.

The DeGIR quality management programme addresses two key dimensions of medical professionalism – certification of interventional radiology (IR) specialisation and procedure data collection and monitoring.

This unique online system allows its members to enter an array of procedural data

Specialisation and Certification

DeGIR's certification in IR is a structured, educational programme that encompasses a basic and an advanced level. It is compatible with similar, Europe-wide programmes (European Board of Interventional Radiology – EBIR) and is fully supported by the German Society for Radiology's Academy for Continued Education. Thanks to its high standards and official endorsements, the DeGIR certificate guarantees holders recognition of their knowledge, skills and competencies in IR.

DeGIR's educational programme (in full support of EBIR) is complemented by qualification guidelines drafted and published in co-operation with the German Radiology Society (DRG).

Data Collection and Monitoring

In order to provide continuous quality assurance in IR, a state-of-the-art system was developed by DeGIR which allows interventional radiologists to collect and record data pertaining to procedures they have performed throughout their careers.

This unique online system allows its members to enter an array of procedural data, including quality parameters and treatment outcomes. Users can enter data in real time, evaluate their procedures according to quality assurance parameters and compare them anonymously to all available data.

DeGIR's dedication to this ground-breaking system is shown by the team of specialists continuously reviewing and adapting it to new procedures. This commitment is certainly paying off, with almost 200 hospital and institutes participating in the programme. In 2011, more than 80,000 procedures were entered, making it the most comprehensive collection of IR quality assurance data worldwide.

Furthermore, registration with and regular use of the system are strict requirements of the DeGIR certification.

Committed to Excellence

To date, there are more than 900 DeGIR certified interventional radiologists and 190 certified IR instructors from 120 educational centres in Germany.

The benefits that such a programme brings to the patient cannot be denied. It has also proven to be an important tool in demonstrating the high standard of IR procedures vis-à-vis more traditional methods and is highly instrumental in discussions on the distribution of resources among the various medical disciplines – which naturally requires supporting data.

by Thomas Helmberger

If you are interested in DeGIR's educational efforts and the online quality assurance system, please visit www.degir.de

Registries in Interventional Radiology

Prof. Jim A. Reekers, EBIR
Academic Medical Centre Amsterdam, The Netherlands

Medical case-series studies[1], more commonly known as registries are an important and often overlooked tool in bolstering the evidence base of medical interventions to help improve the quality of service. Registries involve collecting crucial data points of procedures (duration, success, complications, etc.) performed in multiple centres.

"Registries give a grosso modo overview of the efficacy, safety, complications and frequency of new procedures" – Jim A. Reekers

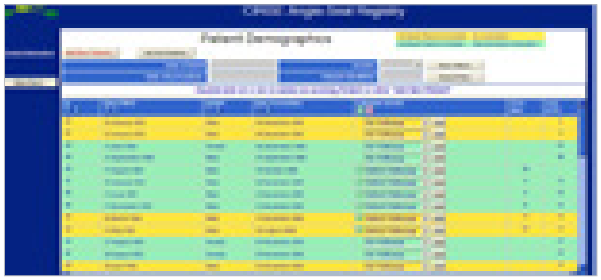
Unlike other forms of clinical research, registries do not rely on a randomised sample of patients and the inclusion criteria allow for a wider patient sample.

This straightforward methodology is the greatest advantage of a registry, as Jim A. Reekers, Professor of Interventional Radiology at the University of Amsterdam points out, "registries give a grosso modo overview of the efficacy, safety, complications and frequency of new procedures. Registry data can also assist in setting up more sophisticated trial studies, helping calibrate how many patients are needed to produce good scientific evidence."

Naturally, registries are not without their challenges, as Prof. Reekers explains, "registries do, however, have an uncontrolled voluntary inclusion and are therefore particularly susceptive to selection bias and must be interpreted carefully."

Owing to their manageable and effective methodology and the relatively modest setting-up costs, registries are readily applicable enquiries that help better understand and ultimately fine-tune the provision of interventional radiology services.

by Robert Bauer



Angio-SealTM registry, 2009, CIRSE registries are conducted electronically, allowing physicians to enter their cases into an online database.

For examples of IR registries, please refer to the Cardiovascular and Interventional Radiological Society of Europe, www.cirse.org
Following the successful completion of a registry on Angio-Seal™ vascular closures, CIRSE is currently in the final stages of a registry collecting data on the placement of retrievable vena cava filters. Both pieces of research are considered important in better understanding the gentle and safe nature of these IR procedures.

