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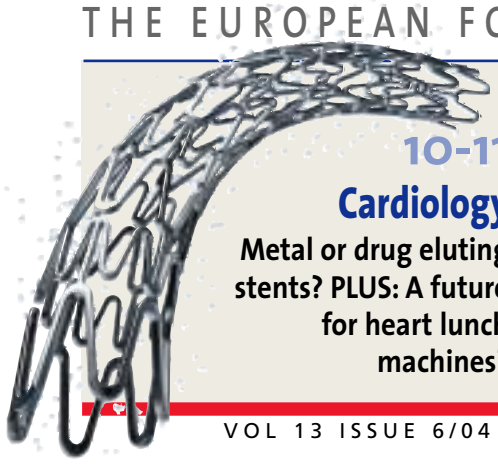

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Happy 2005-3005!

Ageing, according to geneticist Aubrey de Grey, is merely a physical phenomenon that needs an engineering solution. The researcher heads the Strategies for Engineered Negligible Sensescence (SENS) project, at Cambridge University and runs the 'Methuselah Mouse' prize for extending age in mice.

SENS proposes a strategy that does not interfere with metabolism per se, but repairs or obviates accumulating damage, thus indefinitely postponing the age when damage reaches pathogenic levels.

Ageing is a very complicated process, he said: 'There are seven major types of molecular and cellular damage that eventually become bad - including cells being lost without replacement and mutations to chromosomes. Each is potentially fixable by technology that already either exists or is in active development.' Thus, in about ten years, he predicts that life extension therapies will work in mice, and about ten years later could be applied to humans. Then, he said, we will not become frail, decrepit and dependent, and could even live a thousand years, youthful in mind and body. '... up to the day you misjudge the speed of an oncoming lorry,' he pointed out. Accidents - or an influenza epidemic - could still carry us off.
Details: www.gen.cam.ac.uk/sens

Worldwide drug withdrawal puts FDA under scrutiny

Karen Dente reports from the USA

Merck faces 300 lawsuits

The worldwide voluntary withdrawal of the painkiller Vioxx (chemical name rofecoxib) in September has not only landed Merck & Co Inc - the drug's manufacturer - with 300 lawsuits, but also cast a dim light on efficiency and stringency at the Federal Drugs Agency (FDA)

Vioxx was withdrawn due to safety concerns of an increased risk of cardiovascular events (including heart attack and stroke) in patients using Vioxx, which had been approved by the FDA for various uses in 1999 (see box).

Results from a most recent trial, called APPROVe (Adenomatous Polyp Prevention on Vioxx), compelled Merck to withdraw the drug, because this long-term study showed significant adverse cardiovascular events conducted in 2,600 patients at risk of developing recurrent colon polyps. On 27 September Merck contacted the FDA to request a meeting to advise the agency that this study had been halted. The next day, the company informed the FDA of its decision to voluntarily withdraw Vioxx from the market.

In June 2000, the company had submitted the results of a safety study called VIGOR (Vioxx Gastrointestinal Outcomes Research) to the FDA. This study outcome demonstrated an increased risk of serious cardiovascular events in patients taking Vioxx compared with patients taking naproxen, leading to labelling changes being implemented by the FDA in April 2002. Recently other studies have also suggested similar serious risks in patients taking Vioxx, and the FDA claims to have been in the process of reviewing these results to determine whether further labelling changes were warranted. It has become clear that 25 mg of Vioxx per day significantly increases the risk of serious cardiovascular events (MI and stroke) compared with placebo. The risk only becomes apparent in patients after a period of 18 months, while the exact mechanism for the risk - whether it is a platelet effect or related to blood pressure changes - remains unclear.

Shortly after the withdrawal of Vioxx from worldwide markets, the British medical journal *The Lancet* published results from a cumulative meta-analysis showing that the unacceptable cardiovascular risks of Vioxx were evident as early as 2000. This discovery, made four years before the drug was eventually withdrawn from the market, indicates the manufacturer's failures in internal systems of post-marketing surveillance,

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Vioxx background

Vioxx is a cyclooxygenase (COX)-2 selective, non-steroidal anti-inflammatory drug (NSAID) that was approved by the USA's Food and Drug Administration (FDA) in May 1999 for the relief of the signs and symptoms of osteoarthritis, the management of acute pain in adults, and the treatment of menstrual symptoms. Vioxx was later also approved for the relief of signs and symptoms of rheumatoid arthritis in adults and children. Vioxx was the second of a new kind of NSAID (Cox-2 selective) approved by FDA. Other similar drugs in this class include Bextra and Celebrex.

At the time that Vioxx and other Cox-2selective NSAIDs were approved, it was hoped that they would have a lower risk of gastrointestinal ulcers and bleeding than other traditional painkillers such as aspirin, ibuprofen or naproxen. Vioxx is the only NSAID demonstrated to have a lower rate of these side effects. Worldwide sales of Vioxx last year reached US$2.5 billion, following the most impressive sales growth for any drug in 2001.

Further Laboratory and pharmaceutical news - page 13

Shaping an EU health strategy

Last July, David Byrne, the (then) EU Commissioner of Health and Consumer Protection, launched a 'reflection process' for a new EU health strategy, and invited national and international stakeholders to contribute to and help in this project. A future EU health strategy? In an interview with *Professor Reinhard Busse*, of the Department of Health Care Management, Berlin University of Technology, and one of the five international experts invited by David Byrne to comment directly on his initial paper launching this reflection process, *European Hospital* asked whether there is indeed a present health strategy and if so, how he would describe it.

'According to the Treaty on European Union the responsibility for the organisation of the healthcare system and of medical care rests solely with the individual Member State. However, many EU policies affect healthcare systems, in particular those concerning the internal market. Consequently, the EU health strategy has always been somewhat incoherent, since one necessary module, namely influence on the healthcare systems per se, didn't exist. Therefore, the EU health policy focused on rather marginal activities such as *Europe against cancer or Europe against AIDS*. The EU picked single issues, with the result that the health strategy looked more like an incomplete puzzle. Only now there seems to be a widespread acknowledgement that a health strategy cannot neglect the healthcare systems.'

Asked what he believed a European health strategy could be formed, the professor replied: 'A European health policy should start from two basic principles: effectiveness (or quality), i.e. actual contribution to better health, and choice. Both principles must be seen on a European scale. When I need, for example, the services of a hospital in another EU Member State, I want to know whether I will receive the kinds of therapies that are considered necessary in my

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according to an editorial in *The Lancet*. The journal's editorial also stated that this points to a serious weakness in the regulatory oversight of the US Food and Drug Administration.

According to a comment made on national public radio (NPR) by Dr Stuart Seides, Associate director for cardiology at the Washington Hospital Centre, there have been 'rumblings for the past 2 years' saying that Vioxx might not be as safe as other drugs in its class. Although the absolute risk for adverse cardiovascular events is not that high, it seems to increase the risk of heart attack or stroke 2-3 fold compared with placebo - a significant increase in risk.

Merck is facing at least 300 lawsuits by patients who believe they were harmed by this drug. Investigations by *The Wall Street Journal* have discovered e-mails that support the belief that Merck's executives had clear knowledge of their drug's adverse effects on the heart and vasculature. Marketing literature from Merck dating back to 1996 was found that included a document intended for its sales representatives (who directly speak to physicians about the drug) labelled 'Dodge Ball Vioxx' in which it discussed how to avoid answering questions about the cardiovascular risks of the drug. Was Merck attempting to gloss over these apparent risks? Internal company memos seem to imply that Merck has fought forcefully to keep unfavourable safety reports from destroying the commercial prospects of the drug, while trying to design trials that would make the efficacy and side effect profile of the drug look favourable in comparison to older pain killers such as aspirin and naproxen.

The case of Vioxx has shown the FDA to not live up to its expected role as a strict and efficient regulator of the pharmaceutical industry and protector of public interests. The pharmaceutical industry is an important source of funding for the agency, and these interests seem to sometimes override its regulatory function. *The Lancet* calls the Vioxx story one of blindly aggressive marketing by Merck mixed with repeated episodes of complacency by drug regulators. Hopefully the drug industry and government regulatory bodies will own up to why over two million patients were knowingly being misled about the known risks of a drug that has been on the market for 5 years, so better vigilance and precautionary measures can be implemented to secure patients from being endangered by faulty medicine due to corporate greed and negligence in the future.

