# Highlights from Sunday

## The impact of the cardiothoracic ward nurse practitioner

**Dawn Southey** *Lead Nurse Practitioner, Cardiothoracic Surgery, New Cross Hospital, Wolverhampton, UK*

**Heyman Luckraz** *Consultant Cardiothoracic Surgeon, Heart & Lung Centre, New Cross Hospital, Wolverhampton, UK*

The creation of ward nurse practitioner (NP) posts at the Heart & Lung Centre, Wolverhampton, UK was seen as a practical way of ensuring that a full service was offered to patients. Pressures on clinical resources and the consequences of the reduction in junior doctors' hours had already stimulated staff in the hospital to look for new ways to improve the use of resources and to serve the interests of the patient and aid nurses develop skills and knowledge to become skilled professionals to work at an advanced level.

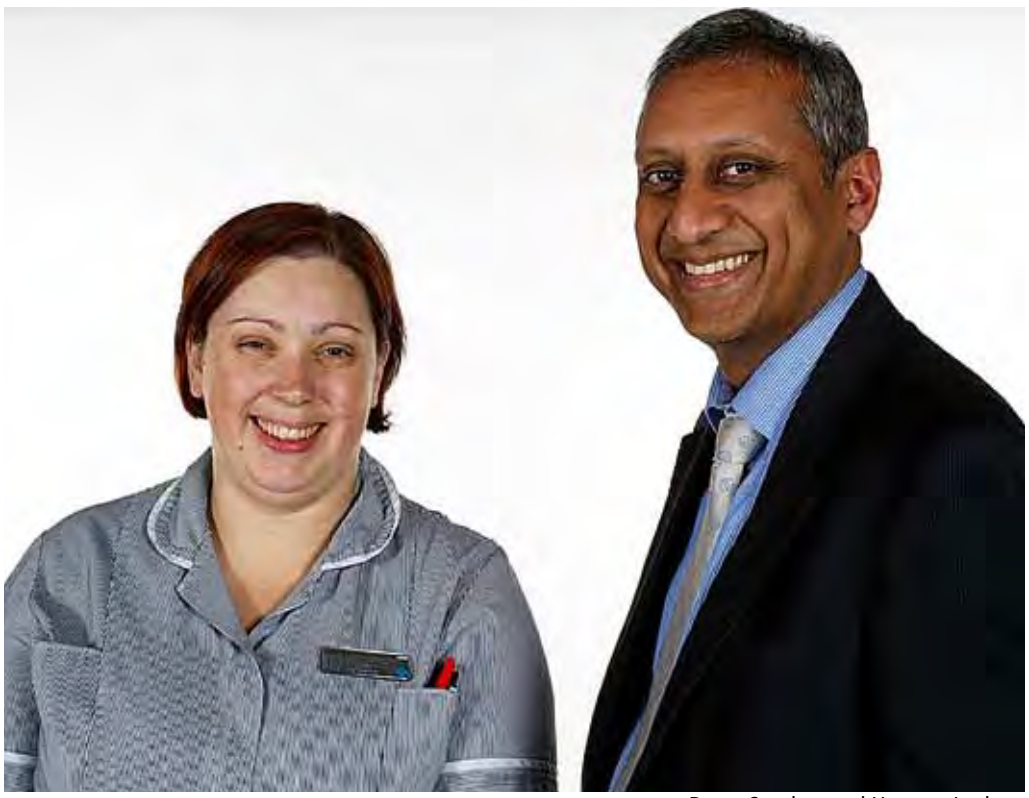
As a team of four nurse practitioners, our role covers from admitting patients through to advanced roles consisting of independently prescribing, and advanced wound management. We also play a large role in the care and stabilisation of acutely ill patients, liaise closely with the anaesthetic team and initiate emergency treatment such as CALS. As a team we develop policies, protocols and undertake audits to highlight improvements in practice. The contribution of the nurse practitioner role was emphasised following a recent audit of their practice.

This current study assessed the impact that the introduction of the nurse practitioner role had on patient's care, more specifically on Cardiac Intensive Care Unit (CICU) readmission from the ward, its associated mortality and length of stay. From 1st January 2005 to 31st October 2011, 8,591 operations were undertaken at the Heart and Lung Centre, Wolverhampton (2,823 were thoracic surgical and 5,768 cardiac surgical procedures). Overall, 192 patients needed to be readmitted back to the CICU for further management.