[1]OCEBM Levels of Evidence Working Group. "The Oxford 2011 Levels of Evidence". Oxford Centre for Evidence-Based Medicine, accessed at http://www.cebm.net/index.aspx?o=5653

High Volumes, Good Outcomes

For many years now, it has been accepted, and indeed proven, that a strong link between high-volume medical centres and good patient outcomes exists. The first study into this link appeared in 1979, when Dr. Harold Luft of the University of California at San Francisco published a paper in the New England Journal of Medicine, showing 25-41% fewer patient deaths in hospitals performing 200 or more surgical procedures a year, compared with lower volume hospitals.

Since then, there have been many such studies conducted, mostly in the surgical field[1,2], and all appear to show favourable outcomes in high-volume centres, particularly for rare or difficult cases.

High-volume, specialised centres can often offer better outcomes

The mechanisms governing such an effect have yet to be fully established, but several possible factors have been identified:

- Regular experience means a hospital and its staff are more primed to deal with such cases, and more familiar with the options and therapies.
- High-volume centres have better resources, such as imaging and diagnostic equipment, which may result in more accurate therapy delivery.
- Surgeon experience may be the underlying cause, and high-volume centres are more likely to provide surgeons with regular opportunities to practice.
- Perhaps good outcomes attract high volumes of patients, and not the other way around.

Whatever the underlying cause, it is clear that high-volume, specialised centres can often offer better outcomes, and many medical centres in Europe already reflect this trend, with specialised regional centres widely offered for stroke, cancers and paediatrics, to name but a few.

The Case for Interventional Radiology

There are less data available in the case of interventional radiology (IR), although data on endovascular treatment for stroke do show similar outcomes[3].

Moreover, it seems logical that interventional radiologists who regularly treat particular pathologies or emergencies will become more adept at treating those cases. It is already the case that interventional radiologists who work in hospitals specialising in trauma, cancer or stroke are emerging as experts in these fields, and are in a position to train and educate their colleagues.

In the same way, centralising IR care, especially for more complex and challenging cases, could greatly contribute to enhanced patient safety – a structure best arranged amongst hospital management, interventional radiologists and medical insurance companies.

Data on endovascular treatment for stroke do show similar outcomes

Given the evidence that exists, hospital administrators would be well advised to capitalise on the resources already available to them. By ensuring that proper referral pathways and collaborative structures exist, hospital managers can ensure that their IR staff treats a regular stream of patients, keeping their hard-won skills up to date and staying abreast of new therapies and technologies – and most importantly, improving the outcomes for patients.

by Ciara Madden

[1]Vernooij et al, Specialised and high-volume care leads to better outcomes of ovarian cancer treatment in the Netherlands, University Medical Centre Utrecht

[2]Pasquali et al, Association of center volume with mortality and complications in pediatric heart surgery, Pediatrics, 2012 Feb; 129(2):e370-6

[3]Speedier treatment and better outcomes for high volume stroke centres, Journal of Neurointerventional Surgery, 9th May 2012

Establishing Highest Treatment Standards

Chronic Kidney Disease

Interventional radiologists have been strongly involved in the creation and updating of multidisciplinary guidelines which set the highest possible quality standard in the treatment of chronic kidney disease patients.

Chronic kidney disease (CKD) patients face numerous difficulties in everyday life due to their condition, including strict diet, chronic pain, an endless series of doctor visits and, more drastically, the life-altering need for dialysis. While some of these factors cannot be remedied, such as the need to follow a strict dietary plan, venous access for dialysis can be planned well in advance in order to facilitate venous preservation – every chronic renal failure patient who has opted for haemodialysis should start it with a functioning vascular access.

The Kidney Disease Outcomes Quality Initiative (KDOQI) of the American based National Kidney Foundation has provided evidence-based clinical practice guidelines for all stages of chronic kidney disease and related complications since 1997. Recommendations on vascular access were drawn up in 1997 and updated in 2000 and 2006 as the result of a collaborative effort by nephrologists, vascular surgeons, transplant surgeons and interventional radiologists to create the KDOQI guidelines and the Fistula First programme, which have served as the template for the management of dialysis patients.

Like all clinical practice guidelines, they aim to guide the practitioner, as well as the patient, to achieve diagnosis, management and treatment of the kidney disease based on the highest quality evidence currently known. By adhering to the guidelines in a problem-based and schematic way, the well-known, high access-related morbidity and mortality rates and enormous associated costs in access service can be drastically reduced.

Although certainly not a pleasant part of life for chronic kidney disease patients, dialysis can be made a lot easier with a well-maintained AV access.