SHAPING AN EU HEALTH STRATEGY
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own country. However, consequently all national idiosyncrasies that are not well-founded need to be scrutinised closely. *We've been doing that forever* is no longer a valid argument. We Germans, for example, are often asked why our health spa system is being financed publicly. Now we have to answer not only that question but also *Is the spa system effective*? If it is not effective, why is it being subsidised in Germany but not in other countries? Or, if it is not effective, why do we spend money on it? However, looking at health issues from a European perspective doesn't mean we will introduce a European health tax or that the system of statutory health insurances will be abolished - which is what many seem to fear. As far as financing, organisation and management of the healthcare systems are concerned we can definitely accept pluralism. If it turns out that our system of health insurance does a good job in providing the citizens with healthcare, then we could 'export' it. If it turns out, however, that statutory health insurance only exists in Germany because it is protected as an "endangered species", whilst other forms of healthcare systems are more effective, then we also need to look at it again. One objective of a European health strategy is to create the possibility that the Member States can learn from each other and profit from the others' experience.'


Professor Reinhard Busse

Does that mean in the future all players in the healthcare system should be prepared to be under Europe-wide scrutiny, no matter whether we talk about a medical service, or the structure of a health insurance company? 'Exactly,' the professor agreed. 'But many players are still not at all happy about this. I personally am convinced that the international perspective is positive. Splendid isolation won't get you anywhere. In fact, the big issue is not *whether* we will have a EU healthcare policy but *what* it will look like.

How might the EU health policy be enforced? The professor had mentioned two possibilities: traditional EU instruments, such as directives and regulations, and an *open method of coordination (OMC)*. 'The OMC starts from the assumption that we don't standardise processes in a healthcare system because, often enough, we don't even know what the best processes are. Is, for example, in-patient better than out-patient care? OMC looks at the outcome. An objective, a desired outcome, is being determined, not the process to achieve it. If, for example, the objective is *access for all citizens to high-quality healthcare* then OMC won't prescribe *more hospitals or better medical training*. It's the result that counts, not how you get there. No doubt results must be measured - and measured identically across the Member States. Then we know who's on top and who isn't. And the ones behind can learn from the ones ahead. Learning doesn't mean imitating one to one. You can pick ideas from the two or three best countries and develop your own method. This approach is consistent with modern thinking in our healthcare systems. We want to be evidence-based and expect our physicians to check whether their therapies accomplish the desired results and not to say *I've been doing it like that for the last 20 years*.'

Is OMC enforceable? 'Traditional instruments such as directives and regulations often overshoot the mark,' Prof. Busse observed. 'Look at the European work time directive, drafted without regard of the individual industry and service sectors. The result? Nobody thought of on-call hospital hours. Only the practical implementation showed the shortcomings in crucial areas. It is true that we have to ask ourselves whether OMC is enforceable. But there is one good example of OMC even though at that time it wasn't called OMC: the Maastricht criteria for the euro. It was determined that the total debt of a country must not exceed 60% of the GDP per year and that new debts must not exceed 3% of the GDP. It didn't matter how a country achieved these goals. But those who reached the goal got the euro, and those who didn't, didn't. Today we know that some countries cheated a bit which shows that the system might have had certain weaknesses and that maybe the objective should not be as 'monolithic'. Nonetheless, the countries that don't reach the 3% goal must account for their failure. If we had such objectives in the healthcare system, maybe we would talk more about these objectives rather than permanently moan about contribution rates.

The Maastricht criteria underlines that a goal should be checked from time to time, to verify that it is still useful if the framework has changed. The professor agreed that objectives should be adjusted if necessary but added that the main goal in healthcare should remain valid: to create as much health as possible. However, when it was pointed out that many players in the healthcare system do not wish for overall health that could 'kill them off', he said this was precisely why governments of the EU Member States must agree on priorities for a healthcare system. 'The priority of the healthcare system cannot be generating jobs for physicians and nurses.' It has to be the maintenance and promotion of health, he added. 'And if that means that in the end we need fewer doctors, be it that way. That might happen.'

Asked for his opinion on the former Commissioner Byrne's paper launching the reflection process, he reflected that the concept might not be far-reaching enough. 'The Commission suggests, albeit very, very cautiously, that healthcare systems should be included in the scope of EU policy. At the same time the Commission is well aware that many countries balk at that idea. They still prefer to come running to Brussels when something went wrong - not before. A case in

Smoking is in the genes

The Netherlands - The number of cigarettes smoked daily, and a person's level of nicotine dependence, are mainly genetically determined, according to research conducted by Jacqueline Vink for her PhD research. Working at the Department of Biological Psychology, Vrije University, she used data from a large study of over 16,000 twins (and their relatives) from the Dutch Twin Register, and some participants also supplied DNA material for the study. The researcher used this to investigate which genes play a role in this addiction and found that chromosomes 6 and 14 contain regions involved with taking up smoking. A region on chromosome 3 is involved in the number of cigarettes that somebody smokes per day. A region on chromosome 10 plays a role in both the number of cigarettes smoked per day as well as the chance that somebody takes up smoking. Further research is needed to determine exactly which genes are involved. Whether or not a young person starts to smoke largely depends on his/her environment. Smoking friends and family members increase the chance that someone will take up the habit. However, a predisposition for nicotine addiction does not mean that somebody will also become addicted or remain addicted. Smokers who have a genetic disposition can still stop smoking, although they probably belong to the group who finds it hardest to quit, according to the NWO and ZonMw (Netherlands Organisation for Health Research and Development), in its programme Adiction, for which Jacqueline Vink's study was undertaken.
Details: jm.vink@psy.vu.nl

Declining occupational illnesses

Germany - The number of suspected cases of occupational illnesses decreased by 27% in five years, according to the professional association Berufsgenossenschaft für Gesundheitsdienst und Wohlfahrtspflege (BGW). Dermatological, spinal and respiratory conditions decreased significantly, while the total number of contagious disease cases stayed the same, although hepatitis shoed a downward trend. Professor Stephan Brandenburg, member of the BGW management said this proved that target group-specific prevention programmes '...can help keep stubborn illnesses in check'.

point is health technology assessment. A few years back, the Commission proposed to co-ordinate health technology assessment on a Europe-wide basis. Many countries insisted that this is part of their healthcare systems and therefore outside EU competency. Now they've seen that national activity alone is much too time and money consuming and they call for EU-wide co-ordination. Many countries still only react, they don't think proactively. And the EU Commission, in my opinion, is also not proactive enough. They are too occupied with the idea that all Member States instantly agree with their suggestions. I would have preferred a more visionary approach: *Health and healthcare in the EU ten years hence*. It would have been important to identify aspects that need harmonisation and others where diversity is much better. That means the new reflection paper is a distinct step ahead, but only a step, not the final programme.

Asked whether he thinks there will be a bona fide EU health strategy soon, Professor Busse said: 'OMC is a kind of European strategy, because it means we agree on common goals. And OMC will come. Sure enough, it is difficult to understand why on the one hand the heads of government clearly promote OMC, particularly for health and healthcare and, on the other, some health ministers still insist that they don't want OMC. That's schizophrenic. If we have common goals, then the next question clearly is *How do we reach them?* That's the strategy. I think five years from now we will be far more relaxed about this issue, because by then everybody will have understood that we need a European health strategy.

- EU-related publications by Professor Reinhard Busse MD, MPH, FFPH, (available via the website http://mig.tu-berlin.de), include:
- Busse R, Wismar M, Berman P (eds.) (2002): *The European Union and Health Services - The impact of the Single European Market on Member States*. Amsterdam: IOS Press
- Busse R (2004) *Europäische Union - Neue Verfassung, neue Sozialpolitik? Gesundheit und Gesellschaft* 7(2): 34-40

Acquisition moves firm to 'big league'

In 2005, **Smiths Group** is expected to complete its recently announced acquisition of Medex Inc, a leading supplier of infusion equipment for critical care, specialising in intravenous infusion catheters that prevent needle-stick injuries - all highly complementary to Smiths own products. Medex also sells to the same hospitals and other healthcare groups. In a full year, this acquisition is expected to increase Smiths' sales by about a third and profits by almost 50%. 'This transaction moves us into the medical devices big league,' said Keith Butler-Wheelhouse, Smith's CEO.

Based in Carlsbad, California, and with operations in Ohio, Connecticut and Georgia, and plants in Mexico, Germany, Italy and the UK, Medex employs around 2,000 people. Dominick Arena, president & CEO, and the senior management team, have agreed to remain for at least a year after completion. Integration teams will deliver sales, operational and administration synergies quickly, once Medex becomes part of Smiths Group, the latter reports.

For 12 months to 31 December 2004, Medex is expected to achieve sales of $330m, an underlying operating profit of $75m and EBITDA of $100m. For nine months to September, Medex reported underlying operating profit of $59m and pre-tax profit of $39m. The company was formed through an MBO by its current management team in February 2001 from Saint Gobain Performance Plastics Corp. It subsequently acquired Inhalation Plastics, Inc in May 2002 and the vascular access business of Ethicon Endo-Surgery ('Jelco') from Johnson & Johnson in May 2003. The reported audited loss before tax for the year ended December 2003 was $7m and net assets at that date were $91m. Smiths does not believe this reflected the underlying performance of Medex, as it included only a seven month contribution from Jelco and was also depressed by a number of non-recurring charges, including $18m relating to one-off acquisition costs. The businesses have, on a pro forma basis, delivered strong underlying sales growth and cash generation over the past three years, Smith's reports.

