

## Highlights from the 25th Annual General Meeting Pages 14–29

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# Message from the Secretary General

**"Hands" are the main theme in the newsletter message of Michael J Mack, President STS and David Holmes, President of the ACC ("Holding Hands"), which was also a theme in the presidential address of one of the EACTS' founding fathers, Hans Borst ("Hands across the ocean"). The EACTS is holding hands with many associations from cardio-thoracic and cardiovascular societies, including ESCVS, STS, AATS, ASCVS and other medical specialty organizations, including the ESC, on a number of projects and programmes.**

Collaboration offers great opportunities for our specialty. Collaboration offers also the chance to improve care for our patients. Last July the EACTS, together with the ESC and ESCVS, met the President of the European Parliament, Mr Jerzy Buzek in Brussels, to discuss the future of cardiovascular disease in Europe. Holding hands across the ocean with the STS and AATS has led among other things to international guidelines for management of cardio-thoracic disease. Currently a paper on transcatheter valve implantation is in preparation.

Let me highlight another important "Hands" theme: "Many hands make light work!" This year we have celebrated our 25th Anniversary Annual Meeting in Lisbon. Our number of at-

tendees is breaking another record, more than 4,050 cardio-thoracic surgeons and allied health care professionals from around the world gathered to learn more about the latest technologies, techniques and research in the field of cardio-thoracic surgery at the EACTS Annual Meeting in Lisbon. But none of this could have happened without the help of many people. Programme committee members, domain chairs and domain members, EACTS (resident-) members and staff joint hands and forces to develop an outstanding programme and meeting and not to forget a unique and superb 25th Anniversary Party! I would like to take the opportunity to thank you all and especially the cardio-thoracic surgeons of our own "EACTS House Band" who

enlightened our anniversary party with their excellent performance! In this issue of *EACTS News* you will find a special report on the Annual Meeting, featuring the Presidential Address, Award winners and other highlights.

We also have a special report on the EACTS Academy. Roberto Lorusso, Director of the European School for Cardio-Thoracic Surgery, will inform you about the new Academy Programme that we have developed during the past year. Over the decades, the EACTS has striven to continue our support of cutting-edge research and innovation across all of our programmes in order to provide our members with knowledge. Our renowned faculty members continue to inspire participants. We offer a full suite of courses designed to help you benefit from the skills of experienced surgeons.

From 2012 all EACTS courses can take place in our new offices in Windsor. We have a beautiful lecture room that contains the latest audio-visual equipment. The opening of the 'EACTS House' will be next February.

At the turn of the year it is also good to look forward to the future. In



Pieter Kappetein

this issue we have an exclusive interview with the new EACTS President, Ludwig von Segesser, who will outline future perspectives of the EACTS. 25 Years ago, the EACTS began with 12 charter members and a mission to meet the educational needs of the cardio-thoracic surgeon. Today, hosting the largest cardio-thoracic surgery meeting in the world, the EACTS remains steadfastly focused on the needs of cardio-thoracic practitioners and their patients.

Finally, I would like to wish you all a good holiday season and the very best for 2012!

**A Pieter Kappetein**  
Secretary General

## EACTS to establish Quality Improvement Program Task Force

The EACTS is to establish a Quality Improvement Program Task Force, responsible for developing a functioning program to measure the impact that quality of care has on patients.

"It is a professional requirement to provide the best care

possible for our patients," said Professor Domenico Pagano (Consultant, Birmingham, UK), who has been appointed to constitute and chair the Task Force. "Therefore, it is a professional requirement to improve the quality of care. This means we must measure

our outcomes and take part in quality improvement programmes."

He explained that the Task Force will be composed of people who have an experience in quality improvement programs, including patient care programs, clinical data-

bases and patient outcomes initiatives, as well as educational expertise in clinical pathway schemes.

### Expressions of interest

Pagano said that before the initiative got under way, the EACTS would be appealing to EACTS members who have established expertise in quality improvement programs to get involved in the project.

*Continued on page 4*



Domenico Pagano

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EACTS News meets



# Ludwig Karl von Segesser EACTS President

Professor von Segesser has had a long and distinguished career as a cardiothoracic surgeon. In this unique interview, he discusses his early career and influences, his aim and ambitions over the next 12 months as President and the importance of educating new residents in less invasive procedures, image guided procedures and wire skills.

## Why did you decide to pursue a career in medicine?

When I was close to the bacca-laureat, I had very broad interests, from architecture to engineering, science and others, but finally I settled on studying something that seemed to me to be useful, and that would also be beneficial to others, like medicine.

## Why did you enter cardiac surgery?

I was training in general surgery, but when I came close to board certification an opportunity opened in cardio-vascular surgery. It was completely unexpected and unplanned. However, cardio-vascular surgery is very technology and device driven, and thus this became a perfect match to the potential engineer mentioned above. As you know, we use conduits, valves, pumps, filters, oxygenators, pacemakers and so on.

## Who have been your greatest influences and why?

Certainly my father who was a surgeon-urologist and therefore already active in repairing pipes.

## What experience in your training, taught you the most valuable lesson?

Well, I had worked in a centre where the rule for coarctation repair was to use a technique called 'subclavian flap' and this was because the alternative, called 'end-to-end', would result in restenoses. Later I worked in a different center

where I was told, that for coarctation repair I should always use the 'end-to-end' technique, because the 'subclavian flap', would result in restenoses. A good lesson which demonstrates that it is really necessary to travel and to find out what other people do.

## What current areas of research are you involved in?

The hottest area we are working on right now is catheter valves: not only aortic but for other positions as well as how to get there, and even more so how to get out of there. Wire skills are essential for that but new devices are also under way. This reaches from covered stent grafts for endovascular aneurysm repair

in lesser known regions to self-expanding cannulas used in small access surgery and more recently in routine open heart surgery as well. As mentioned above, grafts, stents, valves, pumps, man-machine interfaces, and modification of blood exposed surfaces are at the core of our research.

## As President of the EACTS, what do you hope to achieve over the next 12 months?

Specialisation has been a long lasting trend in medicine and EACTS has responded to that by its recent reorganization in specific Domains, namely the Thoracic Disease Domain, the Acquired Cardiac Disease Domain, the Congenital Heart Disease Domain, and the Vascular Disease Domain. Although there are good reasons to pursue this route and to push for hyperspecialisation in order to get larger volumes, economies of scale and hopefully also improved quality, there are also possible benefits by working more closely together. There are a number of

reasons for the latter approach. First of all the heart, the lungs and the other organs are all connected by vessels. Cardiac output is only possible to the extent that the vessels are willing to accept the blood that flows in first and back afterwards – or is it the other way round? Furthermore, we all rely on the same surgical techniques as well as the same technology. As mentioned earlier, I have a rather broad view of things. To me, a composite-graft repair of the aortic root, an implantation of a stentless valve or a

**“The biggest challenge in the near future will be the education of our new residents in less invasive procedures, image guided procedures, and wire skills”**

homograft as a mini-root, a Ross procedure or an arterial switch are all the same, though with variable sizes. Likewise, stents are everywhere and it does not make much

sense to re-invent the wheel for each domain even if some domain may require specific designs, there is none that can do without our “wheels” stents at all.

Hence, for my coming 12 months of presidency, I feel that some sort of consolidation of the progress made in the different domains is necessary, in order to develop further from a higher level. There are a number of issues the domains can solve together. This includes common EACTS meetings between domains, common sessions at the annual EACTS meeting, common EACTS courses, common EACTS databases, common EACTS studies, and of course the new common EACTS House which will be inaugurated soon.

## What are the biggest challenges facing cardiothoracic surgery over the next decade?

In my view, the biggest challenge in the near future will be the education of our new residents in less invasive procedures, image guided procedures, and wire skills. Most of the senior surgeons have gone through multiple steps of improvement in surgical techniques and technology. Hence, they know and have also practiced all the intermediate steps culminating in a fully catheter driven procedure. For the newcomers it is different: here is the device a needle, and a wire, and you may or you may not identify the target on the screen. The next case is waiting...

I believe firmly that it is important to foster international collaborations as we can all learn something from each other.

## Away from your professional life, how do you relax?

Away from the clinical activity I relax by problem driven experimental research in silico, in vitro, and in vivo. However, I do have a family, and time with my family is certainly the best way to relax.

## Please feel free to mention anything else about your career, EACTS or cardiac surgery which you think will be of interest to readers.

Finally I wish to further strengthen CTSnet the common platform of the thoracic and cardio-vascular surgeons and allied professionals on the world wide web.

Ludwig Karl von Segesser (centre) accepts the Presidential Chain from Pieter Kappetein and Ottavio Alfieri



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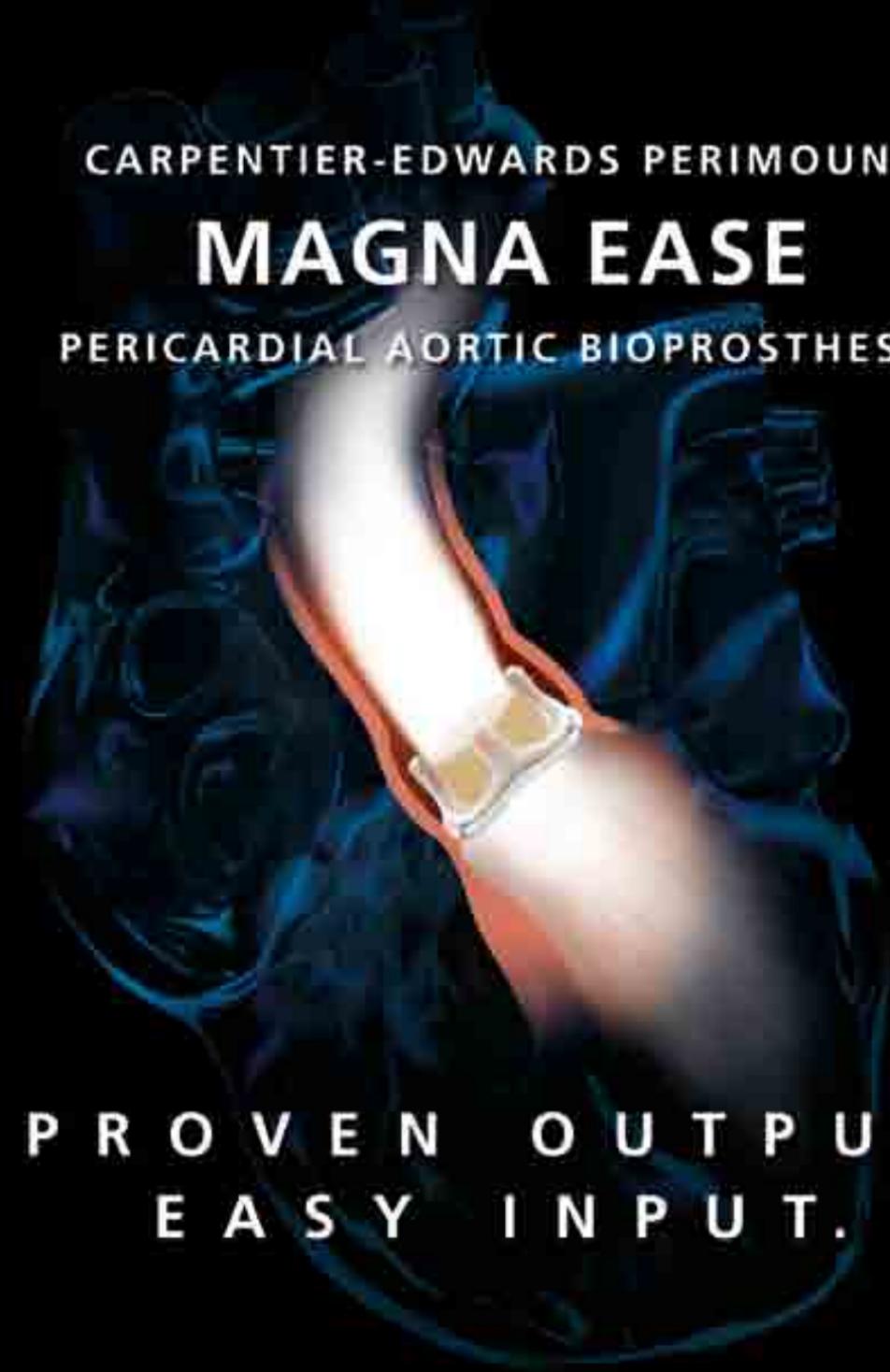
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# EACTS Masterclass

**The EACTS proposes a series of educational innovations for 2012. These innovations become possible through the opening of our EACTS House. The Masterclass concept is one of them.**

In the Masterclass concept, scholars will interface during a whole week with a senior surgeon. The programme of the week will be variable according to the knowledge, skills and interests of the senior, but most importantly these classes will be guided by a strict application of the science of learning.

Some of the core elements will be: strict educational objectives, entry and exit assessments of scholar and teacher, immersion of the senior with the scholar during the whole week, a limited number of 25–30 scholars, “ex cathedra” lectures replaced with extensive discussions and interactions, subjects can vary during the seminar according to the expectations and interests of the scholars, a combination of knowledge and skills, dry/wet simulation labs... maybe even

a surprise guest.

This Masterclass is not in competition with the previous EACTS Academy courses as given in Bergamo or Windsor, on the contrary. One of the prerequisites of registration for such a Masterclass is the previous attendance of at least one of the previous level A/B/C Bergamo or Windsor classes.

The seminars will start on the Monday noon so scholars can depart home the same day and will finalise on Friday noon, allowing scholars a return the same day. The schedules of the day will be defined by the senior surgeon but should vary sufficiently to stimulate the scholar during a whole day. The cost structure will be extremely strict.

Professor Paul Sergeant will be launching the concept of this Masterclass from March 26–30 2012.



The core subject will be coronary surgery with additional focus on aspects of the creation and distribution of knowledge.



A normal day would start with two hours on creation of knowledge (data, data transformation, data completeness, follow-up method-

ologies, data analysis, time-related presentations, propensity scoring, mathematical modelling, scoring systems). Another day could start with aspects of distribution of knowledge (how to write an abstract or a manuscript, how to read or review a manuscript, how to present data).

After a short break the discussions would focus for the next two hours on coronary surgery (interesting angio's, therapeutic challenges and alternatives, natural history, technical aspects, late follow-up, off- versus on-pump, comorbidity, scoring systems and their limitations).

In the afternoon magnification loops (do not forget them!) and low fidelity simulators will guide us into the virtual world of simulation and OSATS. Every scholar will perform tens of anastomoses in different angles and very restricted space during this week. Anastomoses will be discussed in group and scored using these OSATS by the group. This particular Masterclass partners with ETHICON for the daily simulation lab.

Please visit the EACTS website regularly and register at the earliest convenience because the number of places is restricted!

## EACTS to establish Quality Improvement Program Task Force

*Continued from page 1*

There is no limitation to the number of members who can join the Task Force, although it is likely that there may be a core membership who will be working with various sub-committees to approach specific concerns.