The KDOQI guidelines related to vascular access for patients requiring haemodialysis address issues from patient evaluation prior to placement of haemodialysis access to long-term management of the haemodialysis access. The guidelines' primary aim is, of course, to reduce morbidity related to vascular access and to increase long-term access function.

Venous access and maintenance has been an established part of interventional radiology (IR) practice for many years. Due to its high volume, interventional radiologists are the most experienced specialists for this procedure, making them an integral part of every multidisciplinary team treating CKD patients.

As shown in the more recent European Best Practice Guidelines (EBPG) from 2007, which better reflect the strongly varying European vascular access practice and experience, interventional radiologists are not only the primary clinical partner regarding the diagnosis, but in numerous cases, also the treatment of malfunctioning arteriovenous (AV) fistulas and AV grafts. IR incorporation is thus a natural consequence of evidence-driven decision-making and clearly shows the importance of IR in this field.

The guidelines from both sides of the Atlantic regarding the treatment of CKD patients demonstrate that the optimal care of patients with end-stage renal disease on haemodialysis requires a multidisciplinary approach with a strong interventional radiology presence, thus enabling the reduction of the high morbidity and mortality rate in venous access and maintenance.

For further information on Best Practice Guidelines, please refer to page 5.

by Petra Mann, with the kind co-operation of Prof. Patrick Haage, EBIR, Wuppertal, German

Education and Training

View 'Education and Training' on your mobile or tablet by scanning the QR Code.

The Safe Foundation of Interventional Radiology

Quality medical education, from the earliest level right through to the advanced, is vital for the training of competent professionals who deliver excellent patient care. Interventional radiologists are committed to providing a high-quality clinical service and they are supported in their rapidly expanding role by numerous education and training opportunities.

There are many possibilities for interventional radiologists to consolidate and expand their expertise and the national and international interventional radiology (IR) societies are often the providers of such opportunities. As well as educational services, these organisations support their members with involvement in research activities and with the production and dissemination of best practice guidelines.

The Cardiovascular and Interventional Radiological Society of Europe (CIRSE) is the leading representative body for IR in Europe, connecting the national societies and providing a larger platform for scientific and educational exchange. CIRSE organises numerous meetings including its state-of-the art Annual Congress, which is the world's largest and most comprehensive forum dedicated to IR. Alongside this, specialist conferences focused on topics such as interventional oncology or embolisation are organised.

Through the European School of Interventional Radiology (ESIR), CIRSE also delivers training in the form of short specialised, hands-on courses in a range of cities across Europe. The international development of IR is further strengthened by means of education grants, which are awarded to interventional radiologists to train or experience new procedures at a different European institution.

By virtue of interventional radiologists continuously improving their skills and knowledge, patient access to safe and effective minimally invasive treatment options is increasing

Harmonisation of training and appropriate credentialing is required for clinical services of the best quality. Accordingly, IR curricula at undergraduate and postgraduate levels have been devised and the European Board of Interventional Radiology (EBIR), the first European IR qualification, has been established as a standardised certification of quality and expertise in IR.

By virtue of interventional radiologists continuously improving their skills and knowledge, patient access to safe and effective minimally invasive treatment options is increasing.

By Adam McLean

Innovation, Education, Intervention

CIRSE Annual Congress

A quality interventional radiology (IR) service is underpinned by excellence in education, which prepares doctors to provide patients with the very best care. A well-established cornerstone of effective training and ongoing educational exchange in all specialties is the medical congress and IR is no different with the rapid expansion of the field prompting a corresponding growth in specialist IR conferences.

The CIRSE Annual Congress and Postgraduate Course is the world's largest scientific meeting dedicated to minimally invasive image-guided therapies. Covering the full breadth of IR, the congress is a major date in the calendar of all interventionalists and offers a unique platform for the exchange of scientific information and interaction with medical colleagues from over 80 countries, as well as industry representatives and other stakeholders. The educational programme of the CIRSE Congress is devised to keep participants up to date with the latest developments in IR and provides the opportunity for physicians to familiarise themselves ▸

with new devices and therapies and refine their expertise. The intended outcome is a continuously improving skill base for IR, which results in a high quality service for patients.

The congress … offers a unique platform for the exchange of scientific information and interaction with medical colleagues

Designed around seven main themes, the Congress programme caters for all interests within IR and includes:

- Vascular interventions
- Transcatheter embolisation
- Interventional oncology
- Neuro interventions
- Non-vascular interventions
- IR management and imaging

The CIRSE 2012 Annual Meeting and Postgraduate Course is the world's biggest scientific conference devoted to interventional radiology.