Two thirds of Medex's sales are of intravenous catheters. The product range incorporates devices that help prevent accidental injuries caused by 'sharps' that remain exposed after use - which align with the Smiths Needle-Pro range of safety devices. Other product lines include pre-packaged trays of single-use products for catheterisation procedures, similar to Smiths' kits for anaesthesia applications. Medex also makes advanced syringe pumps that incorporate medication error detection, while Smiths points out that it supplies ambulatory infusion pumps worldwide.

Another Seca launch

***seca Vogel & Halke GmbH & Co KG*, Hamburg, has launched the seca 709, which the firm describes as '...a sturdy column scales, designed for a long service life in professional use. The mechanical column scales (approval class III) displays measured weights up to 200 kg max. in 100 g steps. The catch on the moving beam facilitates speedy weight determination and the results are easy to read, due to high-contrast, screen-printed numbers on the scales. As the moving beam can be attached on both sides, it is possible to position the scales and operating facilities facing a patient or someone standing in front of the scales.'**

This new product is identical in construction to the seca 710 but weights are measured in 50 g steps - an indispensable fine graduation when weighing children and dialysis patients.

With long service in mind, the scales column is made from steel, on a cast iron base, and the lever apparatus is treated with a special rustproof paint. The 709 also has integrated transport castors for easy movement. Safe footing for patients is ensured by the large platform with grooved non-slip rubber coating.

The firm also points out that, when fitted with the seca 220 measuring rod, height and weight measurement is even simpler and timesaving.

PACS firm wins £33m contract

ComMedica, the UK-based healthcare IT specialist originally spun out from Imperial College, London, has signed a £33m contract with Computer Sciences Corporation to supply its Picture Archiving and Communications Systems (PACS) imaging software to the UK's National Health Service, as part of NHS' National Programme for IT (NPfIT).

ComMedica will supply specialist software allowing the capture, distribution and management of digital medical diagnostic images (e.g. X-rays and scans) for use in the NHS across the North West and West Midlands. ComMedica will also provide consultancy services in support of the CSC Alliance deployment team. Running until June 2013 the contract will generate revenues of some £33 million for ComMedica.

The CSC Alliance will provide an integrated solution for radiology, which will link radiology reports and images into the NHS Care Records Service. The first PACS solution to be deployed in the North West and West Midlands cluster is scheduled for the first quarter of 2005, and complete coverage is set for March 2007, allowing millions of patients to receive quicker treatment. The NWWM area serves 14 million people (26% of the population of England) and the CSC Alliance PACS solution will be used in over 100 hospitals.

Cross-border sales for IT healthcare systems?

Mark Simon

As EU healthcare providers increase their IT spending, Mark Simon outlines the problems and potential market for small to medium sized firms in this field

Prospects in the healthcare IT sector for small and medium-sized enterprises (SME) have never been better. This is not a widely held view among such companies in Europe, but I believe that the facts speak for themselves.

From the SMEs' viewpoint, the implementation of IT systems in healthcare cannot just be a matter of research and product development: '*If we build it, they will buy*'. At a national level, competition is significant in all kinds of medical IT applications at a national level. For an ambitious SME, the problem is how to create a genuine Europe-wide market for its innovative healthcare products.

An analysis of the healthcare IT market has seen a shift in the philosophy of the healthcare IT industry, characterised by three specific trends, which will be familiar to observers of IT in other sectors:

Healthcare providers are rather more interested in integrated IT solutions than they are in separate products.

More successful SMEs tend to exploit their core capabilities and try to network with other partners or subcontractors who provide complimentary competencies, and Systems integrators are vital to enable the market to mature. They bring their industry-wide expertise in integration to combine existing with new, best-in-breed applications through interface engine and similar systems.

European healthcare providers, being (at least commercially) non-competitive and non-profit organisations, have well-established low-to-medium margins with little room for IT investments. In addition, the absence of deadline culture turns decision-making into a time-consuming effort, particularly since the state-of-the-art solution may change during the decision process. With this challenging background, SMEs face the following problems - and opportunities:

SMEs frequently develop products that address customer tailored or country specific needs. Having to adapt the application to international practices implies enormous investments, and national language support alone is not enough - and not practical in many cases at the moment - since culture and practice differences can be substantial. However, in the healthcare IT market, SMEs have specialist knowledge with which a multi-national company struggles to compete. Specialist knowledge, as well as knowledge of local practice, is a huge asset that SMEs are uniquely well-placed to provide;

Downsides for healthcare providers in choosing SMEs include the supposed greater commercial risk. Where will the business be in two years' time? Prospective customers want to know that the SME is well managed, financially strong and can give strong product support. Healthcare providers have the answer in their hands here by ensuring that their SME suppliers are properly motivated *and paid as committed for work done*, to ensure the perennial issues of cash do not catch a smaller business out.

Healthcare providers looking at potential SME suppliers frequently have the muscle to bring down prices. It is vital that they do not 'throw the baby out with the bathwater' by failing to compensate a small company sufficiently to ensure that it remains capable and focused on its project. If properly motivated, an SME is likely to be much more dedicated to the success and 'referencability' of the project. That said, do not expect SMEs to do things they cannot do - for larger 'service managed' solutions, healthcare providers probably need a systems integrator to ensure the satisfactory service level or management.

Finally, as an SME grows, its success will become apparent and draw the attention of multi-national competitors. However, when bought out by such a larger concern, innovation often diminishes because research and development becomes removed from the local markets. Healthcare SMEs must thrive by embracing standards, systems integration with other systems and focusing on being 'best of breed' providers of their speciality application.

Healthcare is very much about people and human diagnosis is rarely done remotely. Software, similarly, is best done at a very human scale - making SMEs (or similar, small groups) the best home for such healthcare innovation.

The UK's NHS National Programme for Information Technology (NPfIT) is not only the world's largest IT programme (value: around 9 billion euros), it is also an important opportunity and revenue-generator for SMEs. And there are important deadlines to meet, which makes England an interesting and historically atypical IT environment.

Without a doubt, healthcare is a fantastic market for SMEs to be in. With few exceptions, every European country is in the throes of increasing its spending in healthcare IT. Everyone needs patience - we all need to be winners!

Mark Simon, CEO, UK-based ComMedica
ComMedica Limited, Hollywood House, Church Street East
Woking Surrey GU21 6HJ, United Kingdom

ON SHOW AT THE RSNA

A new lie detector?

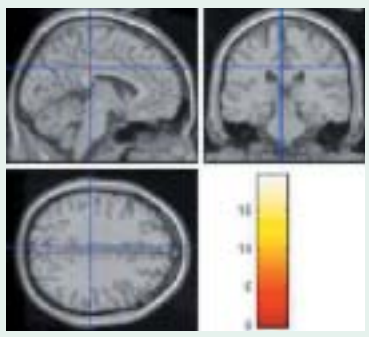
fMRI used with a traditional polygraph reveals brain changes during deception

When people lie, different parts of their brains are used than when they tell the truth, and these brain changes can be measured by Functional magnetic resonance imaging (fMRI), according to a study presented today at the annual meeting of the Radiological Society of North America (RSNA). The results suggest that fMRI may one day prove a more accurate lie detector than the polygraph.

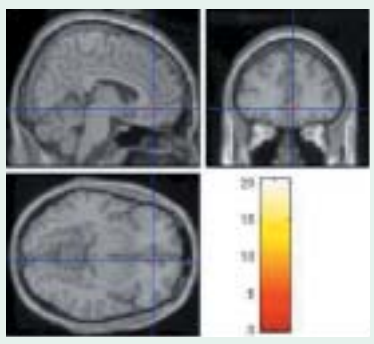
'There may be unique areas in the brain involved in deception that can be measured with fMRI,' said lead author Professor Scott H Faro MD, vice-chairman of radiology and director of the Functional Brain Imaging Centre and Clinical MRI at Temple University School of Medicine in Philadelphia: 'We were able to create consistent and robust brain activation related to a real-life deception process.'

The researchers created a relevant situation for 10 normal volunteers. Six of the volunteers were asked to shoot a toy gun with blank bullets and then to lie about their participation. The non-shooters were asked to tell the truth about the situation. The researchers examined the individuals with fMRI, while simultaneously administering a polygraph exam. The polygraph measured three physiologic responses: respiration, blood pressure and galvanic skin conductance, or the skin's ability to conduct electricity, which increases when an individual perspires.