One of the initial roles of the task force will be to assess, examine and appraise the current EACTS database. Pagano explained that some of the established databases (such as the SCTS in the UK or the STS in the US), have already achieved several important goals including improving the quality of care.

“Databases such as these have helped to establish the importance of quality outcomes for individuals and institutions, and have also fostered working partnership with government and regulatory agencies. It also facilitates an academic base for informing both commissioning and clinical practice. There are many questions that need answering such as what data should be collected and in what format, as well as examining data governance issues and the transferring of data across Europe.”

In order to achieve a number of

specific tasks, the database may need revising so it can provide up-to-date outcomes for different cardiac procedure throughout Europe, as well as giving access to institutions and surgeons across Europe to their results and allowing them to benchmark themselves against their colleagues and other institutions.

“This is not just another database or exercise in number crunching,” said Pagano. “This will form the basis of improving the outcomes of patients throughout Europe.”

According to Pagano, providing quality in a modern health care system is not limited to providing a single service. A functioning quality im-

“For example, a database that is currently providing valuable outcomes data should be, where possible, integrated into a complete path-

way of clinical care provided to patients. An operation is only one aspect of the clinical care a patient receives, so by looking at all aspects of care we might understand the mechanisms for improvement. Our

role as a provider of care should be central to improving the quality of care we are delivering to our patients.”

“This is not just another database or exercise in number crunching. This will form the basis of improving the outcomes of patients throughout Europe.”

provement programme will drive funding, commissioning and access to services, training, as well as improvements in patient outcomes.

The Task Force is currently welcoming expressions of interest from EACTS members. Interested parties should send a cover letter to EACTS Secretary General Pieter Kappetein and Domenico Pagano, at the address below, along with a three-page CV outlining relevant experience: EACTS Secretary General, AP Kappetein, Erasmus MC, PO Box 2040, 3000 CA Rotterdam, The Netherlands. Email: [secretary.general@eacts.co.uk](mailto:secretary.general@eacts.co.uk)

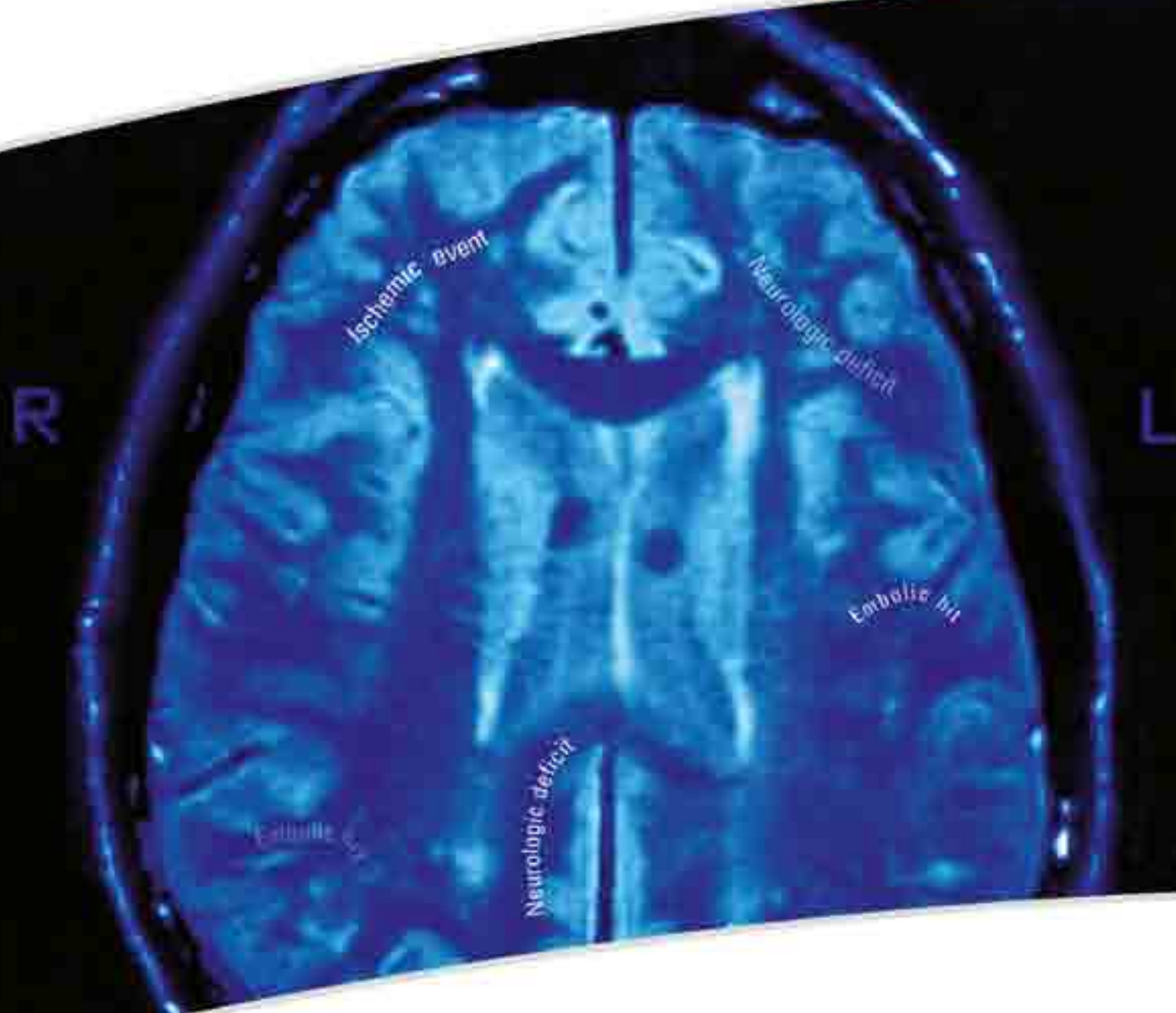
## EACTS move to new headquarters - EACTS House

In November 2011, the Association moved to new offices in Windsor, ‘EACTS House’. The new headquarters will not only be home to the EACTS Executive Secretariat, but the new first class facilities will allow the Association to host many of the courses, meeting and workshops it organises each year.



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# The new EACTS Academy Programme

Since the formation of the EACTS in 1986, one of its founding principles has been "to advance education in the field of cardiovascular and thoracic surgery." From the Annual Meeting to the scientific courses the Association organises, it continues to uphold its commitment to furthering education for its members and the wider cardiovascular and thoracic specialty. In this issue, EACTS News talks with Academy Chair, Roberto Lorusso, about the Association's commitment to advancing education...

"For me, the role the EACTS can play in facilitating education has always been very important," explained Lorusso. "One of my first experiences of the Association was when I was awarded the Young Investigator prize in 1995 and ever since I have always tried to become involved in the educational process in the EACTS."

He then described how he has seen a transformation in the number and quality of the courses the Association has offered over the years. "The creation of the School in Bergamo was largely due to the imagination and hard work of Professor Lucio Parenzan and Professor Torkel Aberg. They realised that young surgeons-in-training were not always provided with the background knowledge necessary to become surgeons. As a result, the Association created the European School for Cardio-Thoracic Surgery (ESCTS), greatly supported in its initial development also by Hans Borst, Ottavio Alfieri, Hans Huysmans, Pieter Kappetein, Walter Klepetko, Erino Rendina, Jaroslav Stark and Joachim Schafers."

Since the creation of the School, the Association's commitment to education has evolved from providing opportunities for surgeons-in-training to organising meetings and courses for all cardiovascular and thoracic surgeons from endovascular courses concerning a type B dissection to thoracic robotic surgery. "The transformation from when I began my tenure as Chair of the European School in 2008 to the EACTS Academy is remarkable. It has only been three years, but the volume and quality of the courses now on offer is excellent and the professionalism of the Executive that organises and supports the European School and Academy is outstanding."

## EACTS House

"One of the most important developments to happen this year is the move to new offices in

Windsor. I cannot underline how important the move will be, not only for the Association but also for the attendees of courses and meetings," he commented. "Moving to 'EACTS House' will not only mean the Executive and the EACTS Courses will be at the same location, which of course makes things much similar from the logistics and organisational point of view. Cru-

Crucially, the new offices allow the Association to provide courses and meetings with first-class facilities and resources to continue the actions directed towards the delivery of high-standard education."

cially, the new offices allow the Association to provide courses and meetings with first-class facilities and resources to continue the actions directed towards the delivery of high-standard education."

He then explained how the change in the number and type of courses has led to the creation of the Academy (in conjunction with the School), to reflect the need of all surgeons, not just surgeons-in-training, to attend courses to improve and further their scientific knowledge. As a result, there are now three types of courses the EACTS makes available to surgeons:

## Foundation Courses

Foundation courses aim to provide comprehensive overviews of subjects. Surgeons-in-training have a unique opportunity to discuss clinical challenges with experienced faculty and peers from around the world. The curriculum formerly delivered at the European School for Cardio-Thoracic Surgery will now be presented as the Foundation courses. In addition, a series of Advanced Modules will be available.

## Specialist Courses – Achieve expertise in specific areas

World class experts in their fields provide courses with practical, hands-on experience.

## Professional Development Courses

Professional Development is the springboard to the next level of performance and opens the doors to new thinking, inspired and facilitated by some of the world's best faculty members. It will challenge assumptions and enhance leadership skills, delivering a broader vision to both you and your organisation.

## International activities

In addition to the courses in Windsor, the Association will continue its international activities and in February 2012, it will hold the first joint workshop with the Indian Association of Cardiovascular and Thoracic Surgeons.

## MasterClass

Another format of learning that the EACTS will offer this year is the MasterClass, which has been developed by Professor Paul Sergeant. The MasterClass concept allows

scholars to have face-to-face interaction with a senior surgeon. The programme is based upon the application of the science of learning (conceptual, virtual and operational) and analysis (structure of data, follow-up methodologies, long-term outcomes etc). See page 4 for more details.

Lorusso also explained how all the courses are designed with the educational needs of the surgeon in mind and with a specific emphasis on their level of expertise and require-

"As an institution, our goal is to promote a learning environment that helps to transform cardio-thoracic surgery through education. The EACTS Academy can help surgeons achieve their educational goals and ultimately, transform the lives of our patients."

ments. "The Foundation courses are designed so surgeons in training or surgeons who wish to refresh their knowledge can attend. In contrast, the Specialist Courses offer a broad multidisciplinary overview of disease man-



Roberto Lorusso

agement, facilitate discussion of the biological background and the clinical implications of treatments, and assess the future implications on multimodality strategy. The master-Class will provide an innovative based format with particular attention at the teacher-scholar transfer of knowledge and skill. Finally, the Professional Development Course has been designed to provide attendees with a comprehensive understanding of their strengths and how to apply them to increase the impact of their leadership skills, with a focus on developing skills such as quality management and team building in order to enhance the new 'teamwork approach' that is driving the latest developments in the field. We do also hope to receive feedback and suggestions from the attendees of the EACTS Academy initiatives and from the EACTS members to

allow us to further improve the future educational and training EACTS Courses on offer."

He concluded by stating that the creation of the School and Academy has allowed the EACTS to stay true to its founding philosophy of advancing education in the field of cardiovascular and thoracic surgery. "As an institution, our goal is to promote a

learning environment that helps to transform cardio-thoracic surgery through education. The EACTS Academy can help surgeons achieve their educational goals and ultimately, transform the lives of our patients."

## EACTS Visiting Fellowships

EACTS Council is offering a limited number of Visiting Fellowships, to enable surgeons at an advanced training stage in cardio-thoracic surgery to visit some leading institution(s) of their choice in Europe. The value of the Fellowship is €3,000. Deadlines for application are 1 May 2012 and 1 September 2012. For more information please visit our website: [www.eacts.org](http://www.eacts.org)



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# Introducing the new Chairs of the Adult Ca

The three-year tenure of the Chairs of three Domains of the EACTS came to an end in October 2011 and as a result three new Chairs were appointed for the Adult Cardiac, Congenital and Vascular Domains (Paul Van Schil will remain the Chair of the Thoracic Domain for one more year). In this article are pleased to introduce John Pepper (Adult Cardiac), William Brawn (Congenital) and Martin Czerny (Vascular).

## The Adult Cardiac Domain

The EACTS' Adult Cardiac Domain are planning to offer several foundation and specialist Academy Courses, beginning in February 2012.

The Foundation Courses will be four and a half days long and will cover the basics of cardio-thoracic surgery such as myocardial protection, cardiopulmonary bypass, the principles of valve repair and coronary artery surgery. The Specialist Courses will examine aortic and mitral valve repair, covering the operation, assessment and outcome analysis.

The EACTS will also be hosting a two day practical session entitled 'Teaching the Teacher', with discussions and simulation scenarios based in the workplace replacing presentations and lectures from a theatre.

"The overall strands of the Academy Courses are to create a Quality Improvement Program. Part of the current challenge in adult cardiac surgery is operating on older and sicker patients, and we have to reduce the effect of the surgical trauma, whilst at the same time ensuring this does not sacrifice the ef-

fectiveness of surgery," explained Professor John Pepper (Royal Brompton Hospital, London), Chair of the Adult Cardiac Domain.

"This means we will perform more minimally-invasive surgeries, such as small thoracotomies for mitrals and small sternotomies for aortics, and we have to sharpen our operative skills. In the elderly, we are particularly concentrating on preventing stroke, kidney failure and avoiding changes in cognitive function. So improving the quality of patient care by improving the quality of the procedure will be a central theme of the Academy Courses."

The EACTS 2011 Annual Meeting in Lisbon was Pepper's first meeting as Chair of the Adult Cardiac Domain. He expressed his delight at the success of the programme at this year's Lisbon meeting, particularly the focus sessions and the 'Professional Challenges' session.

Pepper explained how the focus sessions included a video demonstration, followed by a keynote lecture and concluded with several presentations, allowing delegates to leave the sessions with a greater un-

derstanding of how to solve a particular problem.

In the 'Professional Challenges', attendees were shown specific problematic cases, particularly complication cases. The design of these sessions facilitated interaction, discussion and occasional confrontation on controversial topics.

"Another innovative part of the programme was an emphasis on the 'heart team' approach, used in the SYNTAX Trial," said Pepper. "We arranged the room as a parliamentary chamber and this arrangement aided the debating process. I think there was much more interaction and audience participation than in previous years and we hope to build on this in Barcelona in 2012."

Pepper hopes Barcelona would offer more opportunities for knowledge sharing between the four EACTS domains such as joint sessions on aortic root and aortic infection between the Adult Cardiac and Vascular Domains.

"One comment from Lisbon was the frustration of some surgeons that they were unable to attend the vascular sessions on the aorta. Cur-



John Pepper

rently there is much debate surrounding endovascular stenting, open repair and hybrid repair, and whether the specialists can work together," he explained.

"We want to illustrate to all delegates what the issues are and the way things are moving. What can the endovascular specialists do better and what can the surgeons do better? By working together can they achieve more than the sum of the parts, as demonstrated by the 'Heart Team' approach."