Patients were grouped according to two eras: (a) prior to commencement of the Nurse Practitioners in Oct 2007 (pre NP) and (b) those who were admitted after that date (post NP). 136 cardiac surgery patients were readmitted to CICU. Pre NP there were 63 patients readmitted with a mortality of 3.4% died while post NP 73 patients readmitted resulting in a 2.1% mortality. Readmission rates overall were lower following the NP introduction without any significant change in the Euroscore.

56 thoracic surgery patients were readmitted to CICU. Pre NP there were 26 patients readmitted to ICU with a 3.7% mortality while post NP there were 30 patients readmitted resulting in 2.4% mortality. Readmission rates overall were lower following role introduction.

This study showed that the introduction of the ward Nurse Practitioners improved patients' outcome with possibly earlier identification of deteriorating patients and earlier CICU input. This in return reduced patient mortality and reduced patients overall length of stay.



Dawn Southey and Heyman Luckraz

## 3D ultrasound: preoperative and perioperative benefits

**Arno Nierich** *Isala Clinics, Zwolle, The Netherlands*

Cardiac procedures, such as in surgery and interventional cardiology, request diagnostic tools in order to improve outcome. Transesophageal echocardiography (TEE) is already a powerful diagnostic modality used to assess cardiac anatomy and function. Intraoperative TEE has become one of the cornerstone imaging modalities during cardiac surgery and invasive cardiovascular procedures reflecting the daily increasing complexity of surgical techniques and patient pathology.

One of the recent ultrasound innovations is three-dimensional (3D) tyransesophageal echocardiography (3D TEE), a technique in which sound waves from a matrix array ultrasound probe are translated to real-time detailed on-line 3D images of the heart and major blood vessels of the body. Unlike 2D TEE, which relies on standard limited imaging planes, 3D TEE uses volume datasets. These 3D datasets are direct off-line translated by analytical software into 3D models enabling improved assessment of valve structures and quantification of ventricular function. Normal or pathologic cardiac structures can now be viewed from multiple perspectives. This is an invaluable visual aid in understanding better specific patient anatomy.

3D TEE enables surgeons, cardiologists and anesthesiologists to make a complete investigation and imaging of the heart, viewed from multiple perspectives. This provides the surgeon or cardiologist direct diagnostic information just before the first incision is made and allows adjustments of the treatment plan based on potential new information. 3D ultrasound allows real time dynamic imaging of the contractility of the heart, the structure of the vascular structures and the opening and closing of the heart valves. The images are easily translated to anatomical views during surgery. These views are important because during surgery the heart is mostly a static empty structure during the period of extra-corporeal circulation. Evaluation of the surgical result during the procedure allows timely correction and evaluation in order to determine whether the operative problems have been solved completely.

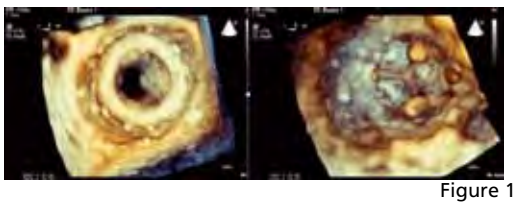


Figure 1

Figure 2

During closed chest cardiac procedures, such as transcatheter aortic valve implantations (TAVI) or port-acces robotic surgery, 3D TEE enables more easily patient monitoring in the phase of placement of catheters and devices in the main vessels and the heart. However, there is very limited information available for the use of RT 3D TEE in the perioperative setting. Up till now, the indication to use 3D TEE is as a focused examination of specific pathology or therapeutic treatments rather than performing a comprehensive 3D examination.

The 3D ultrasound presentation will highlight some important specific applications such as:

- What is 3D TEE
- Peri-operative Mitral valve evaluation
- Acute Aortic dissections: complete 3D ultrasound diagnosis and peri-operative monitoring of the brainperfusion
- Stroke prevention strategy in cardiac surgery and TAVI procedures with 3D TEE A-View technique

In summary, 3D TEE is of added value for cardiologists, surgeons and anesthesiologists since:

- 3D TEE is a surgical equivalent of GPS,
- Leads to effective peri-operative decision making, treatment planning and evaluation,
- Provides improved communication between the specialists, because 3D TEE is quite understandable for all stakeholders.