The volunteers were asked questions pertaining to the situation, along with unrelated control questions. In all cases, the polygraph and fMRI accurately distinguished truthful responses from deceptive ones. During deception, fMRI showed activation in several brain areas: in the frontal (medial inferior and pre-central), temporal (hippocampus and middle temporal), and limbic (anterior and posterior cingulate) lobes. During a truthful response, the fMRI showed activation in the frontal lobe (inferior and medial), temporal lobe (inferior) and cingulate gyrus.



Truth Activation Limbic Lobe (Anterior Cingulate)



Lie Activation Limbic Lobe (Anterior Cingulate)

Overall, there were regional differences in activation between deceptive and truthful conditions. Furthermore, there were more areas of the brain activated during the deception process compared with the truth-telling situation.

Professor Faro's study is the first to use polygraph correlation and a modified version of positive control questioning techniques in conjunction with fMRI. It is also the first to involve a real-life stimulus. 'I believe this is a vital approach to understand this very complex type of cognitive behaviour. The real-life stimulus is critical if this technique is to be developed into a practical test of deception,' he pointed out.

Because physiologic responses can vary among individuals and, in some cases, can be regulated, the polygraph is not considered a wholly reliable means of lie detection. According to Professor Faro, it is too early to tell if fMRI can be 'fooled' in the same way. However, these results are promising in that they suggest a consistency in brain patterns that might be beyond conscious control.

'We have just begun to understand the potential of fMRI in studying deceptive behaviour. We plan to investigate the potential of fMRI both as a stand-alone test and as a supplement to the polygraph with the goal of creating the most accurate test for deception,' he added.

** Co-authors: Feroze Mohamed PhD, Nathan Gordon MS, Steve Platek PhD, Mike Williams, PhD, and Harris Ahmad MD.*

The mummy's mask

CT and 3-D modelling may become a new form of art conservation

Using computed tomography (CT) and 3-D modelling, radiologists are assisting in the restoration and display of a 5,300-year-old Egyptian mummy mask. This is the first time that CT and 3-D modelling have been used to study, preserve and display an antiquity with an outer and inner surface, according to researchers who presented their research at the RSNA's annual Chicago meeting.

'Previously, radiologists have focused on the mummy itself,' explained Douglas D Robertson MD, PhD, associate professor of radiology and director of the musculoskeletal imaging and biomechanics lab at the University of Pittsburgh. 'With this project, we focused on the mask

as a work of art, and hoped not only to conserve the mask, but also to create a virtual reality replica that would allow worldwide access via the Internet.'

Owned by the Saint Louis Art Museum in Missouri, the mask, from an Egyptian noblewoman's mummy, is constructed from gauze, bitumen, gold, glass, wood and paint and. It depicts the image of a woman's face and upper body. Her arms appear to be folded, and she holds two amulets.

Dr Robertson and his team* performed volumetric CT imaging on the mask and could identify previously unknown aspects of the mask's composition, including the number of wooden pieces used to create the amulets. In addition, texture mapping revealed that surfaces previously thought to be flat - such as bead details - were actually embossed.

More importantly, the CT images allowed the researchers to locate internal and external damage not visible to the naked eye. Using rapid prototyping software, the researchers then compiled the CT images into a 3-D replica of the mask, which was used to assist in the repairs.

The 3-D computer model of the mask allows viewing from any angle, including an inside view-impossible with traditional museum displays.

'The museum was very excited about using radiology scans to re-create items, and the possibility of using this as a new form of art conservation,' Dr Robertson said.

** Co-authors: William Gene Totty MD, Gulshan B Sharma MS, Sidney Goldstein PhD, Kirk Smith and Suzanne Hargrove.*

New printers and CR solutions

Chicago, USA - A dry imager range and CR solutions produced by Ferrania LifeImaging were launched in the USA during the RSNA meeting in Chicago last month. First demonstrated in the UK last June, and later in the French, German and Italian radiology congresses, Adrian Stevens, MD Europe Ferrania LifeImaging, said the 6000 range has been very well received, '... particularly in the UK with 20 plus orders already installed.'

The range complements the firm's Digital Radiography (DR) solutions and the LifeWeb RIS/PACS systems, and is '... totally DICOM compliant and enabled, extremely compact, cost effective, easy to install and provide significant user benefits over many of the dry systems available today,' he added.

The new LifeImager printers come in four models:

- 6010 prints 14"x17" images
- 6021 offers a choice of 11"x14" and 8"x10" print sizes, on film or A4 paper
- 6024 also offers two on line print sizes of 14"x17" and 8"x10", also on film or A4 paper
- 6050 - the top of the range model - automatically selects print sizes from 14"x17"and 8"x10" and can also print on 14x17" and 8x10" paper sizes. In addition images can be printed in colour on paper or transparency film. Switching between media types and sizes occurs without the need of an operator.

A smart card also stores set-up data and departmental/user preferences,

Left: Ian Wilson, Regional Business Manager at Ferrania LifeImaging, demonstrating Ferrania's new LifeImager 6000 dry imagers

so that, in the event of a malfunction that cannot be rectified quickly, the card can be removed and reinserted in a replacement unit with minimum interruption to service.

Also shown at the RSNA were Ferrania's LifeInVision CR and CR Plus computed radiography systems: '... two new tabletop CR units that meet the need for a dispersed or decentralised CR solution by installation in a diagnostic room, or in a more conventional centralised formation with units serving several rooms. Throughput of plates is up to 75 per hour for the LifeInVision CR Plus unit,' Ferrania pointed out.

'With revolutionary laser scanning ability, erasable phosphor plates and advanced image management software the two CR units offer complete, flexible and multi-purpose imaging solutions, that can quickly and easily produce high quality images of any body part. Linked to a central PACS, images can be reviewed, stored or archived easily, whilst patient demographics can easily be imported directly from the RIS system. In addition, an optional mobile cart makes the whole system fully portable, a valuable feature in a busy, space-limited hospital environment, and a real plus when requirements specify mobility as with ICU/CCU and theatre work.'

The first installation of the new LifeInVision CR was in a hospital in Wales, UK, with trials successfully completed earlier this year. 'Images from this filmless hospital are transferred to Ysbyty Gwynedd Hospital for reporting,' the firm said. 'It is anticipated that the LifeInVision CR solutions will be required in a number of sites as part of the Trust's PACS and Digital procurement that is currently being implemented.'

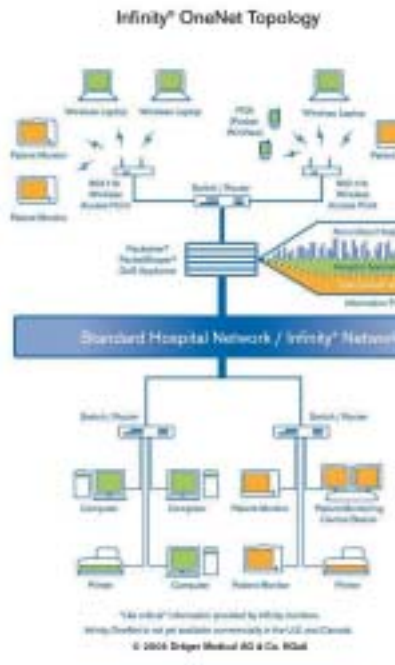
The Cancer

UK - Seven new linear accelerators have been ordered from Varian Medical Systems, to be used in four radiotherapy centres, as part of the Department of Health's ongoing 'Cancer Plan'. Four of the five hospitals (the Royal Shrewsbury, Royal Devon & Exeter, Weston Park Hospital in Sheffield, and the Kent Oncology Centre in Maidstone)in Wave 7 of the Cancer Plan opted for Varian equipment.

In Maidstone, the biggest of these projects, three Clinac (Varian's trademark) linear accelerators will be installed for radiotherapy. Royal Devon & Exeter will have two new Clinac machines, and the Royal Shrewsbury and Weston Park will have one machine each.

Georgina Baker, head of radiotherapy physics at Kent Oncology Centre, said the new linear accelerators will be an ideal addition to existing Varian accelerators at the Kent & Canterbury Hospital, the other site that makes up the Cancer Centre. To reduce the wait-

Shared networking



The Infinity OneNet, which will enable hospitals to run wired and wireless patient monitoring systems on their existing network infrastructures, was launched at Medica 2004, in November, by Dräger Medical AG & CO KgaA. Part of the firm's Infinity Enterprise Solution, this system meets the growing need for networked solutions, as exemplified by a recent decision of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) to make grant subsidies to public universities dependent on systems solutions, Dräger said.