The Lisbon meeting also hosted a 'Grantsmanship' session that provided insight into methods of obtaining funding within the context of an academic career. Pepper explained that next year there will be a specific session on presenting research papers at meetings, in which

a consultant will give an error-filled mock presentation, and a second presenter will highlight the mistakes and offer remedies.

"We believe this will be quite instructive, especially for those delegates who do not speak English as their first language," Pepper said. "We have more and more non-Europeans attending the meeting and we welcome and embrace their considerable input into the EACTS meeting and we want to encourage international visitors from all over the world."

Expanding on this point, he confirmed that following on from the success of the EACTS session at the Saudi Heart Association in 2011, the EACTS hopes to host a joint session at the 2012 Indian Society for Cardio-thoracic Surgery meeting, which along with several other proposed international activities.

Pepper also paid tribute to Jose Pomar, his predecessor as Chair of the Adult Cardiac Domain. "He is a very approachable person who has done a fantastic job in creating the Adult Cardiac Domain. On behalf of everyone at the EACTS I thank him for the outstanding contribution he has made not only to our Domain, but also to the Association over the last few years."

## The Congenital Domain

William Brawn (Birmingham Children's Hospital, UK) has been a member of the Congenital Domain since it has been founded in 2008 and the Lisbon meeting was his first meeting as Chair of the Domain on the Council.

He began the interview by stating that one of his main tasks as Chair of the Domain coincides with the Association's move to Windsor. Brawn explained that previously, the EACTS hosted the Bergamo Course where there was a general and a complex surgical course over three different sessions. However, the new course structure will allow for two foundations weeks including general and surgical where physiological and anatomic aspects will be covered.

"For surgeons in training we will set aside a third week in the autumn for specialisation in

congenital heart disease. Crucially, the new offices in Windsor will provide the Association with outstanding facilities and this is a very significant development. Everything in terms of teaching and administration will be based in one centre and I cannot underestimate the importance of the move," said Brawn.

One of the key roles and responsibilities of the Chair is to prepare the programme for the Annual Meeting, and Brawn is keen to build on the success of the Lisbon meeting. "One important development that we intend to follow is the incorporation of our cardiology colleagues into these programmes. In our everyday clinical practice we work very much together with our cardiologists and so it makes sense to continue that close working relationship and incorporate them into



William Brawn

the teaching and education sessions at the Association's annual meeting."

He also expressed a hope that overtime this may include other specialities such as intensivists, perfusionists and anaesthesiologists. "I hope we can also incorporate more basic science, so cardiopulmonary bypass, cardioplegia, cardiac physiology and pre-conditioning will be included, as these are the aspects that underpin all of the clinical work we do."

Brawn ended the interview by thanking Juan Comes for the excellent work he has achieved for the Congenital Domain over the last three years. "I would like to pay tribute to my predecessor, Juan Comes, who has managed to incorporate our North American colleagues and cardiologists in a very productive and successful manner, and he should be congratulated for his tremendous work."

### Members views

If you would like to comment on any of the aspects concerning training and education, express your opinion regarding the outcomes from the SYNTAX trial or discuss the ESC/EACTS guidelines, EACTS News would be delighted to publish your views.

Please send your comments to:  
[communications@e-dendrite.com](mailto:communications@e-dendrite.com).  
We will publish as many of your comments as possible.

# rdiac, Congenital and Vascular Domains...

## Vascular Domain

**M**artin Czerny (Inselspital, University Hospital Berne, Switzerland) has been a member of the Vascular Domain since it has been founded in 2008 and is under no illusions of his task that lies ahead as its Chair. Indeed, he was quick to pay tribute to his predecessor, Martin Grabenwoger.

"He did a wonderful job in setting up an enthusiastic group of people working in the field of aortic medicine where each individual had, besides a broad clinical and scientific background, a special asset to deepen the identity of the group and to add knowledge to the field," he said. "Martin attracted other specialists to work with us and was able to convert the potential of the group into hard facts such as the position paper on endovascular therapy, a common effort of EACTS and European Society of Cardiology which will be published later this year in the *EJCTS* and the *European Heart Journal*."

The key roles and responsibilities of the Chair and the domain are the accomplishment of the yearly program for the Annual Meeting and setting-up the yearly Vascular Domain courses in March with a focus on educating younger colleagues. He believes that one of the main responsibilities of the Domain is to stand as a referral for any kind of questions regarding aortic medicine. "We will expand our

educational mission and we will do our best to keep the yearly program as attractive as possible with the intent to inspire many younger surgeons to develop their skills in this field."

Another major focus will be to attract cardio-thoracic and cardio-vascular surgeons to the rapidly evolving field of aortic medicine and the common development of conceptual approaches and their clinical implementation, Czerny explained. "This will also involve establishing guidelines and position papers regarding the use of open, combined and endovascular procedures, with other specialities working in the aortic field such as interventional radiologists, pure vascular surgeons, cardiologists, angiologists as well as anesthesiologists."

### Vascular Courses

There will be the yearly Vascular Domain Course in Windsor between 21-23 March 2012 that will include endovascular simulators throughout the entire course. Czerny stated that this was a major advance as it offers a unique training possibility for the attendants. Furthermore, all attendants will be invited to present cases from their units not only post-operatively, but also preoperatively, open and endovascular. "The aim is to have a fruitful discussion between participants and faculty



Martin Czerny

in order to have a unique variety of perceptions," he added.

### EACTS Annual Meeting

The Vascular Domain sessions at this year's meeting were very popular and the Committee received broad positive feedback regarding the program especially with regard to the

video sessions. "The concept of starting a session with an invited lecture addressing the topic was a success. In addition, picking special issues such as type A or type B aortic dissections and going into detail of the individual disease had an extremely positive connotation," Czerny said. Over 100 abstracts with an aortic focus were submitted from the Far East which Czerny claims underlines the attractiveness of EACTS for this part of the world and supports the progressive and open attitude of the Association.

Next year, the Annual Meeting will again offer the Hans Borst Award, intended to stimulate advanced clinical or experimental research in this field by young investigators, as documented by an outstanding presentation during the Annual Meetings of the EACTS.

### EuRAADA

In addition, the Vascular Domain will also begin to collect data via the European Registry on Aortic Disease (EuRAADA). European centres will be invited to share their data on aortic disease with the payoff of the unique opportunity to answer scientific questions by reverting on the entire dataset.

"The Vascular Domain acts as a contact partner for everybody who wants to learn about aortic disease or who has specific clinical and scientific questions," said Czerny. "And we would welcome anybody who wants to get in touch with the domain and who wants to work with us on specific projects."

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## THE RESIDENTS' PAGES

# Introducing the new Chair of the STMP: Matthias Siepe

**The Surgical Training and Manpower (STMP) Committee, which was established to represent the views and interests of European cardio-thoracic residents and identify issues in training and facilitate education, recently appointed a new Chair of the Committee, Dr Matthias Siepe (University of Freiburg, Germany). EACTS News spoke with the Dr Siepe about the important role the Committee has within the Association and the exciting new projects EACTS Residents can look forward to in the coming year...**

One of the main activities the Committee is currently examining is to try and establish consensus to create a pan-European curriculum. "We are very aware of the fact that young surgeons travel a lot in Europe, whereas twenty years ago a young German cardiac surgeon would have practised for his entire career in Germany. Now, there are lots of fellowships and travelling opportunities between hospitals and institutions throughout Europe and this is a positive step that will benefit the young surgeon. However, the education and accreditation systems throughout Europe are so different."

According to Siepe, the idea is that the STMP will call for a unified system or at least a "core

curriculum or minimum standards" for European cardio-thoracic surgeons. "We are currently in contact with the national societies, but first we will publish a paper outlining the differences in education be-

"Therefore, any proposed pan-European curriculum will have to take many different views and aspects into account..."

tween countries and outlining any other problems or issues that may arise," said Siepe. "We are on our way to identifying the different ways of training and manpower planning in different countries. Then we will look at the similarities and try and locate common denominators

between countries to take us on the road to proposing a pan-European curriculum."

He is under no illusion that creating such a curriculum will take years, because each country is unique and has its own specific training needs and manpower requirements. Furthermore, each national society has developed its own curriculum over many years. "These curriculums have evolved to ensure a core skill set is taught, as well as maintain the highest standards in cardio-thoracic surgical care."

And it is not just the Societies that will have to develop and endorse a pan-European curriculum, as there are many training and educational organisations within these coun-

tries who specialise in the certification and accreditation of cardio-thoracic surgeons. "Therefore, any proposed pan-European curriculum will have to take many different views and aspects into account. It is impossible to take the Dutch or British system and impose it on another

country. However, we can look at what works well in a certain country and how can we adapt it to suit a young cardiac surgeon practising in Europe in the 21st century."

"As an organisation, of course our influence is minimal. However, we can raise our voice, express our concerns and hopefully help to develop dialogue and increase communication and co-operation between all the people and organisations involved," said Siepe.

## New developments in 2011

One of the first acts he undertook as Chair of the STMP was to create working groups for certain tasks. These working groups allow the committee to become more efficient and effective in its work. One such task is the 'Master-class' project developed by Professor Paul Sergeant, a course in which scholars interact for a whole week with a senior surgeon guided by a strict application of the science of learning (see



Matthias Siepe has been a member of the STMP since 2006, a representative on the EACTS Council for two years, as well as a Representative on the Congenital Domain for three years

4 for more details).

"EACTS as an organisation offers an array of possibilities for the young cardiac surgeon. There is not only the education and scientific opportunities available, but also course, fellowships, awards and travel grants," said Siepe. "And 2012 will be a busy year as we build on the successes of 2011."

■ The STMP presented the inaugural Leonardo Di Vinci Award for the best trainer at this year's meeting (see page 17). If you would like to nominate your trainer, please visit the EACTS website ([www.eacts.org](http://www.eacts.org)) for further details.

■ The STMP organised several events specifically for residents at the meeting including the Resident's Meeting and for the first

■ The STMP is also organising a special three day minimally invasive techniques course, in Nieuwegein, The Netherlands, in February 2012 (see page 30 for further details).

Another new development is the creation a Facebook page called the 'International Network of Young Cardiothoracic Surgeons', which is seeking to improve the communication and interaction among cardiothoracic surgeons. To highlight the benefits the Facebook page brings, Siepe cited the example of a case he placed on the page late one night. "The reaction was greater than the any previously published case report I have published and I believe the page not only offers an educational benefits but also expands

member's cardiothoracic network." The page was created by Drs Rafa Sádaba, Hiroyuki Tsukui, Carlos Mery, Joel Dunning, Tom C Nguyen, Patrick Myers and Matthias Siepe. If you are interested in joining, please visit: [www.facebook.com/iNYCTS](http://www.facebook.com/iNYCTS)

"The STMP represents Residents and one of the key tasks is to stimulate trainers to become better trainers" said Siepe. "Hopefully by initiating the Leonardo Di Vinci Award we can encourage both trainees and trainers to embrace the spirit of training and education."

"We can raise our voice, express our concerns and hopefully help to develop dialogue and increase communication and cooperation between all the people and organisations involved."

time a Resident's Luncheon (see page 26)

■ The inaugural EACTS 2011 ETHICON Cardiovascular simulation award was also presented at this year's meeting. The aim of the award was to integrate simulation in surgical education (see page 26).



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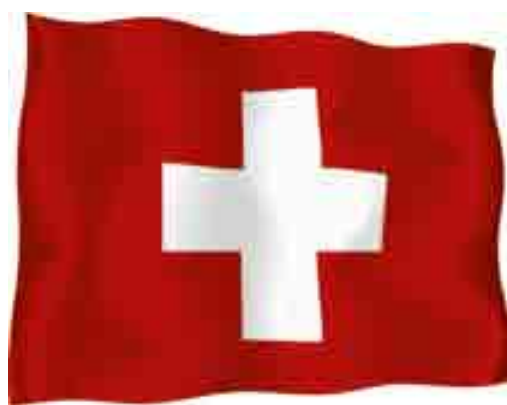
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## THE RESIDENTS' PAGES



## A European experience of an American Fellowship

In this issue, *EACTS News* is delighted to feature an interview with Patrick Myers, a member of the EACTS Congenital Heart Disease Domain and Surgical Training and Manpower Committees, in which he shares his experience of his Fellowship in the United States.



Patrick Myers graduated from Geneva University Medical School in 2003 and then undertook his General Surgery Residency at Geneva University Hospital (2003-06) before starting his Cardiovascular Surgery Residency (2006-2009) in the same institution, under the tutelage of Professor Afksendiyos Kalangos.

"From the start of my training I felt that I needed exposure to a very high volume cardiac surgery unit to complete my training," explained Myers, "I wanted to experience the most complex cardiac cases on a day-to-day basis". As a result and encouraged by his mentor, he began researching numerous Fellowship programs (aided by CTSnet) in the US that could offer him a high volume of challenging, mixed cases.

Once he had decided which fellowship programs and institutions best suited his requirements he applied directly to the Chairman of the Department to study Adult Cardiac Surgery for a year at Brigham & Women's Hospital & Harvard as a Senior Clinical Fellow (2009-2010). Myers also applied to be a Clinical Fellow for two years at the Children's Hospital Boston & Harvard Medical School (2010-2011).

"I was interviewed by the Chairman and the Director of the Fellowship programme at the Brigham, I visited the ICU and talked to a fellow who was there at the time. I was also interviewed by the Chairman at the Children's Hospital and

just before they were due to make their decision on who their fellows would be, I had a presentation at the Society for Thoracic Surgery meeting in San Francisco. Many of the faculty were present and joined in the active discussion following my presentation, so I guess that was my 'live' interview."

### Fellowship

He began his Fellowship at Brigham in the academic year 2009/10 and soon realised a significant difference in the training philosophy inspired by Norman Shumway, the self-proclaimed 'best first assistant in the world'. Myers explained how the former Chairman at the Brigham, Dr Lawrence Cohen (a student of Dr Shumway), established a programme that facilitates a hands-on approach to training allowing operative experience. "It is assumed the Fellow will do the case as the operating surgeon. The attending surgeon is present, but the fellow is allowed to perform the most complex cases such as valve-sparing root replacements. I don't



Patrick Myers

think many other programmes would allow their fellows to undertake such cases."

Interestingly, Myers explained that the approach to training does not depend on the country, but more on the training philosophy of the program and what the program has to offer. "In Switzerland I was allowed to train and progress very quickly and my mentor, Professor Kalangos, allowed me to learn and do a lot very early, and I am very grateful for that. On the other hand, in the US, although the fellow is allowed to do more in the OR, there is perhaps less freedom than I have experienced in Europe, as a US attending surgeon is responsible for everything that happens to their patient and so has to supervise much more."

Currently, Myers is focusing his research on congenital valve repair and left ventricle in borderline hypoplasia at the Children's Hospital in Boston. "Every day in Boston amazes me. There are few places in

the word that we see 30 plus cases in a cardiac ICU and six or more might be congenital corrected transpositions, Ebstein's anomaly, heterotaxy or several other extremely rare conditions. Elsewhere, the volume of such congenital malformations would be extremely rare, but in Boston it is routine and that is the most interesting part of my fellowship."