Furthermore, the wide range of session types, from paper presentations and symposia to hands-on workshops, make possible the communication of scientific information as well as the improvement of practical skills. Invited speakers from a range of medical specialties and dedicated sessions for allied professions, such as radiographers, support the expansion of IR and minimally invasive treatment options in the context of modern multidisciplinary teams.

CIRSE 2012: Continuing the Trend for Growth

Just one example of a session type that heavily features multidisciplinary discussion is the Hot Topic Symposium. Always at the cutting edge, the two Hot Topic Symposia at CIRSE 2012 saw experts discuss and debate controversial issues surrounding renal denervation and vertebral augmentation.

As theory and practice are equally important, the hands-on workshops at the annual meeting were also popular with doctors wanting to follow live demonstrations of interventional techniques and practice a range of procedures under the guidance of experts.

In line with the growth and innovative nature of interventional radiology, CIRSE 2012 hosted more than 6,000 delegates and provided participants with more than 250 hours of state-of-the-art educational sessions.

As a quality live educational event the CIRSE 2012 Annual Congress, in common with other CIRSE events, was accredited by the European Accreditation Council for Continuing Medical Education (EACCME, an institution of the European Union of Medical Specialists) to provide continuing medical education activity for medical specialists. This means that doctors who participate are making a real investment in their education and in enhancing the service they provide.

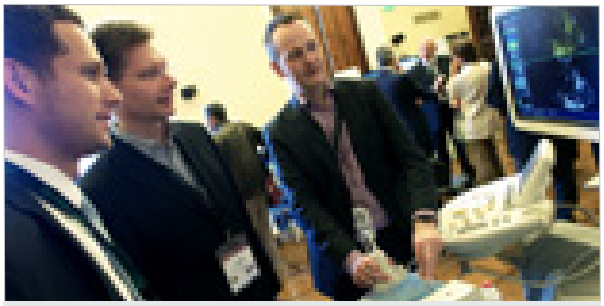
by Adam McLean

External link: www.esir.org
Recently relaunched, ESIRonline is an extensive online educational resource in interventional radiology. Home to thousands of video presentations, scientific abstracts and electronic posters from CIRSE events, this rich educational database makes the latest information in IR available to doctors at any time, wherever they are in the world. The international community was also pleased to see the ESIRonline portal host a live stream of selected sessions from this year's CIRSE Congress.

Specialist Educational Meetings

Interventional radiology (IR) is rapidly expanding, and it is therefore vital that doctors involved in special focus areas have the opportunity to share the latest scientific findings and keep their skills and knowledge up to date if they are to continue to offer the best possible service to patients.

Specialist scientific conferences are one pillar of support for doctors with focused interests in a particular area. Two such international conferences are ECIO (European Conference on Interventional Oncology) and GEST Europe (Global Embolisation Symposium and Technologies).



Hands-on demonstration to improve technical skills is a key feature of workshops at GEST and ECIO.

ECIO

European Conference on Interventional Oncology

Interventional radiologists have always made an important contribution to the palliative care of cancer patients and in recent years potentially curative IR procedures have been developed, enabling even greater contributions to be made in the field of oncology.

Interventional oncology is fast becoming the fourth oncological discipline, alongside surgery, radiotherapy and chemotherapy. This important role makes it increasingly necessary to organise a meeting which gives a detailed insight into this important area and explore not only technological developments but also issues relating to training, practice and the state of evidence.

ECIO fulfils this need and offers a range of session types providing comprehensive coverage of new developments, discussion of clinical cases and hands-on practice. The focus is always on excellent technical skills, sound clinical management and well-founded research; all of which are characteristic of interventional oncology.

In 2012, ECIO became an annual fixture in the IR calendar and the success and growth of the meeting is a strong indicator of the positioning of IR within the field of cancer care and the value it brings along with other medical specialties.

Given the multi-system nature of cancer, this collaborative approach is vital for patients to receive the best care possible

Indeed, interdisciplinary collaboration is a cornerstone of ECIO, with the “Bring Your Referring Physician” programme attracting numerous oncologists, hepatologists and nephrologists to the conference alongside their IR colleagues. Given the multi-system nature of cancer, this collaborative approach is vital for patients to receive the best care possible.

ECIO 2013 will be held in Budapest, Hungary from June 19 - 22, 2013.

Audience participation is encouraged with e-voting in selected sessions.

GEST Europe

Global Embolization Symposium and Technologies, Europe

Embolotherapy, performed by interventional radiologists, occupies a central and unique role in patient care. The indications for embolic therapies have expanded over the last decade and include, ▸

among others, uterine fibroids, vascular malformations, blunt and penetrating trauma and gastrointestinal haemorrhage.