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**Editor in Chief**
Pieter Kappetein

**Managing Editor**
Owen Haskins
owen.haskins@e-dendrite.com

**Design and layout**
Peter Williams
williams_peter@me.com

**Managing Director**
Peter K H Walton
peter.walton@e-dendrite.com

**Head Office**
The Hub
Station Road
Henley-on-Thames,
RG9 1AY, United Kingdom
**Tel** +44 (0) 1491 411 288
**Fax** +44 (0) 1491 411 399
**Website** www.e-dendrite.com

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AtriCure

EACTS
European Association For Cardio-Thoracic Surgery

# Resident's Luncheon 2012

## Minimal invasive cardiothoracic surgery

## 26th EACTS Annual Meeting

### Conference center, Barcelona

Monday 29th October 12:45-14:00

## Moderators

Peyman Sardari Nia, Breda, Netherlands.
Mathias Siepe, Freiburg, Germany.

## Program

**Table 1: Minimal invasive mitral valve surgery**
Fredrich Mohr, Leipzig
Thom De Kroon, Nieuwegein

**Table 2: Minimal invasive aortic valve surgery**
Mattia Glauber, Massa
Marjan Jahangiri, London

**Table 3: Minimal invasive maze procedures**
Wim-Jan Van Boven, Amsterdam
Jos Maessen, Maastricht

**Table 4: Minimal invasive thoracic procedures**
William Walker, Edinburgh
Paul Van Schil, Antwerp

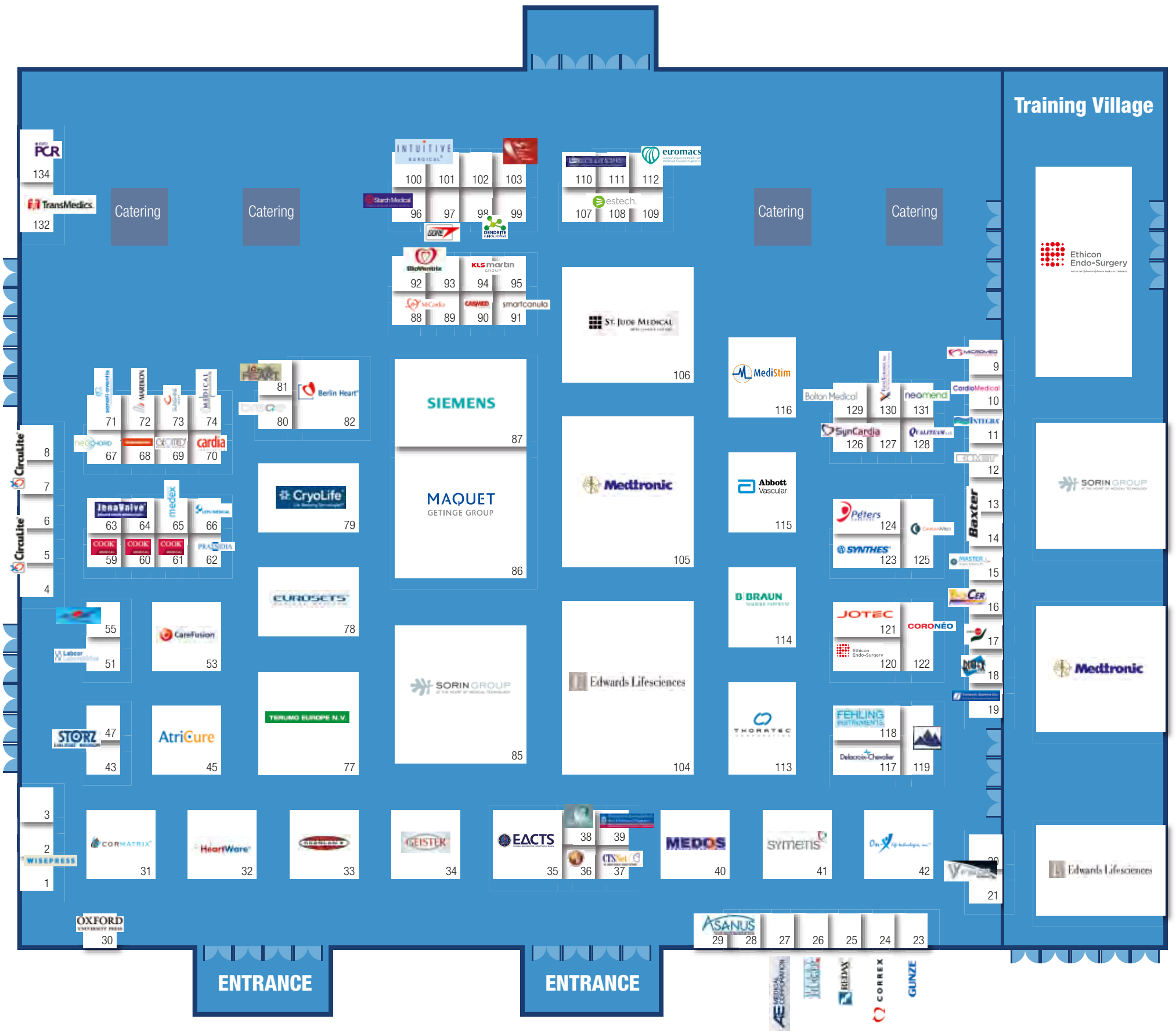
**Table 5: Minimal invasive aortic surgery**
Martin Czerny, Bern
Ernst Weingang, Mainsz