He also acknowledged that the clinical database at Boston is a huge advantage for clinical research, as it is accessible to all the trainees, which makes it very easy to mine the database and perform research.

### Lessons

Myers claims to have learned three valuable lessons from his time in the US. The first is how important it is to

from Dr John Mayer (a senior attending at Boston), who told him to ask three questions when a patient is not doing well, 'What's wrong with my operation, what's wrong with my operation, what's wrong with my operation?' "In other words, always question what you have done and what could be going wrong from that." The final lesson from Dr Cohen who always demands the best from his trainees. Myers hopes to do the same with his trainees when he reaches that stage in his career.

"I would recommend the fellowship to other trainees without hesitation. I would advise them to thoroughly research the training programme, talk to current fellows and to make sure that what the current programme has to offer, is what you currently need in your training."

Since starting at the Children's Hospital in July 2010 Myers has advanced in the ranks and although he is still a clinical fellow, he now has a faculty appointment at Harvard Medical School.

"I would like to thank Professor Kalangos in Switzerland for giving me the opportunity to train and develop in this specialty. I am also grateful to Dr del Nido (Chairman at the Children's Hospital) for every day amazing me with his unequalled intellect and making the most complex situations seem so simple to his great mind."

"I would recommend the Fellowship to other trainees without hesitation. I would advise them to thoroughly research the training programme, talk to current fellows and to make sure that what the current programme has to offer, is what you currently need in your training."

understand the physiology, hemodynamics and the spatial relationships in complex cardiac malformations. "Doing the operation is not the most important thing, it is understanding what the right thing to do is." The second lesson he learnt

to train and develop in this specialty. I am also grateful to Dr del Nido (Chairman at the Children's Hospital) for every day amazing me with his unequalled intellect and making the most complex situations seem so simple to his great mind."

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## Visit the EACTS website to keep up-to-date with all the latest news for EACTS Residents, including:

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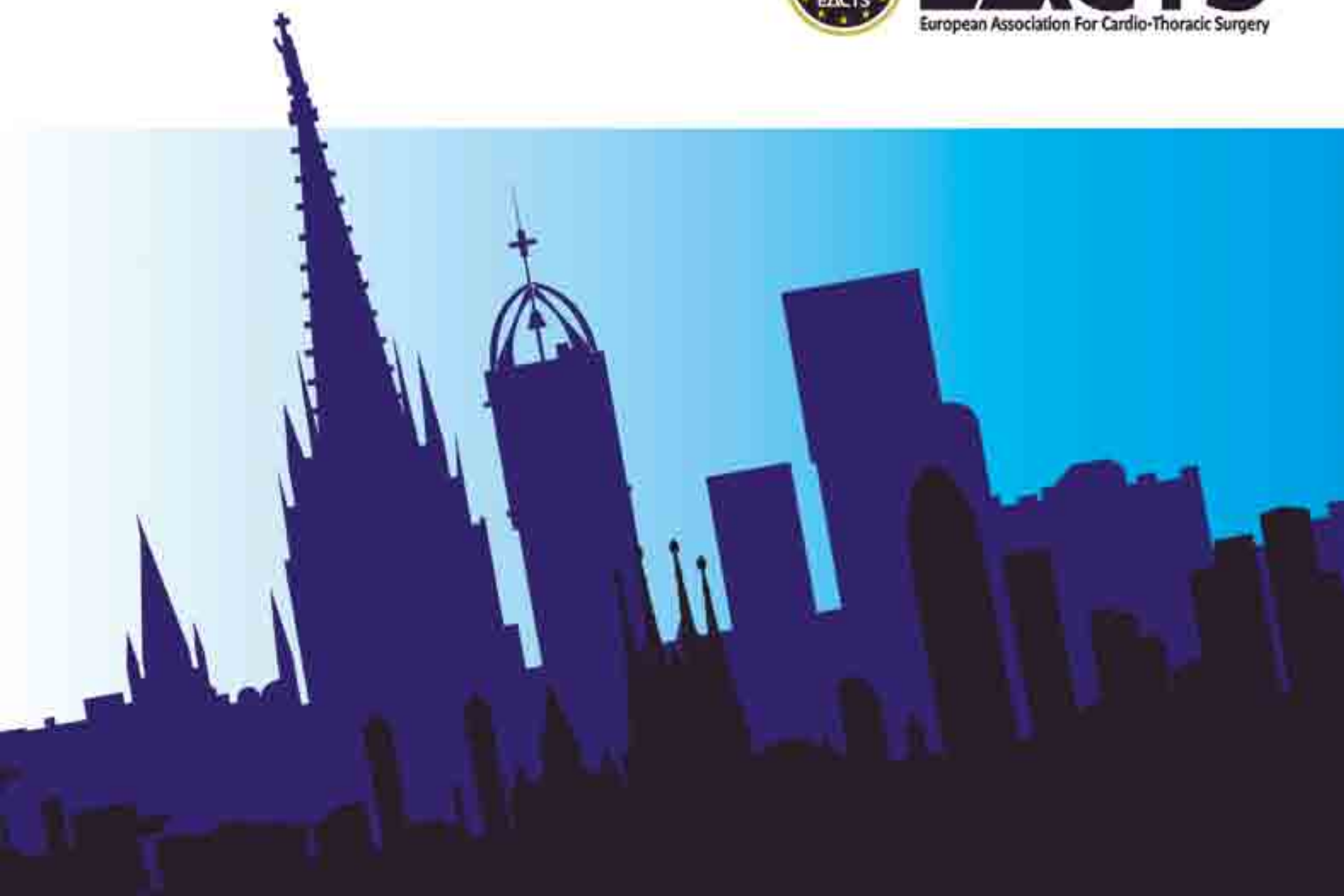
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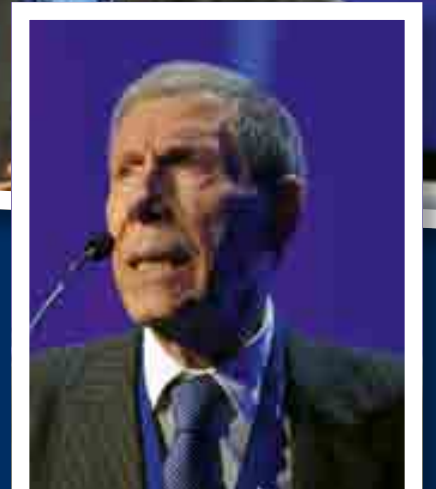
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Raising Standards through Education and Training





This year's EACTS Annual Meeting was held in Lisbon, Portugal from 1-5 October 2011. The five days of the meeting included the Techno-College (attended by over 1,500 delegates), the Post Graduate Courses (attended by over 2,200 delegates), as well as the Scientific Sessions. Overall the meeting was attended by over 4,000 physicians, along with nurses, allied health professionals, students and exhibitors. Here are some selected highlights from the meeting.

# The beauty of the differences

Entitled 'The beauty of the differences', this year's Presidential Address was inspired by a picture of Octavio Alfieri's daughter playing with children of different races. Looking at the picture, one mother commented: 'The beauty of the differences'. Ever since, this spontaneous comment has remained impressed in Alfieri's mind.

"What does it mean? It means appreciation, respect, acceptance, understanding, tolerance for different opinions, attitudes, cultures and backgrounds. It means open mindedness, and therefore potential for growth", he explained.

Alfieri then discussed how this concept is allied to the education and training of cardio-thoracic surgeons – not only in the great value of a formal, complete, structured training programmes in a well-established institution, but also in the importance of exposure to different constituencies.

Alfieri said he has always been looking for the opportunity to learn from different teachers, gain different mentors, and work in different countries, environments and health-care systems. From Bergamo (under Lucio Parenzan), and Buffalo (under Dr Subramanian) to Alabama (John Kirklin) and Nieuwegein, he explained how he took advantage of all the diversities in his education.



"I think that you all agree that education and training should continue throughout our entire professional life and not be confined within a temporary frame," said Alfieri. "To travel around the world and find out what other people are doing differently, and why, is a very effective method to constantly learn and grow."

## Genome

He then outlined how the completion of the human genome has revolutionised perspectives to diagnose, treat and prevent a number of diseases. Alfieri explained that all patients are different and behave differently even if they have the same disease, and that the genome of any given individual is unique (with the exception of identical twins).

Accordingly, when patients have the same disease, it can often be associated with different symptoms, responses to treatment and outcomes. He therefore urged the audience to broaden the objectives of their investigations, in line with a better comprehension of the individual differences.

"For instance, to study the effect of a medical or surgical treatment in a population affected by a certain disease, it is important to document a reduction of adverse events during follow-up (in this example from 30% to 15% after a certain time)," he said. "But it is equally or perhaps more relevant to understand why 70% of the patients do not have adverse events without treatment and why 15% of the patients still have adverse events in spite of the treatment. If

we understand that, the treatment can be avoided in 85% of the population!"

He said that the response to individual differences is patient-centred care, carried out in a multidisciplinary environment and should be mandatory for a tailored patient management. For many diseases treated by cardiothoracic surgeons the spectrum of therapeutic options has increased due to advances in technology, and the response to the individual differences can only be improved by the wider choice of possible solutions.

"Not only patients are different and cardio-thoracic surgeons are no exception. I am firmly convinced that individual differences have to be taken into account, and a sort of 'genomic' leadership has to be exerted. In the leadership repertoire, there are many styles which can be effectively applied to motivate, guide, inspire, persuade people, and to create resonance and emotional involvement in a group" concluded Alfieri.

The address finished with three short speeches by Nicolo Piazza (via video), Joerg Seeburger and Francesco Maisano, who emphasised the importance of a varied education, increased research and multidisciplinary cooperation.



## EACTS Techno College Innovation Award 2011

The 2011 EACTS Techno College Innovation Award was won by Maquet Cardiopulmonary for CARDIOHELP, a groundbreaking portable heart-lung support system.

The device is the world's smallest portable heart-lung support system, providing mechanical extra-corporeal assist to replace or support a patient's circulation and respiration. According to the company, it is the first portable, lightweight device of its kind worldwide and also the first support system that can be used for both land and air transportation. With the rapidly deployable CARDIOHELP system, patients can now receive seamless heart-lung support in any area of the hospital, allowing clinicians to gain valuable time by quickly connecting patients to a hand-held mechanical life support system right at the bedside or in the field.

CARDIOHELP works by creating a magnetic field, which drives a blood pump integrated with a diffusion membrane oxygenator. Maquet claims that this one-of-a-kind oxygenator and pump combination (HLS Module Advanced) can provide complete or partial heart and lung support in the operating room, cardiac cath laboratory, emergency department and in other critical care areas. The individual operating modes and disposables of the CARDIOHELP system offer several applications to support patients who require veno-venous or veno-arterial life support; it can also be used during open-heart surgery and for extracorporeal car-



Raoul Quintero (centre) receives the Techno College Innovation Award

bon dioxide removal.

In addition to its portability, CARDIOHELP also offers the advantage

of having all safety features integrated and wholly inclusive inside one compact and rapidly deployable

unit, allowing a patient to be connected to the support they need, anywhere and any time, immediately and emergently, to begin recovery or stabilisation. The system comes with an intuitive control unit, which combined with the HLS Module Advanced, can monitor important blood parameters, including venous oxygen saturation, hemoglobin, hematocrit and arterial and venous blood temperature. A non-invasive sensor system is integrated into the HLS disposable that can control pump speeds, preventing unnecessary blood trauma. This innovative plug-and-play principle means that CARDIOHELP is ready for use on short notice, said the company.

The CARDIOHELP system has been available for purchase in many European countries since July 2010 and became available for sale in the United States in April 2011.



## Leonardo Da Vinci Award for Training Excellence

The inaugural Leonardo Da Vinci Award for Training Excellence was awarded to Alfred Kocher, of Vienna, Austria. The winner was announced by Dr Rafael Sabada, who also acknowledged the tremendous teaching abilities of the other two finalists, Mattia Glauber (Massa, Italy) and Samer Nashef (Cambridge, UK).

The Leonardo Da Vinci Award for Training Excellence is intended to recognise and reward excellence in training, establish a benchmark in the form of a trainer role model, and define the attributes that makes a good cardiothoracic surgical teacher. The principle behind the award is for the trainee to nominate the trainer, and all cardiothoracic trainees in every country in Europe were invited to nominate their trainer for the Leonardo Da Vinci Award.

Dr Kocher will return to next year's meeting in Barcelona, in October 2012, to speak about his teaching methods.



Alfred Kocher

## Marko Turina receives Honorary Membership from the EACTS



Professor Marko Turina (above left), a co-founder and the first Secretary General of the EACTS, receives Honorary Membership from the Association. Current Secretary General, Pieter Kappetein paid tribute to his outstanding contribution, not only to the Association but to cardio-thoracic surgery around the world.

## 2011 Fontan Prize



Anil Bhattarai receiving the Fontan award from Francis Fontan

This year's Fontan Prize was awarded to Dr Anil Bhattarai (from Nepal) currently in the Department of Pediatric Cardiac Surgery, University of Padova, Italy.

This year's Thoracic Prize was awarded to Dr Yamamoto Kazumichi from the Department of Thoracic Surgery, National Hospital, Organization Himeji Medical Center, Himeji, Japan.

## 2011 Thoracic Prize



Kazumichi Yamamoto receiving the Thoracic Award



## Isolated lung perfusion and selective pulmonary artery perfusion in metastatic disease

**Willem Den Hengst**  
Antwerp University Hospital, Belgium

The golden standard for the treatment of lung metastases is surgical resection. However, long term results are disappointing, with a five-year overall survival rate of approximately 40%. Complete resection is the main prognostic factor, and better survival is reported in patients with a single metastasis and a disease-free survival of more than three years. Reoperations in patients are feasible but they often become inoperable due to insufficient pulmonary reserve. Intravenous (iv) chemotherapy has no major impact on survival due to systemic side-effects when high doses are given. As isolated liver and limb perfusion, isolated lung perfusion (ILuP) has the advantage of selectively delivering an agent into the lung while diverting the venous effluent. This allows the administration of a significantly higher dose of drugs compared to iv therapy, with minimal systemic exposure.

Recently, long term results were reported from a Phase I clinical trial of ILuP with melphalan (an alkylating agent) conducted between 2001 and 2004 at Antwerp University Hospital, Edegem, Belgium, and St Antonius hospital, Nieuwegein, The Netherlands. This report showed minimal long term tox-

icity and a promising five-year overall survival rate of 54.8%, suggesting better local control.

However, ILuP is performed during the same operation as the metastasectomy and repetitive treatment is not possible because this is an invasive technique. Selective pulmonary artery perfusion (SPAP) combined with blood flow occlusion (BFO) is an endovascular technique by which a balloon catheter is introduced through the femoral vein into the pulmonary ar-

tery. When the balloon is insufflated (which is BFO), chemotherapy can be injected directly into the lung at a determined rate and volume allowing the chemotherapy to diffuse slowly into the selected right or left lung. This technique yields significantly higher concentrations of chemotherapy in the lung compared to systemic administration. The SPAP technique has the advantage that it can be repeated several times before or after a pulmonary metastasectomy allowing the practitioner to destroy metastatic disease in different cycles of their growth. During SPAP no control is present over the pulmonary vein, allowing the chemotherapy that is present in the lung be transported into the systemic circulation after desufflating the balloon.