GEST Europe is an educational meeting devoted entirely to this vital area of IR and features an in-depth programme including a wide range of scientific sessions, hands-on workshops, case discussions and satellite symposia. With past meetings having attracted over 1,000 international delegates, GEST Europe is set to continue as a popular and cutting-edge meeting, allowing clinicians to enhance their practice and the service they offer.

The indications for embolic therapies have expanded over the last decade

GEST Europe 2013 will take place from May 1 - 4, 2013 in Prague, Czech Republic.

by Adam McLean

Focused Learning

Prof. Jan H. Peregrin, EBIR
Institute for Clinical and Experimental Medicine
Prague, Czech Republic

The European School of Interventional Radiology

Each year, the European School of Interventional Radiology (ESIR) offers unbiased, evidence-based, alongside hands-on-based, training for interventional radiologists including coverage of the newest developments in interventional radiology (IR) using cutting-edge technology. The wide offering of courses is continually updated to meet the current demands for training in image-guided minimally invasive interventions.

ESIR courses last up to two days and due to a limit on the maximum number of participants per course a close interactive learning environment is guaranteed. Approximately one third of any given course consists of lectures to convey theoretical concepts and the remaining time is spent on hands-on practice and small-group teaching sessions.

All ESIR courses are delivered by experienced teachers who are leading experts in the respective topic of instruction.

Participants have the opportunity to test their knowledge at the end of a course and receive a certificate of attendance. Furthermore, all ESIR courses are CME certified.

Small group discussion at an ESIR course.

In support of quality improvement and appropriate credentialing in IR, the course provision is also devised with the intention that interventional radiologists can combine their further education through ESIR with preparation for the European Board of Interventional Radiology (EBIR) examination.

Prof. Jan Peregrin, current Chairman of the CIRSE Foundation Advisory Council, which oversees ESIR, is clear about the purpose of the educational programme:

"The knowledge gained from the courses, especially from the interactive sessions and hands-on ▸

sessions, will help to support the already high standard of routine IR procedures."

Hands-on practice is available with expert advice.

ESIR is working to improve patient access to safe and effective minimally invasive treatment options

IR is a growing specialty and is still becoming established in some regions. Prof. Peregrin explains that interventional radiologists at all levels of experience are catered for and that ESIR is working to introduce and support the growth of IR in countries where it is still developing:

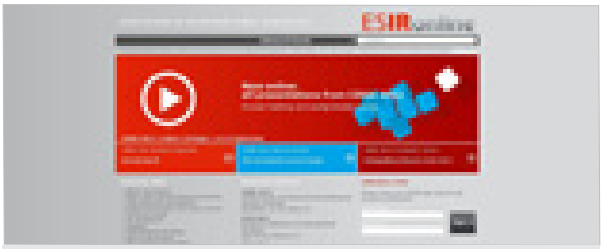
"Endeavours are made to select the most-needed topics for the region where the course is held. The aim is to provide robust educational courses to promote state-of-the-art interventional procedures all over Europe, very often in collaboration with the National IR societies."

"Classifying the various courses into basic (for those doctors beginning in a particular topic), intermediate or advanced levels maximises the usefulness of the courses and ensures a constant improvement of skills."

By supporting high standards of education and the Europe-wide availability of well-trained interventional radiologists, ESIR is working to improve patient access to safe and effective minimally invasive treatment options.

by Adam McLean

External link: www.cirse.org/esir2013



Download this image at iqonline.eu

External link: www.esir.org
Educational material can be found on ESIRonline, interventional radiology's most extensive online educational resource.

How IR Simulation Could Improve Patient Safety

Dr. David Kessel, EBIR Leeds General Infirmary, UK

With technological and engineering advances, simulation is playing an increasing educational role in many industries, and interventional radiology (IR) is no different. A number of high fidelity simulators have been introduced onto the market, and these are being increasingly employed in educational courses, such as those run by the European School of Interventional Radiology (ESIR) and the Cardiovascular and Interventional Radiological Society of Europe (CIRSE).

Dr. David Kessel (Leeds, UK), a leading IR educationalist, describes the potentials for such high fidelity simulators as serving two complementary functions; acquisition of technical skills and improving patient safety:

"At present, there is no doubt that simulators can offer useful experience, particularly early on in an operator's training. Vascular simulators can help with the acquisition of basic technical skills such as catheter and wire manipulation and learning sequences of events required to perform a procedure. This has been the principle use of simulators up to the present time."