**Table 6: Minimal invasive revascularization procedures**
Jean-Luc Jansens, Brussels
Anthony De Souza, London

**Table 7: Hybrid congenital procedures**
David Anderson, London
Christian Schreiber, Munich

**The Luncheon is sponsored by an unrestricted educational grant from AtriCure.**
**Registration for the luncheon is only possible on site in the conference center**

# Floor plan

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EACTS
European Association For Cardio-Thoracic Surgery

# 27th EACTS
## Annual Meeting
## Vienna, Austria
## 5 - 9 October 2013

**Deadline for Abstracts - 1st April 2013**

To find out more or to register for the event visit:

www.eacts.org

Raising Standards through Education and Training

# EACTS events

## Advanced Module: Heart Failure – State of the Art and Future Perspectives

**12–17 November 2012 – 2 days of wetlabs**

EACTS House, Windsor, UK

**Course Directors: G Gerosa, Padua; M Morshuis, Bad Oeynhausen**

The course will be organised in 10 modules:

1 Epidemiology/Pathology;
2 Diagnostic/Imaging;
3 and 4 Optimal Medical Therapy/IC ; Resynchronization;
5 Cardiac Surgery (Indications, Techniques, Results);
6 Heart Transplant (Indications, Techniques, Results)
7 VADs/TAH (Indications, Techniques, Results);
8 HTx/VADs in Paediatric Population;
9 Stem Cells Regenerative Medicine;
10 Wet Labs/Live in a Box/Group Projects

**Course Objectives:**

To update knowledge of theoretical and technical issues of surgery for heart failure.

## Leadership and Management Development for Cardiovascular and Thoracic Surgeons

**20– 23 November 2012**

EACTS House, Windsor, UK

**Course Directors – J L Pomar, Barcelona**

The Leadership and Management Development Course is an intensive five-day programme in two parts with a three day initial training session followed by a further two days of training scheduled six months later. The course will utilise a mix of pre and post programme activities and each delegate will be tasked with exploring leadership best practise during the break between the two parts of the programme.

**Course Objectives:**

Improve, enhance and maximise your leadership attributes

## Thoracic Surgery Part II

**3rd – 7th December 2012**

EACTS House, Windsor, UK

**Course Directors – P Rajesh, Birmingham**

- The course programme includes:
- Tracheal Surgery
- Tracheobronchial injuries
- Tracheal-main bronchus obstruction;
- Esophagus Cancer – Staging, preoperative;
- Oesophageal cancer;
- Thoracoscopic technique;
- Mesothelioma treatments;
- Metastatic disease;
- Chest wall reconstruction;
- Case presentations.

**Course Objectives:**

To gain more insight and up-to-date knowledge on different aspects of thoracic surgery related to tracheal, pleural, mediastinal and oesophageal disease.