The aim of my study was to evaluate the tissue and systemic concentration of SPAP, iv therapy and ILuP with melphalan. To evaluate efficacy of ILuP and SPAP with melphalan in eliminating rhabdomyosarcoma lung metastases in rats, and to see the effect of ILuP, SPAP and iv therapy of melphalan on survival in rats with rhabdomyosarcoma lung metastases.

At this moment a phase II clinical trial of ILuP with 45mg melphalan at 37°C is being conducted for patients with resectable lung metastases of osteosarcoma, soft tissue sarcoma and colorectal adenocarcinoma. The participating institutions are Antwerp University Hospital, Edegem, St Antonius Hospital, Nieuwegein, Leiden University Medical Center, Leiden, and Erasmus Medical Center, Rotterdam. During the yearly EACTS meeting a workgroup for isolated lung perfusion comes together to discuss work in progress and other topics.



Willem Den Hengst receives the Young Investigator's (Thoracic) Award from Pieter Kappetein and Ottavio Alfieri

# The EACTS 2011 ETHICON Cardiovascular Simulation Award

Paul Sergeant Gasthuisberg University Hospital, Leuven, Belgium

**The EACTS has innovated in the distribution of knowledge by changing the formats, the concepts and the subjects of the Annual Meeting. More recently the EACTS has also been trying to innovate in the transfer of knowledge by starting two projects: the Cardio-Thoracic Surgical Brain and the Cardio-Thoracic Surgical Hand. As an organisation the EACTS cannot provide the scholars with patient-related technical training, but we can propose the tools towards an optimisation process. Technical education in 2011 is based on conceptual and virtual elements. Indeed most cardio-thoracic procedures can be decomposed in teachable components. For each of these teachable components it is possible to build a virtual environment that allows a repetitive simulation without placing the patient at risk.**

Some of these simulators are commercially available but to commit the younger surgeons to their simulators, the EACTS imagined to set up a contest in building such a low-fidelity simulator for one particular teachable component. The first subject was "the anastomosis". In addition the EACTS has been grateful in finding with ETHICON EMEA a collaborative partner in this project.

The goal of this project was to optimize the integration of simulation in surgical education

The objectives were to learn scholars the science of surgical learning, to deconstruct a procedure in teachable components, to study the three-dimensional space and the movement restrictions of a surgi-

cal field, to construct and use low-fidelity simulators and thereby fasten and optimize their learning process.

A low-fidelity simulator uses low-cost and ubiquitous available material. As an example a piece of wood and a plastic lining, stapled to this wood could be a low fidelity simulator for simulating a coronary anastomosis. The projects needed to be submitted under the form of a transportable self-construction package. The international jury was selected on their expertise in educational processes and or firsthand extensive experience in simulator use: Ed Verrier, Jimm Fann, Rafael Sadaba, David O'Regan, Jan De Raet and Paul Sergeant (chair).

The jury was overwhelmed by six brilliant submissions: the ANMAN

simulator (Grabosch, Stubbendorff from Hamburg), the VALLADOLID simulator (Arroyo from Valladolid), the BOB simulator (Buchner from Augsburg), the CAB simulator (Siregar from Utrecht), the VIENNA simulator (Andreas from Vienna) and the COREsim simulator (Halvorsen from Oslo). The submitters were given ex-

tensive possibility to show their creations to the jury and to the other submitters.

Each of these submissions clearly illustrated the wiki-power of our junior membership who have all six came up with innovative elements. Some simulators had a cost of less than 10 euro and could be build in minutes, others had a moving platform (beating heart) created at the cost of 5 euro. The Jury was flabbergasted by the VALLADOLID simulator. This simulator could be carried in a pocket, and complied with all the requirements of a low fidelity

simulator. The collaborative partner ETHICON is exploring the construction of this simulator in large numbers, in collaboration with Dr Arroyo.

The JCTSE (USA) and the Brazilian Society have decided to launch similar projects for 2012. Innovators within the EACTS are invited to submit proposals for a low fidelity simulator on "mitral valve reconstruction" for the EACTS Barcelona meeting in 2012.

This project has opened up the innovative minds of our younger surgeons, they will be the ones designing the operations of the future.



Jaime Arroyo (left) receives the Simulation Award from Pieter Kappetein and Ottavio Alfieri



**Dr Jaime Arroyo** Cardiac Surgery Department, Valladolid Clinical Hospital, Spain

The development criteria of the simulator were to have low fidelity, to be cost effective and reusable, and to have a portable/flat pack assembly. The simulator consists of a flat, rectangular metallic box, taken from an ink pad, with four alligator clamps inside it. Two of the clamps were provided with

malleable arms for holding 3mm diameter latex tubes and setting them in any desired direction. Suction pads at the back side were intended for more stability and for placing the simulator on vertical surfaces.

A low-fidelity simulator is a tool to simulate the technical aspects of a specific step or series of steps of a procedure, using low cost materials. The Valladolid Cardiac Surgery Team Arroyo's Simulator, is easily con-

structed and made of inexpensive materials (seven euros). It provides possible training for coronary anastomoses in horizontal and vertical planes and termino-lateral and latero-lateral anastomoses, with the advantage of a very small, flat and portable device (8x11cm) that can be carried easily in the white coat or jacket pocket. It can be taken on long aeroplane or train trips or in a handbag without any problem.

This award represents the creativeness that is being motivated by EACTS and ETHICON to the residents and cardiac surgeons of the future for upgrading learning capacity. The main intention of this low "production" simulator prototype is to be distributed among all the training centers in Europe, improving access to this learning tool and to knowledge transfer.



Jaime Arroyo (left) and other entries for the Simulation Award



**EACTS**  
European Association For Cardio-Thoracic Surgery

# Call for Applications

# Awards and Prizes

€30,000

## FRANCIS FONTAN PRIZE

Specialty training in cardiac or cardio-thoracic surgery.

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## THORACIC PRIZE

Specialty training in thoracic or cardio-thoracic surgery.

Award trophy  
& roll of honour

## LEONARDO DA VINCI PRIZE FOR TRAINING EXCELLENCE

Specialty training in thoracic or cardio-thoracic surgery.

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(for each prize)

## EACTS YOUNG INVESTIGATOR AWARDS

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- Cardiac Young Investigator Awards
- Congenital Heart Disease Young Investigator Awards
- Thoracic Young Investigator Awards
- Alessandro Ricchi Transplant Services Foundation Award

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## TECHNO-COLLEGE INNOVATION AWARD

Technological breakthroughs in new surgical methods or devices.

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## C. WALTON LILLEHEI YOUNG INVESTIGATOR'S AWARD

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## ETHICON CARDIOVASCULAR SIMULATION AWARD

Creation of a Simulator which replicates for training purposes in Mitral Valve Reconstruction.

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## Young Cardiac Investigator Award: Impact of residual regurgitation after aortic valve replacement

S Sponga, J Perron, F Dagenais, S Mohammadi, P Mathieu, R Baillot, D Doy le, P Voisine Quebec/CANADA

### Objective

Mild to moderate aortic regurgitation (AR) is not infrequently encountered after standard aortic valve replacement, and reportedly more often following transcatheter aortic valve implantation. Patients are usually managed by observational follow up, but the clinical significance and natural history of residual AR are un-

known. The goal of this study was to determine its impact on the outcome of these patients.

### Methods

Between 1992 and 2011, 3201 consecutive patients underwent isolated standard aortic valve replacement in our institution. Of these, 135 patients (4.2%) were found to have intra- or peri-prosthetic regurgitation

>1/4. Clinical, intraoperative as well as early and late postoperative outcome variables were studied. Factors associated with residual AR and its impact on survival were assessed by multivariate analysis.

### Results

Mean follow up was  $4.5 \pm 3.4$  years. The use of a bioprosthesis, longer CPB duration and preoperative atrial fibril-

lation were associated with a higher risk of presenting residual AR. Survival was negatively affected by commonly identified co-morbidities (diabetes, stroke, pulmonary disease, renal failure, peripheral vascular disease) but also by the presence of >1/4 residual AR (OR 1.67,  $p < 0.01$ ). Survival in the latter group was lower than for patients with  $\leq 1/4$  AR at all time points; 91.4% vs 96.7%, 77.5% vs 82.4%

and 44.1% vs 54.5% at 1, 5 and 10 years, respectively ( $p < 0.01$ ).

### Conclusions

Postoperative residual AR >1/4 is an independent predictor of postoperative mortality, and should be considered in the management strategy and the selection of a standard or transcatheter surgical approach for patients in need of aortic valve replacement.

## Lillhei Award: *In vitro* comparison of three techniques for ventriculo-aortic junction annuloplasty

Laurent de Kerchove<sup>1</sup>, Riccardo Vismara<sup>2,3</sup>, Andrea Mangini<sup>3,4</sup>, Gianfranco Beniamino Fiore<sup>2,3</sup>, Joel Price<sup>1</sup>, Philippe Noirhomme<sup>1</sup>, Carlo Antona<sup>3,4</sup> and Gebrine El Khoury<sup>1</sup> 1: Division of Cardiothoracic and Vascular Surgery St-Luc University hospital, Catholic university of Louvain, Brussels, Belgium. 2: Bioengineering Department, Polytechnic School of Milan, Milan, Italy. 3: ForCardioLab, Foundation for Research in Cardiac Surgery, Milan, Italy. 4: Division of Cardiovascular Surgery "L. Sacco" University Hospital, Milan, Italy.

### Objective

In aortic valve repair, reduction and stabilization of the ventriculo-aortic junction (VAJ) is generally recommended. In this *in vitro* study, we compare three techniques of annuloplasty: the sub-

commisural annuloplasty (SCA), the internal ring (IR) the external ring annuloplasty (ER).

### Results

Effective orifice area decreased significantly with each annuloplasty technique compared to baseline ( $p < 0.001$ ). Mean transvalvular pressure drop was significantly higher in ER and IR versus SCA ( $p = 0.007$ ). Annuloplasty reduced valve opening and closing time in comparison to baseline. Echocardiography confirmed that the VAJ experienced a greater reduction with ER and IR versus SCA. A narrowing of the lower third of the sinuses of Valsalva was observed



Laurent de Kerchove (left) receiving his award

after ER and subvalvular narrowing was observed after IR. Valve coaptation increased with all annuloplasty techniques.

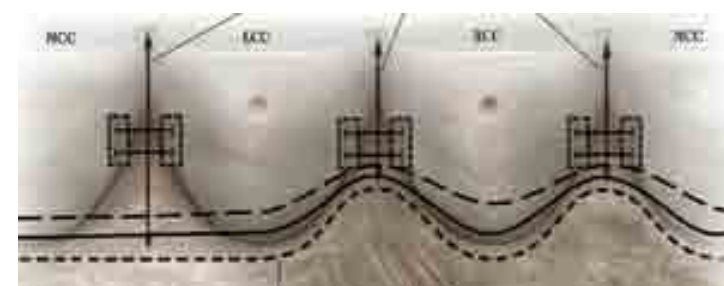
### Conclusions

In an *in vitro* pig aortic root model, the three annuloplasty techniques examined demonstrated dif-

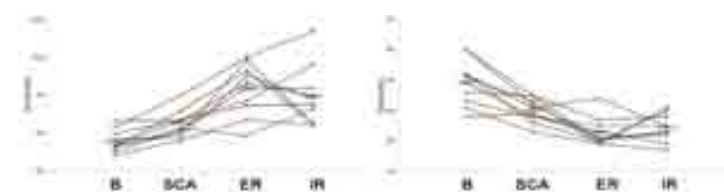
ferential effects on aortic valve function and root morphology. The ER and IR have greater potential to reduce VAJ diameter in comparison to SCA. The internal ring induced a subvalvular remodeling of the VAJ whereas the ER induced a paravalvular remodeling.



2: The aortic root functional unit (ARFU) fixed in the housing section (a); view of the ARFU outflow (b); ARFU with subcommisural annuloplasty (c); ARFU with the external ring (d); ARFU with the internal ring (e).



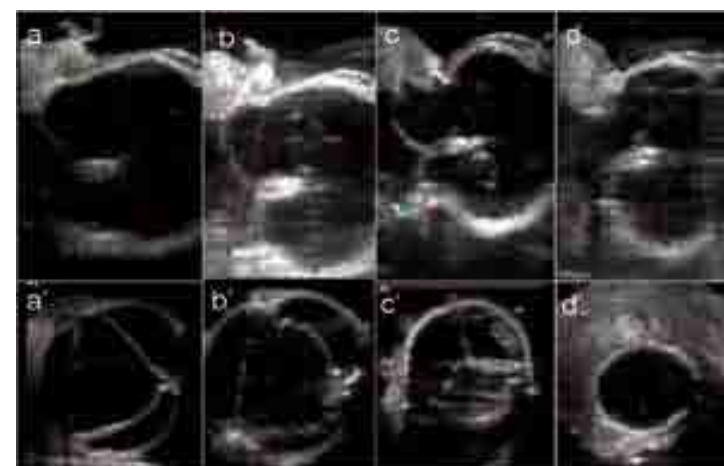
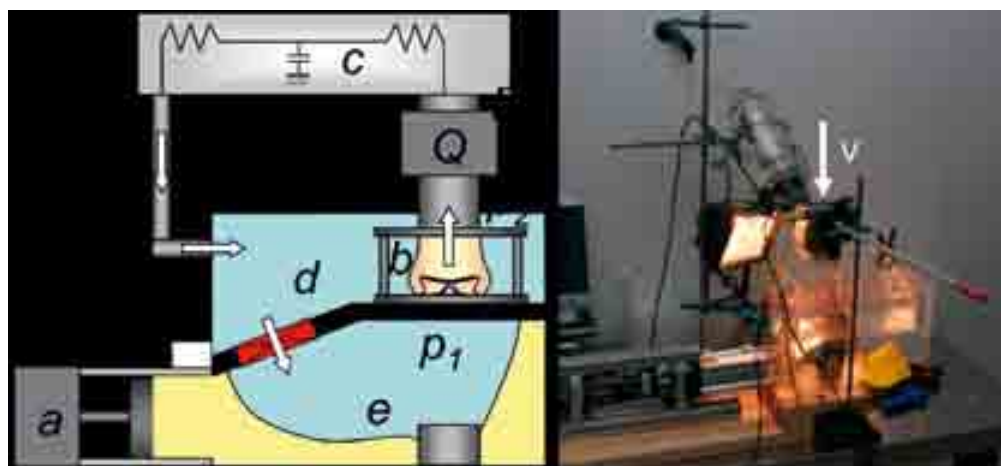
3: Schematic view of the topographic relation between the ventriculo-aortic junction (continuous line) and the different annuloplasty tested, the subcommisural annuloplasty (double grey boxes), the external ring (interrupted line) and the internal ring (dotted line).



4: The DP<sub>mean</sub> (left) and EOAs (right) measured for all tested samples are plotted for all the treatments applied.