"'*Primum non nocere*' is a central tenet of medical practice and should be at the forefront of every doctor's mind. Interventional radiologists frequently use devices in their patients and clearly it is essential to understand how they work. If protecting patients is not a powerful enough motivator we should be mindful that medical error is highly scrutinised. It follows that simulators must become increasingly important for training operators in the use and characteristics of specific medical devices."

"The aim will be to ensure that manipulation of the device will become second nature, allowing full concentration on the performance of the procedure. For example, something as commonplace as a Wall stent can provide a challenge in terms the deployment mechanism and also the characteristic shortening during deployment. The benefit for experiencing and understanding this prior to use in vivo is self-evident."

"This aspect of simulator use will be highly relevant both to trainees and also to more experienced operators. All doctors will benefit from training whenever a new device is used, when there is a significant modification to the deployment of an existing device. In addition a doctor might wish to remind themselves about the deployment mechanism and positioning markers on a device such as an aortic stent graft before a procedure."

"Even more valuable would be the ability to rehearse adverse events, such what to do in the event of device malfunction and how to prevent and troubleshoot problems."

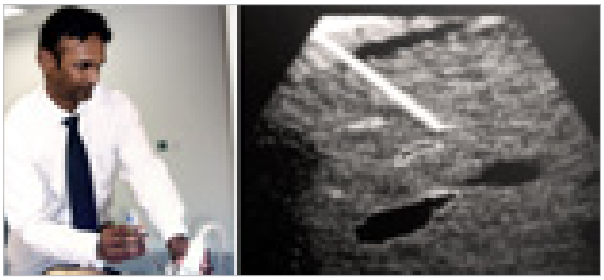
"It is also important to differentiate between simulators (devices) and simulation (environments). The aviation industry uses high-fidelity simulators in training – but what really reassures me, as a passenger, is that simulation training has been used to rehearse crew response to critical situations which might lead to the loss not only of life, but also from the industry perspective, hugely expensive aircraft and future custom. In medicine, the situation is simpler; we need to ensure that the focus of simulation and technology-enhanced learning is high-quality service and patient care. This, I believe, is where the real potential for improving patient safety lies.

"Simulators may also be used to improve curriculum delivery and patient safety" – David Kessel

The Way Forward

"Event response simulation is valuable in establishing team behaviours and responses to both routine and adverse procedural scenarios, for example, ensuring that every member of the team knows their role in the management of arterial rupture during angioplasty. Individuals would know who was responsible for providing a balloon for immediate balloon tamponade, resuscitation and monitoring, calling for assistance and obtaining a stent-graft of appropriate size.

"The value of being certain that everyone in the team is familiar with their role and responsibility in such an emergency is enormous. Simulated rehearsals can reveal logistical difficulties and improve interdisciplinary relationships. Another possible application is using actors to explore a doctor's ability to explain a procedure and to ensure adequate discussion of alternatives, risks, benefits and likely outcomes.



Augmented reality training for ultrasound-guided liver puncture.

"We must take a broader view than simple rehearsal of procedural techniques. Instead, we should embrace simulation to improve curriculum delivery and to develop key skills of communication, leadership and situational awareness."

by Ciara Madden

The European Board of Interventional Radiology (EBIR)

Dr. Robert Morgan, EBIR
St. George's Hospital
London, UK

An Important Step in Standardising Training

Interventional radiology (IR) as a sub-specialty evolved from traditional diagnostic radiology, and there remains a considerable overlap between the two. As such, interventional radiology training tends to still be viewed as an add-on or optional extra to diagnostic training – however, given the incredible diversity and complexity of IR procedures that now exists, this approach is no longer sustainable.

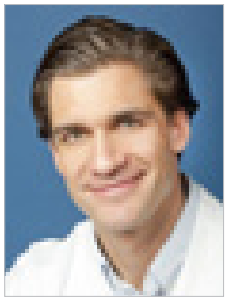
To date, there has been no consensus reached on what training an interventional radiologist should undergo, or how those skills should be assessed. In an effort to counter this, the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) established the European Board of Interventional Radiology (EBIR) – which has been officially endorsed by the European Society of Radiology (ESR) and the Interventional Radiology Division of the European Union of Medical Specialists (UEMS).

"The EBIR examination contributes to the standardisation of training across Europe and will help to improve patient safety" – Robert Morgan

This examination was launched in 2010 and while it remains voluntary, it is hoped that once a critical mass is reached, the qualification will be adopted by the various European accreditation bodies. This will enable patients and doctors of all disciplines to be confident that an interventional radiologist is fully trained and competent, as well as enabling interventional radiologists to have their qualifications recognised throughout Europe, allowing greater cross-border training and co-operation. This exam is a key step in ensuring the very highest standards of patient safety and accountability.