Until now, patient monitoring has needed a separate, dedicated

Plan Seven new linear accelerators ordered

ing times, she said, explaining the choice of equipment, 'We need compatibility of equipment across both sites, rapid commissioning and proven reliability.' The linear accelerators, which will be installed over the next 18 months, will also allow clinicians at both centres to bring forward plans to begin treating with leading treatment techniques using Varian technology for respiratory gating and IMRT (intensity modulated radiation therapy), she added.

Varian Medical Systems, Inc, based in Palo Alto, California, and employing about 3,280 people worldwide, manufactures integrated cancer therapy systems, and

also supplies X-ray tubes, and flat-panel digital subsystems for imaging in medical, scientific, and industrial applications. The company has a manufacturing and engineering centre in Crawley, England, and an HQ for Europe/Middle East/Africa (EMEA) based in Zug, Switzerland, as well as some 56 sales and support offices globally.

breakthrough

network to guarantee security and performance. However, the OneNet system is both a network architecture and a comprehensive suite of professional services that allows a hospital's existing enterprise network to provide patient monitoring in parallel with its commercial and administrative applications - all on one industry-standard network, the company explained, adding: 'As a VLAN-based shared infrastructure, Infinity OneNet reduces costs and simplifies network administration because it enables one integrated network, integrates wired and wireless monitoring, ensures Quality of Service (QoS), leverages the hospital's network investment, and embraces industry standards, such as IEEE 802.3 Ethernet and 802.11b WiFi.'

The system has evolved from collaboration between Dräger Medical Systems Inc and technology partners, which include Packeteer Inc, Cisco Systems and Anyware Network Solutions.

'We are very excited to present this breakthrough solution that builds on our expertise in integrating patient monitoring information with data from other hospital information systems,' said Dr Wilhelm Isenberg, President of Business Unit Monitoring & IT, in Danvers, Mass., USA, who added that the system has been installed at the University Hospital of Heidelberg - the first large-scale implementation of critical medical device data on the hospital's network infrastructure.

No long-term harm from repeated prenatal US

Results of a study from Australia, published in *The Lancet* (p. 2038. 4-10 December 2004 issue) offer reassurance as to the safety of repeated ultrasound examination during pregnancy. 10 years ago a randomised trial highlighted how repeated ultrasound exposure, five different times during pregnancy, was associated with growth restrictions among newborn babies compared with children exposed to only one ultrasound examination in utero.

The current analysis provides long-term follow-up data on the growth and development of children from the original study. Physical and developmental assessments were done at 1, 2, 3, 5, and 8 years of age on children born without congenital abnormalities and from singleton pregnancies. Follow-up data were available for around 2700 children, half of whom had been exposed to repeated ultrasound, the other half to one ultrasound exposure before birth. Physical sizes of infants were similar in the two groups from one year of age onwards. There were no significant differences indicating deleterious effects of multiple ultrasound studies at any age as measured by standard tests of childhood speech, language, behaviour, and neurological development.

Lead investigator John Newnham (University of Western Australia at King Edward Memorial Hospital, Perth) said: 'Exposure to multiple prenatal ultrasound examinations from 18 weeks' gestation onwards might be associated with a small effect on foetal growth but is followed in childhood by growth and measures of developmental outcome similar to those in children who had received a single prenatal scan.'

Details: Professor J P Newnham: jnewnham@obsgyn.uwa.edu.au

ICU delirium

By ***Dr E Wesley Ely*** *MPH, FCCM,* of Vanderbilt University Medical Centre, Nashville, Tennessee, and the VA Geriatric Research Education and Clinical Centre (GRECC)

Every day, over 50,000 patients in intensive care units suffer delirium, an acute brain dysfunction - and cases are increasing annually due to our aging population. Yet most doctors, nurses and other healthcare providers miss the condition. Traditionally, the dysfunction is called 'ICU Psychosis', and professionals have not thought it clinically significant.

However, using well designed and validated tools in the ICU, researchers have shown this to be an independent predictor of longer stay, a three times higher risk of death within six months of ICU and much higher cost of care.

Even considering other factors such as age, severity of illness, duration of coma, and the use of psychoactive medications, every day spent in delirium by ICU patients was associated with a 10% higher risk of death and worse long-term cognitive function among survivors. Doctors and nurses can perform a 30-50 second evaluation with the Confusion Assessment Method for the ICU (CAM-ICU) at a patient's bedside to tell when someone has delirium. The Society of Critical Care Medicine recommends the tool for routine clinical management and thousands of ICUs around the world are now implementing routine monitoring for delirium. The CAM-ICU has been translated into eight languages and all materials are available free, including instruction videos and pocket cards.

Unfortunately, most patients are still not monitored for the condition.

There are things which doctors, nurses, and other healthcare providers can do to attempt to prevent or reduce delirium, but they will not be considered on a regular basis unless these healthcare providers recognise the problem in the first place, by using some form of monitoring. Some methods to prevent and/or treating delirium include attention to oxygen levels, correction of salts and other metabolic abnormalities, treating infections with antibiotics, giving specific medications for sepsis, which treat its underlying pathophysiology, might help (but this needs testing), improving the dosage of sedative and analgesic medications, considering using different/newer sedative techniques/drugs, and even giving antipsychotic medicines, like haloperidol or atypical antipsychotics to treat the delirium. Also, early mobilisation, timely removal from mechanical ventilation, re-orientation, having family present to help re-orient a patient, and helping to restore regular sleep can help.

Ongoing clinical trials are now exploring the safest and most effective ways to prevent and treat ICU delirium in hopes that such treatments will not only reduce delirium but also the high morbidity and mortality associated with it.
Further details:
www.icudelirium.org

Newly defined predictor of death can be routinely monitored

Campaign urges use of a multiprofessional team model

'Right Care, Right Now', an awareness campaign created and trademarked (for some reason) by the USA's Society of Critical Care Medicine (SCCM), is urging critical care professionals to follow recommendations issued by the USA's Institute of Medicine to implement a multiprofessional team model (MTM) in their hospitals. Established in 1970, the SCCM has far-ranging influence, with over 11,000 members worldwide.

The Society defines the MTM as an integrated group of dedicated experts, directed by a trained and present physician who is qualified in critical care medicine (an intensivist). 'The goal of the campaign is to ensure excellence and consistency in the delivery of critical care services, explained SCCM President Margaret M Parker MD, FCCM. 'The core of a multiprofessional team consists of intensivists, critical care nurses, respiratory therapists, pharmacists/pharmacologists, and patients and their families. Often, primary care physicians, physician assistants, social workers, dieticians, ethicists, consultant medical specialists, and other professionals are also part of the team,' the Society pointed out.

Ventilator supports NIV

Since its introduction in March 2001, the modular platform of the Servo[i] has continuously been extended with new software functions, the manufacturer Maquet reports. 'The new version now supports both NIV and suction procedures, and much of the new functionality is also available with the Servo[S] ventilator. NIV supports ventilation in Pressure Control and Pressure Support modes.

'NIV is supported with an effective leakage compensation, thus maintaining the pressure set to the patient. Leakage compensation is continuously adaptive, thanks to a high sampling rate and adjustment during breathing rather than after each breath. This highly-responsive NIV function ensures a minimum breathing rate in case of an apnoea and maintains the set Inspiratory pressure and PEEP.

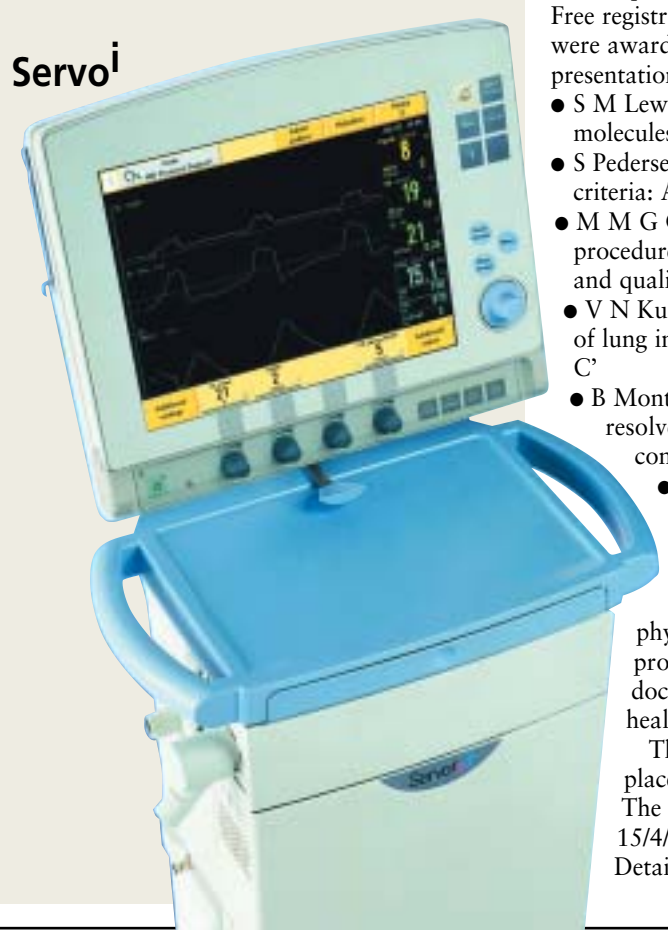
'To increase patient comfort when introducing a mask, ventilation can be started either manually or by patient trigger, and any disconnects are detected automatically. In addition, the user can choose to silence a number of alarms, so that patients are not unnecessarily confronted by

nuisance alarms.