5: Below: Echographic long and short axis views of the aortic root functional unit in basal configuration (a & a'), with subcommisural annuloplasty (b & b'), external ring (c & c') and the internal ring (d & d')

1: Schematic diagram of the mock loop (left panel) and a picture of the experimental setup (right panel).



# Highlights from the Vascular Domain Program

Martin Grabwonger EACTS Vascular Domain Chair 2008–2011

At the 25th EACTS Annual Meeting important vascular topics were covered, starting with the Techno-College Meeting on Saturday and completed with the 'Advanced Technique Session' on Wednesday. Live surgery of a chronic type A aortic dissection using the so-called 'frozen elephant trunk procedure' was successfully shown. This hybrid approach of conventional surgery and open endovascular stent grafting for the treatment of complex aortic pathologies was one

main issue of the vascular program. In a special session dealing with complex aortic arch diseases the different treatment approaches were intensively discussed. In a keynote lecture, Joseph Bavaria from Philadelphia highlighted decision algorithm in choosing conventional, hybrid and total endovascular approaches for arch repair. It was concluded, that these innovative hybrid techniques can be done with excellent results and are advantageous for several indications. This was under-

lined by the presentation of 'six years experience with the hybrid stent graft prosthesis' by Heinz Jacob from Essen.

The whole Monday morning was dedicated to diagnosis and treatment of the acute aortic dissection type A. Robert Bonser from Birmingham started the session with the lecture 'Evidence and lack of evidence in acute aortic dissection type A', followed by selected abstracts and invited video presentations. The discussion of different cannulation sites in acute type A aortic dissection was opened by a presentation of Carlos Mestres from Barcelona. Thereafter, video presentations for the different cannulation sites were given and the advantages and disadvantages of the different sites were intensively discussed. Although a trend towards cannulation of the subclavian/axillary artery



Martin Grabwonger

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could be demonstrated, no significant difference in outcome parameters could be shown. This fact was substantiated by the presentation of Ernst Weigang from Mainz, who presented the data of the German Registry of Acute Aortic Dissection Type A (GERAADA), where no substantial superiority of any one cannulation site could be proven.

The composition of invited presentations and high-ranked selected abstracts focusing on one topic was well appreciated by the audience. The dissection type A session was so well-attended by the participants that the room had to be closed for security reasons. Two other sessions had to be transferred to a larger room.

The acute aortic dissection type B is a further burning issue in aortic diseases. The problem of discriminating between complicated and uncomplicated dissection is not always simple. A more precise morphological diagnosis with respect to the location of the primary entry tear, the diameter of the true and false lumen, the retrograde component of the dissection into the aortic arch was stressed by the presentations of Martin Czerny from Bern and Gabriel Weiss from Vienna. In addition, functional imaging methods like the dynamic MRT could help to understand the pattern of the dissection and the risk of becoming complicated.

One session focusing on 'connective tissue disorders' and one on 'neuroprotection' completed the Vascular Program at the 25th EACTS Meeting. Marc Schepens from Brugge elaborated on technical aspects during thoracoabdominal repair in patients with Marfan syndrome and discussed monitoring and neuroprotective measures to prevent paraplegia. Cerebrospinal fluid drainage in combination with re-implantation of distal intercostal arteries and maintenance of high perfusion pressure are key factors in reducing paraplegia rate. Information on this important topic was completed by the presentation of "experimental aspects of spinal cord protection" by Christian Etz from Leipzig. Focusing on brain protection Jean Bachet from Abu Dhabi stated very clearly the importance of antegrade cerebral perfusion in the period of circulatory arrest. Although the chapter of unilateral versus bilateral cerebral perfusion has not been closed, Jean Bachet strongly advocated for bilateral cerebral perfusion: "It takes some seconds to put a second perfusion line into the left common carotid artery, so why bring the patient into risk by omitting this manoeuvre?"

Summing up, the 25th EACTS Meeting was a great success. In my opinion the domain structure of the EACTS promotes concentration on different important topics in cardiovascular medicine by distinct experts in the individual fields, which is one cornerstone for an excellent scientific program.

# The Eacts Congenital Domain in Lisbon 2011: Extraordinary!

Juan V. Comas EACTS Congenital Domain Chair 2008-2011

The EACTS Congenital Domain had an extraordinary meeting in Lisbon. In our 25th Annual Meeting we hosted an international, multidisciplinary panel of speakers to speak in front of a huge audience of invited discussants and attendees. Some of the sessions were so well attended that they needed to be transferred to a larger room. We also saw excellent cooperation with the European Association for Pediatric Cardiology.

The program proposed several innovations: Professional Challenges View, dedicated to Hypoplastic Left Heart Syndrome, with video, abstracts, cases as complementary sessions, and final surgery and cardiology key lectures given by Tom Spray and Dietmar Schranz. The presentation gave a perfect perspective to help surgeons understand the different options available to them and gain awareness of current controversies for hypoplastic left heart syndrome and management of common complications.

The joint EACTS-AEPC session introduced a new way to discuss Fontan controversies, with a common panel of four cardiologists and four surgeons taking part in presentations and an exciting debate. Shak Qureshi, President of the AEPC, was fully supportive of new models, and chaired the session with verve.

For the third year the EACTS Congenital Domain organised a very successful Techno-College program that exposed newly global management with future options and innovations in close interventional holes and Foetal Therapies

Advances. Experts like Zhang, Tsang, Tworetzky and Hanley discussed interesting and controversial subjects.

The Congenital Postgraduate course saw full attendance and included three sessions. The first session, dedicated to redesigning support systems, included a multidisciplinary proposal with cardiopulmonary bypass and myocardial protection, anaesthesia, ICU management, nursing, training, diagnosis, and a final Surgeon's overview done by Ed Bove. The importance of individual details of each subspecialty was emphasised, along with the importance

team and the interdisciplinary approach for clinical efficacy and practice efficiency in congenital heart surgery.

The second session outlined the current state of the art in the surgical management of interrupted aortic arch and its associated anomalies. A pathology lecture by Gilda Caruso and a technical proposal by Martin Kostelka and Emile Bacha engaged the audience in a stimulating discussion.

The video-interactive Ross operation was the third and final session, featuring five quality videos with dif-

ferent techniques from neonates to reoperation in infants, including the management of its long-term complications. Plenty of discussion and several views were on offer, to help clinicians perfect a difficult procedure. Viktor Hraska admirably coordinated a number of questions from the audience.

On Wednesday, Eduardo da Cruz organised an extracorporeal life-support workshop to update knowledge and information, as well as allow attendees to gain hands-on exposure to currently used ventricular assist devices in congenital and pediatric cardiac patients. The five interactive stations were followed by small group sessions to give more opportunity to have direct feedback and practice on the devices. Our gratitude goes to the industry partners for the support in this unique demonstration.

To coincide with the 25th Annual Meeting, the EACTS Congenital Domain decided to give homage to our predecessors in the Association. During our Congenital Initiatives session on Tuesday morning, the four past chairs of the Congenital Committee, Domain Jim Monro, François Lacour-Gayet, Bohdan Maruszewski and Pascal Vouhé were invited to attend and received our respect and gratitude for their work. Jim Monro as first chair gave a review of the congenital field in Europe and in our Association. The EACTS Congenital Domain offer them a special handmade ceramic from Talavera de la Reina, Spain, with a reproduction of a Greek anatomy dissection lesson and the inscription "With Gratitude, Respect and Friendship". (see picture included)

The Lisbon meeting was also the end of Juan V Comas' three-year term as Congenital Domain Chair, and the majority of members that have worked hard during these years: Emile Bacha, Philippe Bonhoeffer, Bill Brawn, Ed da Cruz, John Deanfield, Tjark Ebels, Viktor Hraska, Jeff Jacobs, Eero Jokinen, Bohdan Maruszewski, Patrick Myers, Shunji Sano, George Sarris, Christian Schreiber, Matthias Siepe, Philippe Pouard, René Prêtre, Victor Tsang, Pascal Vouhé, Lucio Zannini.

Together we have developed several projects, ideas and realities. We have taken a multidisciplinary approach in all our activities and we have forged synergy with other societies (AATS, STS, AEPC). We have become involved in Techno-Colleges.

I'm sure that it has been an honour and a pleasure for everyone that has participated in this period. Personally it has been one of the best professional experiences I have had: I have made plenty of friends, and even if we had to work hard, it was a real pleasure.



Four Past-Chairs of the Congenital Committee/Domain: (from left) Bohdan Maruszewski, François Lacour-Gayet, Pascal Vouhé and Jim Monro with Juan Comas

## The new EuroSCORE

Samer A M Nashef Consultant cardiac surgeon and EuroSCORE Project Lead, Papworth Hospital, Cambridge, United Kingdom

**Evidence was accumulating that the old additive and logistic EuroSCORE models were out of calibration as the results of heart surgery improved over the last decade, so we set out to update the model**

The old models were derived from data collected using paper forms. This time, we constructed a dedicated website to collect data. We prospectively gathered risk and outcome information on more than 22,000 consecutive patients operated over a 12-week period (May to July 2010). We sought information on the traditional EuroSCORE risk factors, but also on new factors, especially if there was research-based evidence since the original model, proving that these new factors influence risk. We also looked at how to define early mortality.

At the end of the data collection, an excellent and complete database was constructed

and used to build a new logistic risk model (EuroSCORE II).

The study had many interesting findings. Perhaps the most important is that the results of heart surgery have really improved since the original model. Compared with 1995, risk-adjusted mortality has dropped by a half. This is a phenomenal achievement of which cardiac surgery worldwide can be justifiably proud. It does, however, indicate that the old model is now definitely out of calibration.

Another interesting finding relates to the definition of early mortality. We found that only just over half the units have reliable data

on 30-day mortality, and under half the units could report 90-day mortality. We therefore pragmatically changed the definition of early mortality to "death at the base hospital where operation took place".

The new model, EuroSCORE II, will look and feel familiar in many respects and is reminiscent of the old model, but there are some differences in the way it handles some risk factors such as age, renal function, diabetes, immobility and the nature and size of the intervention.

On testing, EuroSCORE II was very well calibrated and showed very good discrimination, with an area under the ROC curve of 0.8095. We therefore recommend that it should now be used instead of the old models to assess risk and as a measure of the quality of cardiac surgical care.

The scientific paper detailing all the findings of this study is currently undergoing peer review by the EJCS, and we hope that it will appear soon. In the meantime, the new logistic risk calculator is available to use on [www.euroscore.org](http://www.euroscore.org) and a free 'app' is to be released imminently for use on portable devices.



Samer A M Nashef

We would like to acknowledge the generous support and funding by Edwards Laboratories, The Karolinska Hospital in Stockholm, Sweden and Papworth Hospital in Cambridge, United Kingdom. Finally, this study undoubtedly took a lot of work, but none of it would have been possible without the many centres that supplied us freely and willingly with data on their patients. On behalf of the EuroSCORE Project Team, I thank them wholeheartedly.

# Chest wall session

The 25th Annual Congress of EACTS which new developments and surgical techniques were discussed in various sessions in Lisbon including a chest wall session.

On 4th of October, in the afternoon the chest wall session was opened under the chairmanship of J.M Whilm from Strausbourg, France and J.Ribas Milanez de Campos from Sao Paulo, Brazil, with around 100 participants.

The first speech was given by Dr F Rea from Padova, Italy. He explained his promising new technique on sternal reconstruction. Sternum resected for a malignant tumor

was reconstructed with a sternum taken from a cadaver. The cadaveric sternum in the right size was prepared at the bone bank the day before the operation and fixed to the chest wall by matrixRIBs. He emphasised that the success of the process was related to having a sufficient bone bank.

The second lecturer was Dr Hans Pilegaard from Aarhus, Denmark. He presented his pectus excavatum series including around 1,000 patients.

He presented very successful results with his minimally invasive technique using a short pectus bar with one stabiliser, instead of using longer bars with two stabilisers as in the original version of the technique introduced by Professor Donald Nuss. He also mentioned that minimally invasive repair technique could be performed in elderly patients.

The third lecturer was Dr.Mustafa Yüksel from Istanbul, Turkey. He explained



Mustafa Yüksel

his principles about the minimally invasive repair technique in pectus carinatum patients. He presented his results on 50 patients operated with the technique which was developed by himself.

The fourth lecturer,

Dr.Mario Gehfter from Sao Paulo, Brazil, presented his results on the thoracoscopic resection of the first rib and the cervical in patients having thoracic outlet syndrome. He underlined the fact that the success of the operation is related to the visual impact of the thoracoscopy and early discharge.

The fifth lecturer was Dr C Deschamps from Rochester, USA. He gave a speech on thoracic wall resections, historical development of these resections and contemporary prosthetic materials for reconstruction and presented his own series. His chest wall reconstruction techniques on Siamese twins impressed the young surgeons.

The last lecturer of the session was Dr.Maria Tocco from Rome, who presented her series, as a video-presentation, on the vacuum assisted closure technique that she used on patients with sternal dehiscence. She summarised the main principles of the techniques and conditions that has to be avoided. She underlined that the most suitable period for reconstruction was when all the cultures were negative.

Following the completion of all the lectures various questions were asked from the floor. The answers were quite satisfactory. The session was then closed to meet at the gala dinner in the evening to enjoy the Portuguese delights.

## Aortic valve replacement with sutureless/self-anchoring valves

Malakh Shrestha and

Axel Haverich Division of Cardio-thoracic, Transplantation and Vascular Surgery, Hannover Medical School, Hannover, Germany

Aortic Valve replacement (AVR) has been the Gold Standard for the treatment of severe or symptomatic aortic valve stenosis. Since 1960 when the first such operation was performed by Harken, the basic technique has remained similar. The patients are operated under ECC and cardioplegic cardiac arrest. The diseased aortic valve is removed under direct surgical vision and a prosthetic valve (either mechanical or biological) is then anchored with sutures.

The idea of a sutureless valve implantation itself is not new. George McGovern performed the first implantation of a sutureless aortic valve prosthesis in 1962. In recent years multi-center clinical trials have been performed in hundreds of patients in Europe with three different types of such Valves:

1. Sorin Perceval
2. ATS (Medtronic) Enable
3. Edwards Intuity.

Of these, Sorin Perceval and Enable valves have already received CE certification. Early results with all types of



Malakh Shrestha

valves have shown promising results. Edwards Intuity valve is a stented tri-leaflet bovine pericardial bioprosthesis with a balloon expandable, stent frame at the inflow aspect (Figure 1). Only three sutures are necessary for its anchoring.

Sorin Perceval S is a completely sutureless prosthetic valve comprising a functional component in bovine pericardium fixed in a metal cage made of nitinol (Figure 2). The cage design is characterized by two ring segments, on the proximal and distal end, and connecting



Axel Haverich

elements designed to support the valve and to allow the prosthesis to anchor to the aortic root, in the sinuses of valsalva.

ATS (Medtronic) Enable valve is also completely sutureless prosthetic valve comprising a functional component in equine pericardium fixed in a metal cage made of nitinol (Figure 3).