# Chest Wall Diseases 28–30 November 2012

***M Yuksel*** *Course Director, Istanbul; EACTS House, Windsor, UK*

Chest Wall Interest Group (CWIG) is a group belonging to the EACTS Thoracic Domain. It was founded during The Second International Nuss Procedure Workshop held in Istanbul in June 2009.

We have set out to establish a channel of communication across different continents with a view to allow the exchange of knowledge among those experienced practitioners who are studying, developing and innovating methods to treat chest wall diseases. In June 2010, we got together again in Izmir, for The Third International Workshop on the Minimally Invasive Repair of Pectus Deformities under the custody of EACTS. The Workshop was a great success and we had the chance to discuss the future projections of the CWIG.

Our next important meeting in the calendar was The Fourth International Chest Wall Interest Group Workshop on Chest Wall Diseases which was held in Istanbul on June 22 – 23, 2012, under the custody of EACTS, with the participation of 35 invited faculty from around the world.

Now we want to reach a broader spectrum of residents, specialists and academicians, thus we are organizing a workshop on "Chest Wall Diseases" in Windsor, UK, at EACTS House, 28-30 November 2012.

The main subjects are Congenital Chest Wall Deformities, Chest Wall Resection and Reconstruction, Thoracic Outlet Syndrome and Sternal Dehiscence.

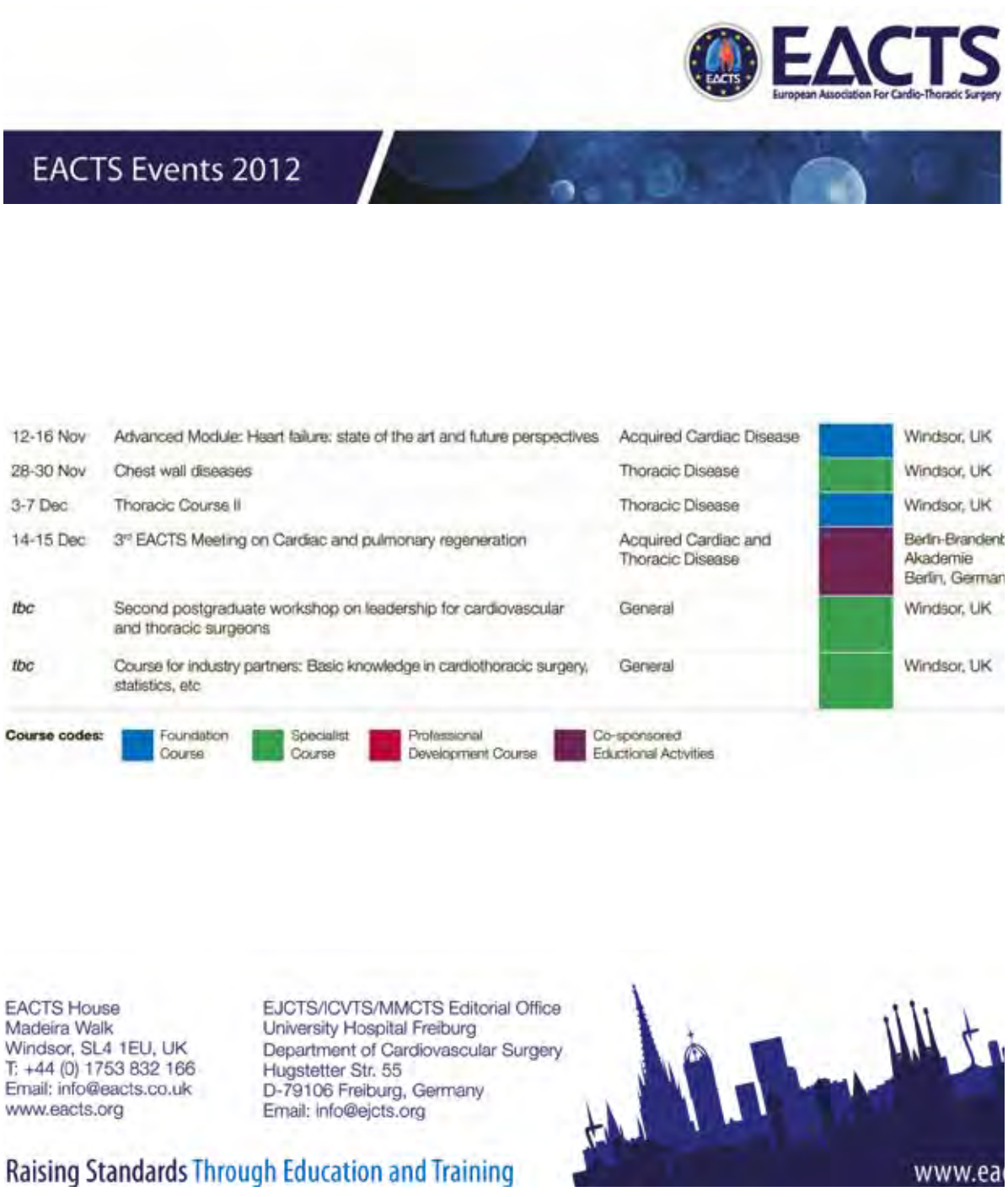
The Learning Objectives are; Learning the indications, techniques and follow up of minimally invasive and open surgery in pectus deformities; Learning the alternative treatments –surgical and nonsurgcal- for pectus deformities; Learning chest wall resection and reconstruction techniques in chest wall diseases; Learning the surgical techniques in thoracic outlet syndrome and Learning the treatment options –surgical and nonsurgical- in sternal dehiscence.