'When suction support is initiated, the ventilator enters a resting position while going through three defined phases: pre-oxygenation, suction and post-oxygenation. A Copy Screen function allows clinicians to save an unlimited number of screen pictures to the Ventilation Record Card.'

Further details: www.maquet.com, or directly from MAQUET Critical Care, Solna, Sweden. Phone: +46-8-730 7300. Fax +46-8-98 65 86.

Servo^{i}



ICM researchers awarded

Berlin, Germany - At the 17th Annual Congress of the European Society of Intensive Care Medicine, this October, the Society's *International Sepsis Forum Award* was presented to J D Chiche (France), for his poster presentation: 'Prevalence and consequences of the R753 polymorphism of the toll-like receptor 2 in ICU patients.

The 2000 euros awards were presented to F M Porta (Switzerland), for the presentation 'Endotoxamia-induced mitochondrial dysfunction: Effects of dopamine and dobutoamine' and to I Morales (Belgium for 'Factors influencing sensitivity and specificity of the surveillance of ICU-acquired infections'.

Free registrations for the ESICM Amsterdam 2005 congress were awarded to the following researchers and their listed presentations:

- S M Lewis (UK). 'Abnormal expression of adhesion molecules on polymorphonuclear in systemic inflammation'
- S Pedersen (Denmark). 'Evaluation of pre-hospital triage criteria: A prospective study at Aarhus trauma centre'
- M M G O Garroust-Orgeas (France). 'ICU admission procedures in patients over 80 years and one-year outcome and quality of life'
- V N Kuklim (Norway). 'Tezosentan- induced attenuation of lung injury is associated with blockade of protein kinase C'
- B Montag (Germany). 'Immunoparalysis in severe sepsis resolves after CMC CFS: A double-blind, randomised controlled trial'.
- P Wellhoener (Germany). 'Severe metabolic alterations in adipose tissue during early endotoxemia in humans'.

The ESICM is an international non profit-making association of doctors, nurses, physiotherapists and other allied healthcare professionals, with a membership of about 3000 doctors, nurses, physiotherapists and other related healthcare professionals.

The 18th Annual Congress of the ESICM will take place during 25-28 September 2005, in Amsterdam, The Netherlands. Abstract submission deadline: 15/4/05.

Details: www.esicm.org

23-28 January 2005

13th Winter Symposium on Intensive Care Medicine

Gstaad, Switzerland - Enthusiasm is certainly a characteristic of ICM symposia. 'A meeting in the snow may seem just like a good opportunity to enjoy some skiing, snowboarding, après-ski ... often with the added benefits of having some financial support from one's hospital, the industry, etc, and being able to deduct any expenses from income tax!' say Peter M Suter* and Jean-Louis Vincent* (below), who have organised the meeting for 14 years in leading Swiss and US resorts.

However, sessions will be held between 8-10.30 a.m. and again between 4.30-8.m. presenting, in 6 hours daily, a broad-spectrum of intensive care topics, including management of brain injury, the latest sepsis therapies, present and future monitoring techniques, alternative mechanical ventilation modalities, liver and renal support, and delirium and sedation. 'This meeting will be characterised by short, crisp presentations with plenty of time for discussion, and will also use other formats such as pro/ con debates, round table discussions, etc. to make the sessions as lively and interactive as possible,' they add.

'It is not cerebrally possible to absorb more than a certain quantity of information per day; breaks are a welcome and necessary part of any meeting,' the organisers point out. 'Our conference rooms are full every morning and evening, with some participants even arriving for the evening session with their snow boots still on so that they do not miss any of the first talk!'

Participants come from about 20 countries, including Brazil, Japan, China, Malaysia, South Africa, all European countries, and North America, with the English language used at the sessions.

Early booking is advised, because numbers are limited to 120 annually.

**** Contacts:**

Peter M Suter, Soins Intensifs Chirurgicaux, Hôpital Cantonal Universitaire, Geneva. Phone: +41 22 383 74 52. Fax: +41 22 382 74 55.

Jean-Louis Vincent, Soins Intensifs, Hôpital Universitaire Erasme, Brussels. Phone: +32 2 555 32 15. Fax: +32 2 555 45 55

The MedTech & Pharma Forum

Current and future developments in drug coating, tissue engineering and gene therapy were highlighted in over 20 presentations at the *MedTech & Pharma Forum* organised by the Surgical Consortium for Biomaterials (CAB) of the German Association of Surgery at the Klinikum rechts der Isar, Munich in November. The congress, with over 200 participants, was fully booked and augmented by an exhibition that included participation by firms such as Biomet, BSL Bioservice and Millennium Biologix, providing the chance to meet representatives from the firms producing biomaterials, which was welcomed by many of the surgeons visiting from over Germany.

In the forum many presentations focused on ethical and economic aspects of bioengineering - particularly the necessity of costly operations using biomaterial implants (knee, hip, etc) for patients in an increasingly aged society. In addition, Professor Rudolf Ascherl, of Leipzig's Orthopaedic Clinic, emphasised the risks of using infected biomaterials when presenting data showing alarmingly high rates of relapses caused by treatment with infected materials.

However, there was also considerable optimism regarding the use of biomaterials.

Describing the differences between cartilage and bone defects, Professor Norbert M Meenen, of Hamburg-Eppendorf University, said in his presentation that, unlike bone, cartilage does not have the ability to heal and special treatment is necessary to prevent future complications. However, he was optimistic that, in the future, the current problem associated with chondrocyte or osteochondrale transplantation for cartilage defects could be circumvented by tissue engineering.

Dr Klaus Kühn, of Heraeus Ltd and Dr Gerhard Schmidmaier, of Berlin's Charité Hospital, demonstrated that new ways with drug coated biomaterials can allow drug treatments to be specifically directed, with concentrations that have not been possible, until now.

Heart-lung machines - the future

Leipzig - When over 2,700 cardio and thoracic surgeons met for the 3rd Joint Meeting of the European Association for Cardio-Thoracic Surgeons (EACTS) and the European Society of Thoracic Surgeons (ESTS), the hot topic was the use of drug-eluting stents - considered less invasive than minimally invasive surgery (MIS). This, and the stagnation of operating theatre figures, is of particular concern to the industry, because there is, says our correspondent Holger Zorn, 'hardly any money in standard products.' He recently spoke with **Frank Wolff**, Director of Sales and Marketing Cardiopulmonary of the Sorin Group, about this, the firm's position in the field, and its new products.

The Sorin Group has four divisions: Cardiac Surgery, Cardiac Rhythm Management, Vascular Therapy and Renal Care. 'We made some strategic acquisitions recently which strengthened our position and which means that we can offer whatever your heart desires,' Frank Wolff said, explaining that the firm produces more than the heart lung machines (HLM) for which it is know worldwide.

HZ: ***Your main competitor for HLMs is Jostra AG, which merged with the Swedish Getinge Group about a year ago, so Jostra can now offers complete operating theatre (OT) solutions. Your company sells single pieces of equipment. Meanwhile, Terumo, another manufacturer in this field, is due to launch another new product in Europe. How do you perceive these challenges?***

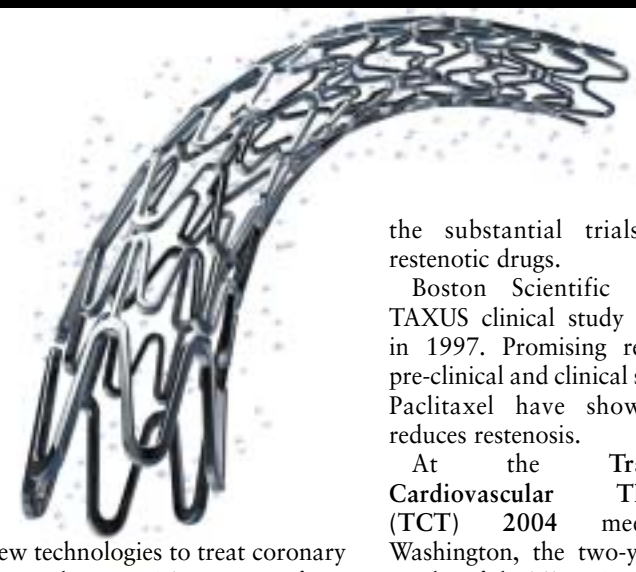
FW: Our company is one of the oldest manufacturers of heart-lung machines. Worldwide, two in three HLMs were made by us. In Germany, the market share is between 70-80%. And obviously we also develop new products. We will present our latest model at the cardio surgeons' congress in Hamburg in February 2005.