### Discussion

In recent clinical practice, the changing population demography is reflected by the increasing age of the

patients presenting for AVR. Often, these patients have significant comorbidities and conventional surgical replacement may pose a high perioperative risk. Therefore, concepts of aortic valve replacement avoiding long ischemia times, as well as long periods of ECC would be accepted among the surgical community.

In addition, several studies have shown that patients that undergo AVR through minimally invasive access have a shorter length of hospital stay, less pain, shorter duration of ventilation and less blood loss. Postoperatively, the patients could be mobilised earlier and the respiratory function may also be better. However, limited exposure of the operative field is makes the procedure technically more difficult. This is reflected in longer operative times, especially in patients with small and calcified aortic roots.

The proposed advantages of self-anchoring prostheses are:

1. Reduction of implantation time.
- Absence of the need for anchoring sutures potentially reduces the X-clamp times and conse-

quently ECC times.

2. Self-anchoring valve designs eliminate the need for suturing ring, resulting in increased effective orifice area.
3. Absence of the need for sutures makes minimally invasive access technically easier and more reproducible.

The main potential drawbacks are:

1. Danger of valve dislodgement and migration.
2. Paravalvular leakage.
3. Need for collapsing and mounting the valve in a delivery system may lead potentially to reduction in durability because of the damage to the leaflets.

### In summary

Sutureless/self-anchoring valves are technically simple and more reproducible alternative for AVR. As these valves don't need to be sutured, the limited exposure is not a disadvantage even in patients with calcified or small aortic roots. Moreover self-anchoring also potentially reduces the X-clamp time and CPB time. These valves may enable broader application of minimal invasive AVR.



Figure 3

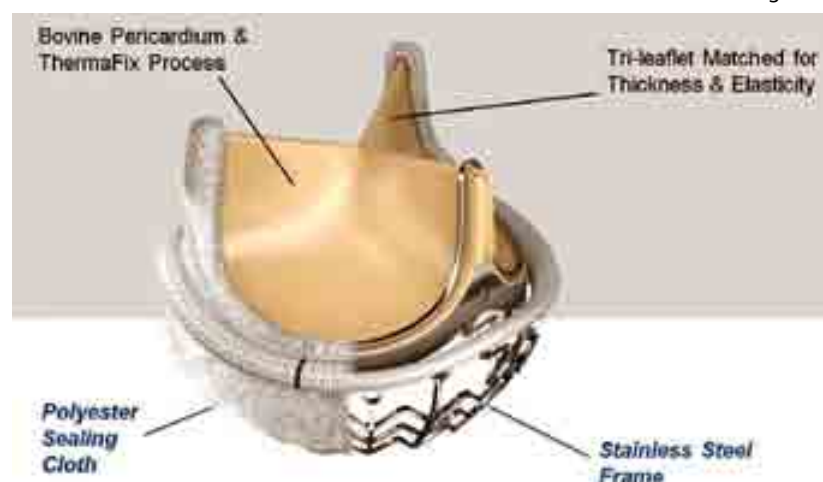


Figure 1

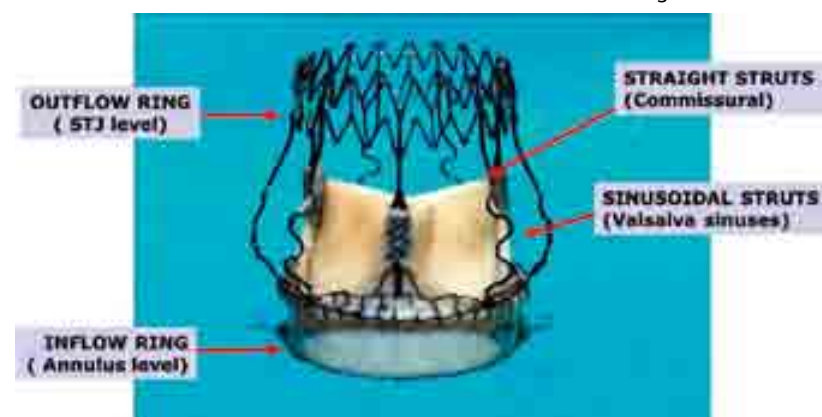


Figure 2

# Incomplete revascularization in the SYNTAX trial

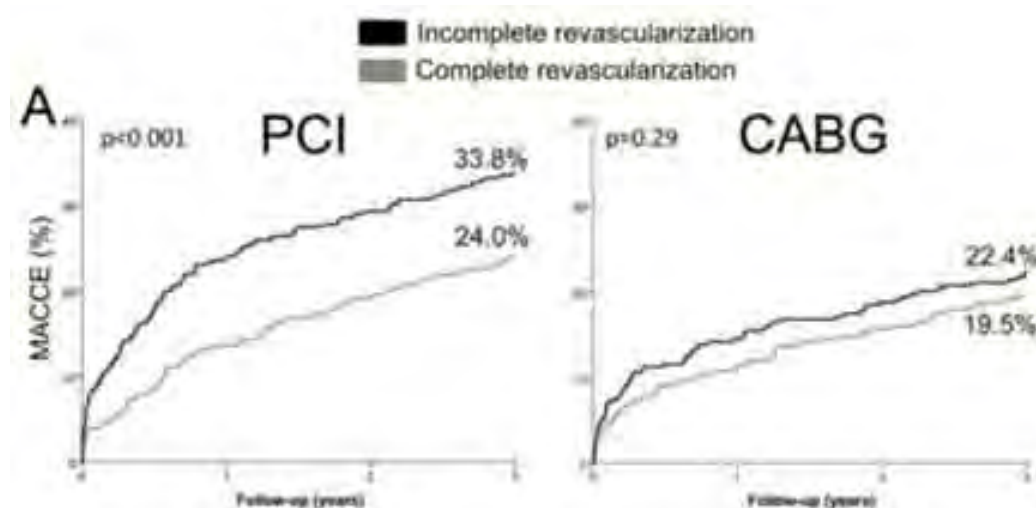
Previous studies have tried to address whether incomplete revascularization is associated with reduced survival and increased revascularization. Many of these studies, however, have been methodologically restricted by a retrospective design. Furthermore, trial data has only been provided from the ARTS study.

Stuart Head, from the Erasmus University Medical Center, Rotterdam, presented data from the SYNTAX trial at the EACTS 2011 meeting in Lisbon. Within the SYNTAX trial incomplete revascularization is defined differently than it has been in previous studies. During a Heart Team discussion the interventional cardiologist and surgeons had to reach consensus on which vessels with a  $\geq 1.5$  mm diameter and a 50% stenosis needed revascularization. Incomplete revascularization was assessed by correlating this preoperative statement to the actual revascularization. With this novel definition, this study shines new light on the matter whether incomplete revascularization is associated with adverse events in patients with complex coronary artery disease.

Incomplete revascularization was found in 43.3% and 36.8% of PCI and CABG patients, respectively. The rate of incomplete revascularization was found to be higher in

patients with three-vessel disease (with or without left main involvement). This was also translated in a stepwise increase in the rate of incomplete revascularization in SYNTAX score terciles, being 31.5% versus 41.7% versus 56.9% in the PCI patients, and 27.0% versus 38.1% versus 43.6% in the CABG patients. (Table 1)

Higher rates of major adverse cardiac or cerebrovascular events (MACCE) were shown in patients that underwent incomplete revascularization with PCI (33.8% versus 24.0% in complete revascularization,  $p < 0.001$ ). Despite the fact that this was mainly driven by increased



repeat revascularization, the composite safety endpoint of death, myocardial infarction, and stroke was also significantly higher in patients with incomplete revascularization (16.8% versus 12.2%,  $p = 0.05$ ). In

CABG patients the rate of MACCE was comparable between incomplete and complete revascularization groups (respectively 22.4% versus 19.5%,  $p = 0.29$ ).

Dr David Taggart from the Univer-

sity of Oxford responded saying that there are conflicting results in the literature about the effect of incomplete revascularization on adverse events, which has a lot to do with the type of vessel that is not revascularized. "Putting a fourth graft to a second small obtuse marginal will have absolutely no adverse impact on outcome. Whereas if you leave a big vessel ungrafted it will adversely affect outcome. So I think we should try and be more accurate and define these as appropriate and inappropriate incomplete revascularization."

Table 1

	PCI		CABG	
	Incomplete	Complete	Incomplete	Complete
MACCE	33.8%	24.0%	22.4%	19.5%
Composite Death/MI/Stroke	16.8%	12.2%	12.8%	11.8%
Death	10.2%	7.4%	7.2%	6.4%
Myocardial Infarction	8.1%	6.2%	4.6%	3.1%
Repeat Revascularization	24.1%	15.8%	12.8%	9.4%

## The Heart Team Approach

Numerous studies have shown that cardiologists and surgeons sometimes inappropriately decide to perform PCI, CABG, or treat patients medically. The COURAGE trial demonstrated that PCI on top of optimal medical therapy in patients with evidence of myocardial ischemia and significant coronary artery disease did not reduce cardiovascular events when compared to medical therapy alone. A recent study showed that PCI is performed inappropriately in 11% of the cases, while in another 38% the indication was considered questionable. In CABG

the inappropriateness seems to be lower compared to PCI, with 91% rates appropriate, 7% uncertain, and 2.4% inappropriate, although these rates stem from an old study.

Whether PCI or CABG should be the preferred revascularization strategy for coronary artery disease depends on the complexity of CAD, the involvement of certain coronary vessels, and co-morbidities of the patient. Recent studies have shown that the choice of treatment also depends on the treating physician. Surgeons and cardiologists can intentionally or unintentionally omit certain details of PCI and

CABG when informing the patient, thereby creating a bias towards a specific treatment.

Therefore, there is a need for multidisciplinary decision-making so that patients are evaluated by different specialties considering multiple treatment options and finally choosing the most appropriate treatment. A Heart Team consisting of cardiologists and surgeons can better weight the advantages and disadvantages of revascularization strategies, and decide which strategy is preferred for the individual patient. The SYNTAX trial pioneered this team discussion as an obligatory inclusion for randomization.

Centers are encouraged to perform a Heart Team discussion for patients that (might) need coronary revascularization. However, several

trials within the last decade have used the Heart Team to include patients for randomization. Not only trials that included patients with coronary artery disease, but also patients with severe aortic stenosis and those with mitral regurgitation were involved in trials with a Heart Team discussion. Although some centers have adopted the Heart Team, it is essential for the functioning of the multidisciplinary approach that both the cardiologists and surgeons refer patients to the Heart Team. To better understand the referral patterns, clinical decision-making process, and treatment disposition, all patients with a clear indication for surgery or interventional treatment should be sent to the Heart Team.

## Antiplatelet therapy and CABG: Bleeding versus thrombosis Choosing between two evils?

Ruben Osnabrugge, Erasmus University Medical Center, Rotterdam,

While the anti-ischemic benefits of oral antiplatelet therapy are well-known, a common problem for surgeons is how to handle antiplatelet therapy in patients undergoing surgery. This problem was discussed in a much appreciated focus session on antiplatelet therapy during the 2011 annual meeting in Lisbon.

In general, surgeons want to reduce the risk of bleeding by stopping antiplatelet therapy several days before an operation. On the

other hand, thrombotic events can have serious negative impact. Dr Freek Verheugt (Onze Lieve Vrouwe Gasthuis, Amsterdam, The Netherlands) and Dr Miguel Sousa Uva (Hospital da Cruz Vermelha Portuguesa, Lisbon) both underlined this tricky balancing act between the risk of thrombosis and the risk of bleeding.

There is no consensus in the guidelines from different societies on whether the discontinuation of aspirin is necessary and if so, how many

days the drug should be stopped before the operation. During the discussion Dr Verheugt proposed, in line with the American College of Chest Physicians, that aspirin should never be stopped.

But what about the other component of dual antiplatelet therapy: Clopidogrel? Dr Nicolas Van Mieghem (Erasmus Medical Center, Rotterdam, The Netherlands) provided a concise overview of many aspects of the drug, such as the landmark trials and the recent phar-

macogenomic explanations of non-response. With regard to stopping Clopidogrel before surgery, Verheugt noted that although Clopidogrel increases the risk of bleeding, the drug is probably also associated with improved graft patency.

Recommendations state that Clopidogrel needs to be stopped five days before surgery, Ticagrelor three days and Prasugrel even seven. In a subgroup of the PLATO trial, 1261 patients undergoing CABG didn't demonstrate less bleeding with ticagrelor as compared to Clopidogrel, even though the patients on ticagrelor had a better survival. Verheugt discussed that a substudy of the Triton-TIMI 38 trial demonstrated that Prasugrel was associated with even higher blood loss than Clopidogrel, although 30-day mortality showed a trend towards better survival in Prasugrel patients

( $p = 0.38$ ). Although these substudies provide some insights, these new agents have to be investigated more closely in patients undergoing surgery.

Having said all this, the reality is that it is often not possible to wait, as Dr A Pieter Kappetein (Erasmus Medical Center, Rotterdam, The Netherlands) mentioned. Therefore Sousa Uva concluded with some remarks on how operating techniques can reduce bleeding. For instance, off-pump surgery results in less bleeding and reducing hypothermia is also beneficial in keeping the patient 'dry'. So by dealing with the two evils of bleeding and thrombosis, the surgeon should not only be aware of the properties of antiplatelet drugs. He also needs to be conscious of the fact that his own hands are very helpful in restraining bleeding complications.



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# Report of the first Resident's Luncheon

Peyman Sardari Nia

The 25th EACTS Annual Meeting in Lisbon was one of the most successful meetings that the Association has ever held whether considered in terms of attendance or quality of the programme. During the previous meetings the EACTS Surgical Training and Manpower (STMP) committee has been responsible for setting up a program for the residents. The resident meeting was usually a session outside the main programme held in the evening and followed by the dinner. During the past years with the help of colleagues of STMP committee and strong support of leadership of the association, we have been able to expand the resident's share of the annual meeting. The resident meeting has already been included in the main programme. In addition, we organised the first resident luncheon during the 25th EACTS Annual Meeting in Lisbon.

The luncheon consisted of tables with prominent cardiothoracic surgeons having lunch with residents and talking informally about specific subjects. The idea of the luncheon was to stimulate discussions and networking. The tables had each their own specific subjects and experts. The residents were asked in advance to send suggestions and

specific questions directed to experts at the tables. Many questions were sent in advance and these were put in envelopes on the tables.

"The luncheon had created an opportunity for residents to bring about subjects and questions that they normally don't discuss during the scientific sessions"

As this was the first luncheon that the STMP has organized, we were anxious about the attendance and success of the programme. The luncheon was organized on Tuesday and residents had to register onsite in Lisbon. We anxiously fol-



Peyman Sardari Nia

lowed the registrations from Sunday to Tuesday before the lunch. Fortunately almost all the tables were fully booked and the residents were all enthusiastic about the program.

The discussions and atmosphere at the tables were very lively and friendly. The invited faculty was excited about the meeting and said that the luncheon had created an opportunity for residents to bring about subjects and questions that they normally don't

discuss during the scientific sessions.