Dr. Robert Morgan, who was one of the driving forces behind the examination, believes it to be an important step forward. "This qualification will allow colleagues and patients to recognise that IR is a distinct specialty, and one which takes its clinical responsibilities seriously. Moreover, the EBIR examination contributes to the standardisation of training across Europe and will help to improve patient safety."

Dr. Florian Wolf (Vienna, Austria) sat the EBIR exam in 2011:



Dr. Florian Wolf, Associate Professor of Radiology, EBIR
Division of Cardiovascular and IR Medical University of Vienna, Austria

"At my department in the Medical University of Vienna, training is a very practical affair. We start under the supervision of a senior staff member, beginning with easier procedures, and working our way up to more complicated cases, all the while taking on greater clinical responsibility."

"This kind of education is highly practical and you learn interventional skills very quickly, but the theoretical aspect of your education is not structured at all and depends on your personal interest and motivation. After some time, you are able to do complicated interventions without any help, but the indications and the contraindications for the different interventions and the management of complications – as well as the theoretical knowledge of IR – are normally not familiar to young interventional radiologists."

"Sitting the EBIR examination motivated me to study the theoretical side of IR. The documents provided online by CIRSE for exam preparation have given me a more complete knowledge of the procedures I perform."

Q: Has the exam helped you in your career?

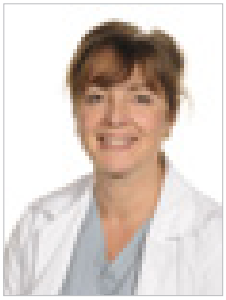
A: "Successfully passing the exam means you can be confident in your abilities as an interventional radiologist. That confidence can improve your communication with your clinical partners, as well as with the patients, and through intense study, you will have attained a ▸

stronger theoretical basis to your daily work. If you plan to work in any other European country, the EBIR certificate will help you to prove that you are a highly experienced and trained interventional radiologist."

"I personally would advise every interventional radiologist to sit the EBIR exam. In addition to improving your career and daily clinical work, the exam will help your patients, by ensuring that they are treated by an excellently educated interventional radiologist according to the most recent international guidelines and standards of practice."

by Ciara Madden

Interventional Radiology Curriculum



Prof. Anna-Maria Belli, EBIR
St. George's Hospital
London, UK

Laying the Foundations of a Thorough Education

If a standardised exam (such as EBIR) is to be put in place, it is also necessary to draw up a set curriculum, which will outline and impart the skills and knowledge needed to be a competent interventional radiologist.

Radiology training at both undergraduate and resident level still has a disproportionate focus on diagnostic radiology. While the imaging techniques are a crucial basis to both fields, undergraduates are often left unaware of their career options in interventional radiology (IR), and residents are often faced with programmes which may vary greatly from institute to institute.

To counter these issues, the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) has formed task forces to draw up IR curricula, at both levels of medical training: the European Curriculum and Syllabus for Interventional Radiology for postgraduates, and the Interventional Radiology Curriculum for Medical Students for undergraduates.

Prof. Belli is leading the CIRSE IR Curriculum Task Force:

Q: Why is it important to develop a set IR curriculum?

A: "It is important to ensure that every trainee is trained to a set standard and assessed before they are accredited as specialists. This is particularly significant when interventional radiologists cross European borders, and a set curriculum offers a means of ensuring quality control and competency. Patients expect that they will be treated by doctors who practice safely and effectively wherever they have been trained. The European Board of Interventional Radiology (EBIR) has already been introduced to demonstrate that an IR has achieved a certain standard of training to ensure harmonisation throughout Europe – now we need to ensure that trainees have access to the education needed to pass that exam."

Q: CIRSE has put great effort into this task – what has been achieved, and when will the curriculum be launched?

A: "The 2008 syllabus has been updated to reflect current practice and incorporate developments and new procedures. A curriculum has been established for the first time, which forms the basis for the EBIR. It is intended that the curriculum and updated syllabus will be published as a combined document and launched ▸

in 2013. At the moment, we are on target to achieve this thanks to the dedication and hard work of members of the Task Force, who are very excited to take this next major step in ensuring high quality training and patient safety within our specialty."

In order to ensure that patients receive the best possible treatment, and to avoid malpractice, it is questionable whether physicians not trained according to these standards be permitted to perform IR procedures in the future. After all, these curricula are focused on standardising training to improve the quality and the safety of IR procedures delivered by well-trained interventional radiologists.