Today, the development of HLMs is so advanced that they are extremely reliable and safe, and major technical changes are not necessary. But there is always room for improvement in terms of user-friendliness: handling needs to be more intuitive, the user should be able to programme more functions himself. Roll pumps, tried and tested for many years, will have exactly the same functions as those of the S3 generation or CAPS, the previous model. The centrifugal pump, which we have used for some time, will be fully integrated into the HLM. The machine will be even more compact, even smaller, and data management will be further improved.

HZ: ***In this highly competitive economic market, and with many cardiac surgeons now preferring the off-pump method for bypasses, how will you react to such trends?***

FW: Due to hospital chains and purchasing groups the price war has heated up considerably. However, we cannot continue to cut prices - nobody can. The bottom line has been reached. So everyone has to optimise the production side. We have shifted our production to Italy, which is cheaper.

Asked whether new markets, opened up by the enlargement of the EU, indicate the same problems, opening up new markets, Dr Wolff pointed out that the price war there is even more severe than in older EU countries, but, he added, because Poland, Lithuania and the other countries in the former Eastern Block are not new markets for Sorin, which has been active there for years, he believes the group has '...more room to manoeuvre than others'.



Evaluating

New technologies to treat coronary artery disease (CAD) range from angioplasty (via atherectomy) to stenting - the implantation of wire mesh tubes. Globally, about two million people are treated with balloon-angioplasty annually. In a balloon angioplasty the vessel is being propped open with the help of a balloon catheter made of rubber or plastic. Today, in about 70% of all cases, a stent is implanted at the same time, to prevent restenosis in the treated lesion. However, despite the enormous advantages of using stents in angioplasty, restenosis has remained a significant problem. The bare metal stent is blamed for this - in up to one third of arteries in which it has been used and which show restenosis within six months following implantation. To avoid this problem, Boston Scientific developed and launched the Paclitaxel-eluting stent-system, which releases the drug slowly and moderately onto the vessel wall. Paclitaxel, the efficient substance of Taxol, inhibits neo-intima cell growth that could result in restenosis. The firm points out that this development was made possible by via its balloon catheter-systems and coronary stents, as well as research on polymers (macro molecules) and the substantial trials of anti-restenotic drugs.

Boston Scientific began the TAXUS clinical study programme in 1997. Promising results from pre-clinical and clinical studies with Paclitaxel have shown that it reduces restenosis.

At the **Transcatheter Cardiovascular Therapeutics (TCT) 2004** meeting, in Washington, the two-year clinical results of the TAXUS-IV Trial were reported. UK-based medical journalist **David Barrow** summarises researchers' findings:

The incremental benefits of having received the TAXUS stent rather than a bare metal stent continued to increase, with no evidence of late catch-up apparent, said **Gregg W Stone MD**, Columbia University Medical Centre, New York and Cardiovascular Research Foundation, New York, USA.

Presenting the two-year clinical results of the TAXUS IV Trial, Dr Stone revealed a MACE rate of 14.7% vs. 24.9% in the control arm of this, the pivotal US study of the slow-rate release polymer-based Paclitaxel-eluting TAXUS stent in patients with De Novo Coronary Lesions. In addition there were 1.8% cardiac deaths, 4.6% myocardial infarction, 5.6% target lesion revascularisation, 10.6 target vessel revascularisation, and 14% target vessel failure (**Table 1**).

Reviewing the results, Dr Stone said: 'When we look at the data, treatment with TAXUS stent markedly reduces clinical restenosis, resulting in reduced rates of bypass graft surgery and repeat percutaneous intervention. These favourable results apply in a wide range of complex patients and lesions, including small vessels, long lesions, and patients with diabetes.

However, stent thrombosis may rarely occur late (after 1 year), possibly in part related to inadequate anti-platelet coverage.'

TAXUS IV Study Design

TAXUS IV is an international trial studying 1,314 patients undergoing elective stenting of single de novo lesions coverable by 1 stent at 73 sites in the USA. Eligible patients had single de novo lesions between 10 and 28 mm coverable by one stent in vessels that were, by visual examination, between 2.5 and 3.75 mm in diameter. Patients were randomly assigned before pre-dilatation to either a 1mg/mm2 slow-release Paclitaxel-eluting Express (Taxus) stent or a bare-metal Express stent (both made by Boston Scientific Corp.). Clopidogrel was given for six months after the procedure.

Patients excluded from the trial included those with planned or prior PCI or brachytherapy in the target vessel within 9 months, those in whom there was planned use of an atherectomy or cutting balloon device, those who had suffered an MI within 72 hours or who had CK-MB levels greater than two times the upper limits of normal on the day of the procedure, and those with excessive tortuosity or calcification of the vessel, total occlusion, probable or definite thrombus, bifurcation lesions, or initial TIMI flow of 0 or 1. The primary end-point was the nine-month rate of ischaemia-driven target vessel revascularisation.

Baseline clinical features and target vessel distribution were well balanced between groups. Importantly, as previous studies have largely failed to determine the benefits of drug-eluting stents in this subgroup, 25% of the control group and 23.4% of the study group were diabetic (p=NS), with 8.3% and 7.7%, respectively, requiring insulin therapy. Similarly, baseline angiographic characteristics were similar and acute angiographic results were excellent in both groups, as expected.

Two-year follow-up results of the **TAXUS II Trial** were presented for the first time at TCT 2004. The randomised, double-blind study was designed to compare both slow- and moderate-release polymer-based Paclitaxel-eluting stents with bare metal stents in the treatment of standard risk de novo lesions. The objective at two-year follow-up was to evaluate the durability of both the safety profile and the clinical efficacy from TAXUS II slow release (SR) and the non-commercially available, moderate release (MR) cohorts compared to combined bare metal controls.

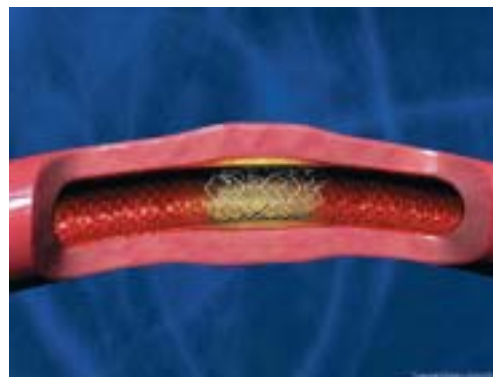


Table 1:
Two-year Adverse Cardiac Event

	Control (n=613)	TAXUS (n=625)
Cardiac Death (%)	2.2	1.8
MI (%)	5.4	4.6
TLR (%)	17.4	5.6
TVR (%)	21.1	10.6
TVF (%)	24.0	14.0
MACE (%)	24.9	14.7
Stent Thrombosis (%)	0.8	1.1

Between the one and two-year follow-up there was one new target lesion revascularisation in the TAXUS (SR) and none in the TAXUS (MR) arms of the study. This compares with 8 in the control arm. There were no reports of TVR remote in the TAXUS (SR) group, two in the TAXUS (MR) cohort and 8 in the control arm. Similarly there were 3 cases of CABG in the control arm and one each in the TAXUS (SR) and TAXUS (MR) groups.

Summarising the overall two-year MACE rates, **Antonio Colombo MD**, Centro Cuore Columbus and San Raffaele Hospital, Milan, Italy and Principle Investigator of the trial noted that the death and MI rates are comparable to those in the control arm of the study. He continued by saying 'The TLR benefit translates to MACE benefit in both TAXUS groups.' (**Table 2**)

Turning his attention to the two-year QCA and IVUS sub-study, Dr Colombo reminded delegates that this patient population had been carefully selected to evaluate the long-term vas-

the Paclitaxel-eluting stent

cular responses after successful treatment with drug-eluting stents. Reviewing the results from matched sub-study patients, Dr Colombo said: 'The in-stent minimum lumen diameter (MLD) remains stable over time (TAXUS SR: 2.32 ± 0.39 at 6-months versus 2.32 ± 0.45 at 2-years; TAXUS MR: 2.34 ± 0.38 at 6-months versus 2.35 ± 0.37 at 2-years). These numbers compare with 1.96 ± 0.47 at 6-months and 2.12 ± 0.44 at two-years in the control arm). Dr Colombo also reported stable late loss in the matched subset overtime and a significant benefit in Percent Volume Obstruction first reported at six-months had been maintained out to two-years. (See **Chart 1**)

Dr Colombo summarized: 'This study demonstrates a very durable safety profile which can be attributed to a low stent thrombosis rate comparable across groups, no new aneurysms seen at two years with existing ones resolved and no difference in late acquired incomplete apposition between groups. There was sustained efficacy by clinical, QCA and IVUS measurements with only one new TLR (out of 266 patients) in the TAXUS arms of the study which in turn was accompanied by stability of MLD and late loss,' he continued. 'This translates into a preserved benefit in primary endpoint - namely percent volume obstruction.'