We are very grateful to the invited faculty for their willingness to be part of this luncheon. All of them were prominent cardiothoracic surgeons with extremely busy schedules during the annual meeting. We are also grateful to all the residents for their active participation. We also would like to express our appreciation towards the EACTS leadership for their support and St Jude Medical for sponsoring the Resident's Luncheon.

## The EACTS Residents Meeting 2011: Dedicated to the future of cardiothoracic surgery!

Matthias Siepe

As a comforting ritual, the Resident's Meeting was again organised by the Surgical Training and Manpower Committee. This year, the program of the session was entitled, "The future of cardiothoracic surgery: how to be trained and master minimally invasive techniques". The Residents Meeting of the 25th EACTS Annual Meeting was included in the regular program schedule for the first time. Due to the success of the previous years' sessions the organizers were advised to continue this type of session inside the regular program and in addition to the Residents' Luncheon in order to attract Residents and other meeting participants with a highly current topic.

For this session, we introduced a different format to allow better interaction between the panel and the audience: the speakers and chairmen were placed in the middle of the session hall and the audience was placed around them in a C shape on the right and left side. The speakers as well as the chairmen were equipped with head-set microphones and could walk around in the middle of the room to discuss questions and interact with the au-

dience. This type of innovative format together with the attractive topic made the session a remarkable and memorable one.

The topic was quite suitable for this session's setup: The Surgical

of minimally-invasive techniques, but also allowed the audience an insight into his outstanding knowledge about the history of these techniques. It became obvious that some of the current techniques mainly

"This type of innovative format together with the attractive topic made the session a remarkable and memorable one."

Training and Manpower Committee selected great speakers to present their view on minimal-invasive CT surgery and its training.

Dr Lorusso from Brescia is not only known as a leader in the field

represent a sort of "pimped" historical procedures. As a matching part, Dr Falk from Zurich presented his view on the future of minimally-invasive surgery.

In the second part of this session,



Matthias Siepe

Dr Kappetein from Rotterdam and Dr Sadaba from Pamplona focused on training issues related to minimal-invasive surgery. Pieter Kap-

up again with an attractive program for the Residents Meeting.

petein was very clear in explaining the differences between the national training programs and the need for improvement and homogenisation throughout Europe. Rafael Sadaba concluded that there is no other way than to adapt the new techniques in order to keep our fascinating specialty alive.

The Surgical Training and Manpower Committee is grateful that the society supports the Residents Meeting and all the other training-centered activities. Next year we will certainly come



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# Theme Barcelona 2012: Quality improvement

Improving quality of care is an ongoing process and needs to be integrated in our daily routine. Initiatives for quality improvement programmes have been taken, including patient care programmes, clinical databases, patient outcomes initiatives and in clinical pathway schemes. Expertise in improving quality of care needs to be shared. The EACTS is thus to establish a Quality Improvement Program Taskforce (see page 1) and has chosen quality improvement as the main theme of the 26th EACTS Annual Meeting in Barcelona. Quality improvement also demands a multi-disciplinary view and hence joint sessions of the EACTS domains will be included in the programme, for instance the Postgraduate Course on Sunday will start with a plenary session of all four domains.

The Adult Acquired Cardiac Domain programme will include sessions on RV failure, multiple valves surgery and how to optimize coronary revascularization. The Postgraduate Course includes sessions on valves, coronary and left heart failure. Long-term results, various approaches, new trial updates and guidelines will be presented and discussed. On the Wednesday morning there will be wetlab sessions on AV sparing and

beating heart coronary revascularization, and a session on hybrid approach in arrhythmia.

The Domain of Vascular Diseases' Postgraduate Course includes sessions on active infective aortic disease and controversies of open and endo approaches. The scientific programme will include professional challenge sessions on aortic arch disease and focussed sessions on aortic trauma. The Wednesday morning includes simulators for TEVAR and a wetlab for residents dedicated to aortic surgery.

Minimally invasive thoracic surgery will be one of the themes of Thoracic Diseases' Techno College. Thoracic trauma, Oncology and Empyema are the topics for Sunday's Postgraduate Course sessions. A focussed session on acute and chronic pulmonary embolism will also be included with the domain of acquired cardiac disease. The topics for the Wednesday morning professional challenge session are: lung metastases, benign disease of oesophagus, sarcoma, and postoperative complications after lung resection.

The focussed sessions will include a video demonstration, followed by a keynote lecture and conclude with presentations that allow delegates to leave the sessions with a greater understanding of how to solve a partic-

ular problem. In the professional challenge session specific problem cases, in particular complication cases, will be presented. The design of these sessions facilitates interaction and discussion on controversial topics.

This issue of *EACTS News* will highlight the preliminary programme of the Domain of Congenital Disease. In the next issue we will focus on the other domain programmes.

The Congenital Domain will organise a programme based around the successful 2011 meeting. It will comprise a techno-college session on the Saturday afternoon, a post-graduate teaching session on the Sunday, sessions during the main body of the meeting and an advanced technique session on the Wednesday morning. At the techno-college, the congenital domain will focus on the medical and surgical intervention and management of cardiac arrhythmia's in congenital heart disease. The cardiology medical management will be outlined; the investigation of arrhythmia's and the cardiac intervention and surgical management will be detailed.

The post-graduate day will feature a early morning plenary session with the other domains to cover aspects of quality improvement, cost effectiveness and research with determination

of outcome utilising databases. We then split into our respective domains.

The first session will be on the aortic valve repair, indications, methods of repair and outcome. We hope to have representatives from centres performing large numbers of these procedures and the aim is to understand the methodology of repair and to gain insight into the medium and long-term outcome of the repairs.

Second session will be on truncus arteriosus surgery, including its morphology, diagnosis and evaluation and surgery. In particular we shall emphasise the complexities of the repair relating to the aortic arch, repair of the incompetence quadra-cuspid truncal valve and management of abnormal pulmonary arteries. We shall also focus on the need and timing of re-intervention and review the long-term outcome for patients with truncus arteriosus.

The basic science session examines our current knowledge of stem cells and their potential application. This technology overlaps with other disciplines and we may well combine with our adult colleagues for this session.

During the meeting itself on Monday and Tuesday we shall have several sessions. We will run professional challenge session titled 'Is there a place for staged repair of Fallots Tetralogy?' with our medical colleagues and cover medical, cardiac catheter intervention techniques and surgery. Despite being one of the oldest congenital heart defects undergoing repair, it is still a cause of much discus-

sion in young patients as to the best form of management.

There will then be a focus session on complex transposition of the great arteries, with morphology, diagnosis and operative techniques. This will include videos of the procedures and a review of current global outcomes. We will focus on arch repair, reconstruction of the left ventricular outflow tract in order to avoid neo-aortic valve regurgitation, methods of coronary artery repositioning, and access to ventricular septal defects.

A final session involves a review of the peri-operative assessment of the brain when in association with congenital heart disease. Post-operative morbidity following congenital heart surgery often relates to neuro-developmental problems and an understanding of the development of the neonatal brain and impact of the congenital heart lesion, the operation and the peri-operative management on damage to the brain and the development of the brain is most important. This session may well combine with some of our adult colleagues who have a similar interest in protecting the brain during surgery.

Finally the Wednesday half day session on advanced techniques, we plan to have an extensive wetlab to illustrate operative techniques of aortic valve repair, the reconstruction of the right ventricular outflow tract in Fallot's Tetralogy and pulmonary atresia and surgical techniques relating to the Senning and Mustard procedure for transposition of the arteries.



## EACTS Courses in 2012

European Association For Cardio-Thoracic Surgery

If you are interested in finding out more about the courses and meeting the Association is organising in 2011-12, please visit the EACTS website: [www.eacts.org](http://www.eacts.org)

Course Type	Course Title	EACTS Domain	Course Directors	Dates/Location
Foundation Courses	Fundamentals in Cardiac Surgery Part I	Acquired Cardiac Disease & Congenital Heart Disease	B Brawn, Birmingham R Lorusso, Brescia	6-10 February, Windsor, UK
	Fundamentals in Cardiac Surgery Part II	Acquired Cardiac Disease & Congenital Heart Disease	T Ebels, Groningen R Lorusso, Brescia	11-15 June, Windsor, UK
	Advanced Module: Coronary surgery with special focus on off-pump coronary artery bypass surgery	Acquired Cardiac Disease	P Sergeant, Leuven	26-30 March, Windsor, UK
	Advanced Module: Valve surgery, including transcatheter heart valves	Acquired Cardiac Disease	G Fournial, Toulouse	18-20 June, Windsor, UK
	Advanced Module: Heart failure: state of the art and future perspectives	Acquired Cardiac Disease	G Gerosa, Padua M Morshuis, Bad Oeynhausen	12-16 November, Windsor, UK
	Advanced Module: Congenital Surgery	Congenital Heart Disease	B Brawn, Birmingham T Ebels, Groningen	1-5 October, Windsor UK
	Advanced Module: Open and endovascular aortic therapy	Vascular Disease	M Czerny, Berne E Weigang, Mainz	21-23 March, Windsor, UK
	Thoracic Course I	Thoracic Disease	M Dusmet, London	16-20 April, Windsor, UK
	Thoracic Course II	Thoracic Disease	P Rajesh, Birmingham	29 October-2 November, Windsor, UK
Specialist Courses	Reconstruction of the chronically dysfunctional left ventricle	Acquired Cardiac Disease	R Lorusso, Brescia	12-13 October, Windsor, UK
	Minimally invasive techniques in adult cardiac surgery	Surgical Training and Manpower (STMP) Committee EACTS	P Sardari Nia, Nieuwegein	13-15 February, St Antonius Hospital, Nieuwegein, The Netherlands
	Course for industry partners: Basic knowledge in cardiothoracic surgery, statistics, etc	General	J L Pomar, Barcelona	July 2012 (2-day course), exact date tbc, Windsor, UK
	New oncologic concepts and targeted therapies for lung cancer	Thoracic Disease	L Spaggiari, Milan	8 October, Windsor, UK
	Chest wall diseases	Thoracic Disease	M Yuksel, Istanbul	28-30 November, Windsor, UK
	EACTS Robotic Level 3 Course	Acquired Cardiac & Thoracic Disease	F Melfi, Pisa R Schmid, Berne	23-25 February, Robotic Multidisciplinary Center of University of Pisa, Pisa, Italy
Professional Development Courses	Second postgraduate workshop on leadership for cardiovascular and thoracic surgeons	General	W Murray, Houston J L Pomar, Barcelona	Exact date tbc, Windsor, UK
	Teach the Teacher	General	J Pepper, London	10-14 September, Windsor, UK
	Evidence-based surgery	General	L Hamilton, Newcastle-upon-Tyne	27-28 September, Windsor, UK
International Activities	The first joint workshop of IACTS-with EACTS at the 58th Annual Meeting of IACTS, Kolkata, India	Acquired Cardiac Disease	P Sergeant, Leuven K Sarkar, Kolkata	8-9 February, Kolkata, India
Co-sponsored Educational Activities	3rd EACTS Meeting on Cardiac and pulmonary regeneration, Berlin, Germany	Acquired Cardiac and Thoracic Disease	G Steinhoff, Rostock U Martin, Hannover	14-15 December, Berlin-Brandenburgische Akademie, Berlin, Germany



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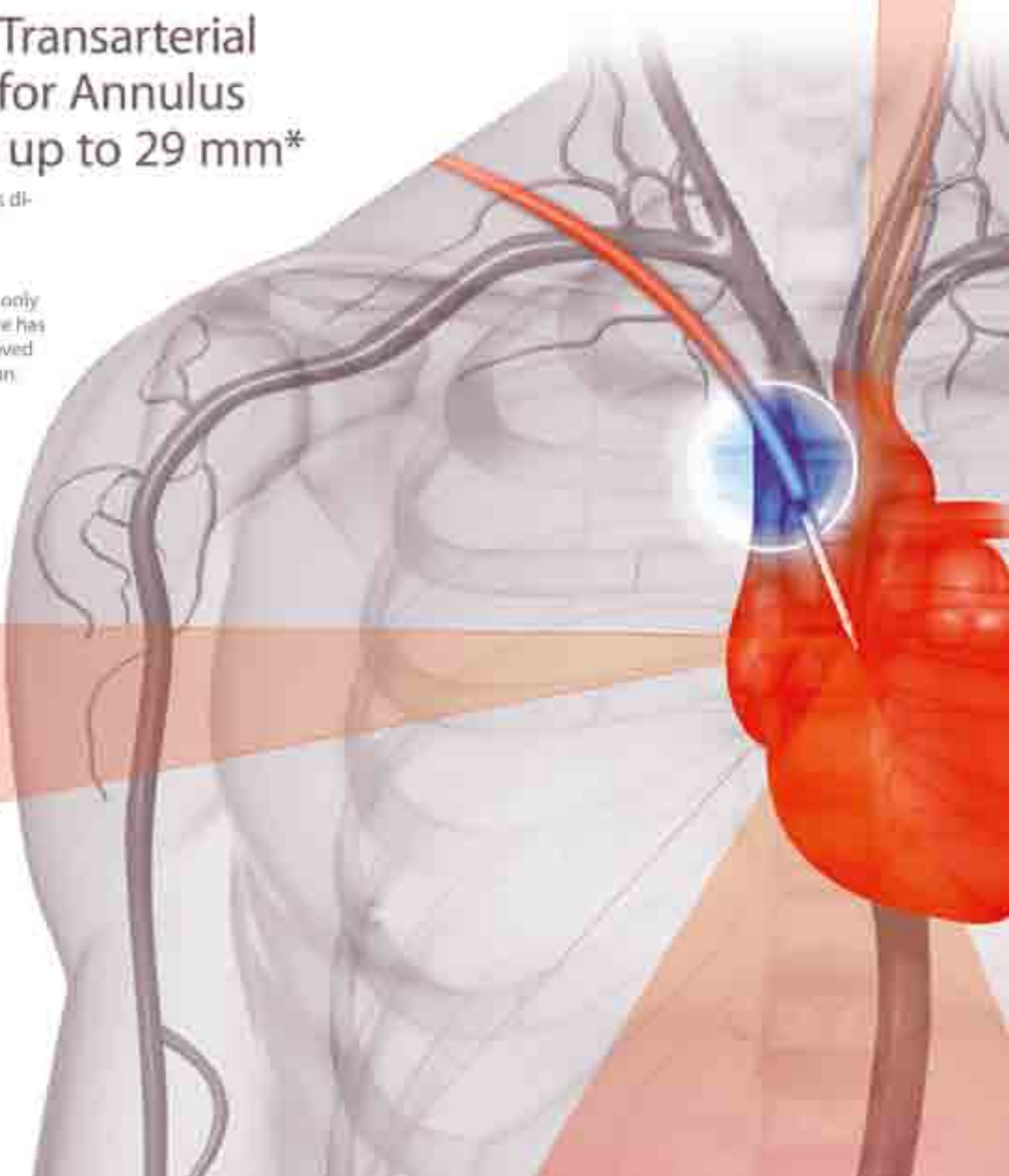
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