The IR postgraduate curriculum will be launched around the beginning of 2013, and will be updated every five years. It will serve as a blueprint and learning resource for the EBIR exam. An undergraduate curriculum, the Interventional Radiology Curriculum for Medical Students, has already been launched, and has been distributed to all European radiology and IR societies.

by Ciara Madden

For more information, please refer to www.cirse.org

Supporting Interventional Radiologists Across Europe

International exchange is an excellent way to build experience and learn new ways of working. This is especially true in the field of medicine, where many of the same goals and challenges are shared across national borders. The international development of interventional radiology (IR) is facilitated by Foundation Education Grants, whose purpose is to advance training and education in IR. Grants are awarded to successful applicants, especially interventional radiologists at the earlier stages of their career, to cover travel and housing expenses while training or experiencing new procedures at a different European institution.

As well as happy memories, grant recipients take valuable experience with them when they return home. Clearly formulated educational goals are devised at the application stage so that the purpose of the visit and the professional benefits are clear.

For example, grants can be used to learn a new procedure or skills that are needed at the applicant's home institution or to undergo training to which the applicant would not normally have access. This supports the growth of IR skills across Europe and contributes towards a wider availability to patients of IR treatments, delivered by appropriately trained and experienced professionals.

Each year up to 14 grants are awarded to European doctors in two categories: Visiting Scholarship Grants, for a two-week minimum visit; and Fellowship Education Grants for a three-month minimum visit. Other grants are available for doctors from other parts of the world.

CIRSE Foundation Education Grants support interventional radiologists, such as Dr. Fürstner, visiting different European institutions.

Gaining Non-Vascular IR Experience in Strasbourg

Dr. Matthias Fürstner, from Klagenfurt, Austria, was awarded a Fellowship Education Grant in 2011 for a three-month stay at the Department for Non-vascular Interventions at Hôpitaux Universitaires in Strasbourg, France: ▸

Q: What were your prior experiences at your home institution?

A: I work quite a lot in the field of interventional radiology within my residency and I have always been interested in non-vascular procedures. In my home hospital, 'Klinikum Klagenfurt', I performed a lot of biopsies, drainages, nerve root blocks and a few radiofrequency procedures. So I began my trip with some existing practical knowledge.

Grant recipients are part of the team and gain much practical experience.

Prof. Afshin Gangi, EBIR
NHC – Hôpital Civil Strasbourg, France

Q: What opportunities were available to you in Strasbourg?

A: I had the chance to learn and work with a well-organised team in Strasbourg, under the guidance of Prof. Afshin Gangi. The whole team was very talented with a lot of knowledge, humanity and humour. The open MR, CT and Angiosuite which is headed by Prof. Gangi, are used from 8am to 8pm exclusively for non-vascular interventions. Occasionally, a chemoembolisation of the liver in patients with hepatocellular carcinoma (HCC) is also performed.

Every day except Tuesday, an anaesthesiologist is present for all the major non-vascular interventions like vertebroplasty, radiofrequency ablation of different organs and cryotherapy for different kinds of tissue. It is amazing how versatile cement is. Not only for osteoporotic fractures but also in lytic metastases or pathological fractures in weight carrying bone parts. A great deal of my work was with bone and I learnt a lot about pain management, especially in the palliative setting.

Q: How did the team support your learning experience?

A: Colleagues guided me through all the procedures and integrated me into the daily workflow. They gave me all the theoretical information I needed and answered all my questions with patience.

Working as a part of the team felt great. I got the opportunity to discuss how to solve single cases and also took part in very complex procedures like cryotherapy of the prostate. One highlight was the combination of open surgery and CT-guided cryotherapy in a very complex single-kidney tumour, unable to be reached by the percutaneous approach alone.

Q: How would you summarise your visit?

A: The 2011 fellowship grant allowed me three months to get to know new colleagues, who gave me an excellent opportunity to broaden my knowledge of non-vascular IR, and I also made wonderful new friends.

Back home, I have already applied my new knowledge and I am looking forward to performing more vertebroplasty procedures. I thank you all for your kindness and for the great educational training you provided me with.

by Adam McLean

External link: www.cirse.org
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An invitation to our readers

Intervention IQ is your magazine, and we would welcome your views and your news. Readers who wish to comment on any of the issues raised (or who would like to raise any of their own) are most welcome to submit letters to the Editor. Likewise, if you have any promotions, awards, honorary lectures or other tit-bits you'd like to share with the interventional community, please send them to us by post or by email. We look forward to hearing from you!

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