The Target Audience is; Thoracic Surgery Residents, Specialists and the Academicians working in the field of Thoracic Surgery.

We very much look forward to welcoming you to Windsor.

To register for this course please visit:
www.eacts.org/academy/specialist-courses/chest-wall-diseases.aspx

Regards,
Prof. Mustafa Yuksel, MD




Medtronic

# Over 1,000 implantations of the Medtronic 3f Enable® Aortic Bioprosthesis

Medtronic reports over 1,000 implantations of the 3f Enable® Aortic Bioprosthesis, the world's first commercially available sutureless tissue heart valve. The Medtronic 3f Enable® Aortic Bioprosthesis received CE-Mark in December 2009 with first implants taking place in 2007. Medtronic formally announced this milestone during this year's edition of the Sutureless Club, recently held in Amsterdam, The Netherlands.

This innovative valve technology has a self-expanding Nitinol™ frame that allows the 3f Enable® Aortic Bioprosthesis to be folded into a small diameter. This facilitates placement through a smaller incision, without the use of conventional sutures for fixation. Instead, radial forces of the self-expanding frame hold the valve in place in the annulus. No other points of fixation are required. Implantation is therefore reduced to a single-step procedure and without the need for ballooning. If needed, the 3f Enable® Aortic Bioprosthesis can be repositioned to achieve optimal outcomes for each patient.

Medtronic's 3f Enable® Aortic Bioprosthesis helps the surgeon simplify the procedure with a reproducible technique that may contribute to shorter cross-clamp times and reduced trauma to the patient. The 3f Enable® self-expanding Nitinol™ frame houses a stentless pericardial valve with a tubular design that preserves sinus form and function. Improved stress distribution mimics the functional characteristics of a native valve. The valve has a large orifice area with laminar flow for excellent hemodynamics. Publications have shown low and stable gradients across all sizes, from 19 to 27 mm.

"Medtronic is pleased to bring our 3f Enable® Aortic Bioprosthesis to cardiac surgeons and their patients" said Shawn Monaghan, vice president of the Surgical Based Therapies business unit. "The 3f Enable® tissue heart valve provides a new and simplified way to replace diseased, damaged or malfunctioning aortic valves, and in a way that is less invasive for patients."

**Jin** XY. Implications of Stentless Valve Design and Implantation Techniques for Aortic Root Geometry [abstract]. Paper presented at: Advanced Cardac Techniques in Surgery; May 2-3, 2007; New York, NY.

**Cox** J, Ad N, Myers K, Gharib M, Quijano RC. Tubular heart valves: A new tissue prosthesis design—Preclinical evaluation of the 3f aortic bioprosthesis. J Thoracic Surg 2005; 130:520-7.

**Sadowski** J, et al. Sutureless aortic valve bioprosthesis '3F/ATS Enable' – 4.5 years of single-centre experience. Kardiol Pol 2009; 67(8a):956-63.

**Martens** et al. Clinical experience with the ATS 3f Enable Sutureless Bioprosthesis. Eur J Cardiothorac Surg 2011;40:749-55.

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