Table 2: TAXUS II: two-Year MACE Rates

	Combined Control (n=264)	TAXUS SR (n=127)	TAXUS MR (n=127)	P value SR vs. Control	P value MR vs. Control
TLR	15.5 (41)	5.5 (7)	3.9 (5)	0.0047	0.0006
TVR, non-TLR	4.9 (13)	3.1 (4)	3.1 (4)	NS	NS
CABG	2.3 (6)	3.9 (5)	2.4 (3)	NS	NS
TVR overall	19.7 (52)	11.8 (15)	9.4 (12)	0.0622	0.0126
MI: Q-Wave	1.1 (3)	0.8 (1)	2.4 (3)	NS	NS
MI: Non Q-Wave	4.5 (12)	3.1 (4)	2.4 (3)	NS	NS
Cardiac Death	1.1 (3)	0.8 (1)	0.8 (1)	NS	NS
Total MACE	24.6 (65)	14.2 (18)	14.2 (18)	0.0178	0.0178
% patients (absolute numbers)				NS: not significant	

30-day Pivotal Group Results of the CABERNET Registry

The 30-day results of the CABERNET Registry (Carotid Artery Revascularisation Using the Boston Scientific Filter Wire EX/EZ and the EndoTex NexStent), presented by **Larry Hopkins MD**, of the Department of Neurosurgery SUNY Buffalo, USA, on behalf of the CABERNET Investigators, appear acceptable in terms of safety and comparable to the results obtained in other high-risk CAS trials.

At 30-days, the composite endpoint was 3.8% (n=17). This comprised of all deaths (0.5%, n=2), all stroke (3.4%, n=15) and all MI (0.2%, n=1). The 30-day stroke rates were: major (1.4%, n=6), minor (2.0%, n=9) making a total of 3.4% (n=15).

These preliminary outcomes compare very favourably with other carotid stenting registries conducted in the USA.

CABERNET enrolled 488 patients who were either symptomatic (stenosis = 50% by ultrasound and angiography) or asymptomatic (stenosis = 80% by ultrasound, = 60% by angiogram. The target segment reference diameter was = 4.00 mm and = 9.00 mm with a lesion length of < 30 mm. The vessel diameter distal to the target lesion was = 3.5 mm and = 5.5 mm as an optimal FilterWire landing zone. Patients who were classified as being 'surgical high-risk' due to an anatomic risk and/or co-morbid risk were summarised in an accompanying table.

Measuring 30 mm in length and manufactured from self-expanding Nitinol, the closed cell rolled sheet designed NexStent is mounted on a 5 F over the wire catheter. Is has a self tapering tip of 4-9 mm in length. The second device used in the registry is the FilterWire EX/EZ. Suitable for use in vessels 3.5 - 5.5 mm and mounted on a monorail delivery system the filter device is suspended on a radiopaque nitinol loop. It is compatible with a 0.014' guide wire. The filter poor size is 110 microns.

David Barrow also attended the more recent American Heart Association (AHA) meeting, in New Orleans, and here reports on the **SIRTAX Trial: A randomised comparison of a Sirolimus- with a Paclitaxel-eluting stent for coronary revascularisation.**

Results of the SIRTAX trial, a head-to head comparison of two drug-eluting stents, CYPHER and TAXUS, show that although there were no significant differences in the individual primary endpoints of cardiac death, myocardial infarction and target lesion revascularisation at 6-months follow-up, there is a suggestion that there may be a difference in longer-term outcome. Relative to Paclitaxel-eluting stent, treatment with sirolimus-eluting stents resulted in improved outcomes in terms of cardiac death (0.4% vs. 1.6%), Non-Q-Wave MI (1.4% vs. 2.6%), target lesion revascularisation (3.2% vs. 4.7%) and target vessel revascularisation (3.4% vs. 5.5%).

Presenting the results of this randomised, single-blind, two-centre study (Bern and Zurich, Switzerland), **Dr Stephan Windecker** noted that only extended clinical and angiographic follow-up will determine whether there are any differences between the two drug-eluting stents in their ability to prevent restenosis.

The objective of the present study was to compare the clinical and angiographic efficacy of SES and PES in a prospective, randomised, two-centre clinical trial funded by an institutional grant.

Describing the study, Dr Windecker explained that between March 2003 and April 2004, a total of 1012 patients undergoing PCI were randomly assigned treatment with SES (503 patients) and PES (509 patients). Patients with stable or unstable coronary artery disease and presence of one or more lesions with a diameter stenosis>50% and a reference vessel diameter ⩾2.25 and ⩽3.5 mm which could be covered with one or more stents of 8-33 mm length were eligible for the study. Patients are followed for major adverse cardiac events (MACE) including cardiac death, myocardial infarction, and target lesion revascularisation (TLR) at 30 days, six months, one year, 2, 3, 4, and 5 years. Angiographic measures of restenosis are in-lesion and in-segment late luminal loss measured eight months after the index procedure.

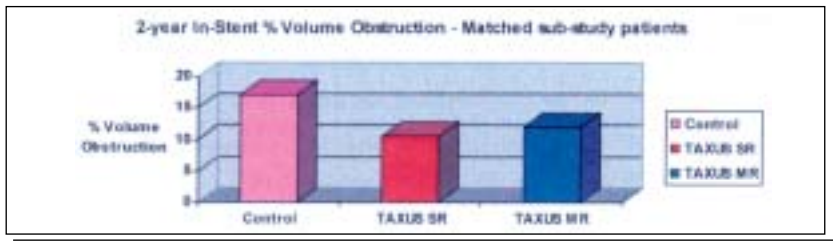
Both treatment groups were well matched with respect to clinical and angiographic baseline characteristics. Procedural results, in-hospital MACE, and MACE at 30 days and 6-months are summarised in Table 3.

Coronary revascularisation with SES and PES appears safe and effective. There are no significant differences between SES and PES with respect to procedural outcome and clinical events up to 6-months. Extended clinical and angiographic follow-up will become available during the upcoming months and scheduled for presentation at ACC 2005 in Orlando, USA.

TABLE 3: SIRTAX trial

	SES	PES	P-value
Age	62 +/- 11	62 +/- 12	0.8
Male Gender	76%	78%	0.3
In hospital MACE			
Cardiac Death	0%	0.4%	0.2%
Q wave MI	0.4%	0.4%	1.0
NQWMI	1.0%	1.2%	0.8
TLR	0.8%	0.6%	0.7
MACE at 30 days			
Cardiac Death	0.2%	1.0%	0.1
Q wave MI	0.8%	0.6%	0.7
NQWMI	1.4%	1.6%	0.8
TLR	2.2%	1.2%	0.2%
MACE at 6 months (n=1007, 99.5%)			
Cardiac Death	0.4%	1.6%	0.11
Q wave MI	1.2%	0.8%	0.55
NQWMI	1.4%	2.6%	0.26
TLR	3.2%	4.7%	0.20
Device Performance			
Successful Stent Delivery	99.3%	99.4%	0.71
Device Success	99.0%	98.6%	0.49

Chart 1. Significant benefit in primary endpoint seen at six months maintained at two-years even in non-failure subgroup



The International Trade Fair and BioAnalytica Business Conference **5-7 April 2005** Venue: **New Munich Trade Fair Centre**

BioAnalytica 2005

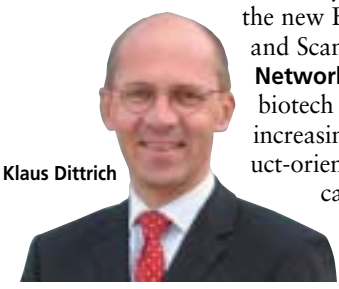
Biotechnology is a relatively new branch of industry. According to Ernst & Young's reports on this industry, covering 2004, the German biotech sector is still in the process of consolidating, after experiencing a boom during the past decade. However, it reported that tensions might now be easing. After the biotech euphoria, the stock-exchange boom and subsequent cleansing of the market, companies now appear more mature and are far more tuned to the market economy. That, in turn, is creating new trust in the venture-capital community. According to Ernst & Young, a growing number of new biotech and pharmaceutical companies have again managed to attract some sizeable investments in recent months. Analysts at the auditing and consulting company reported; 'During the first half of 2004, 141 million euros - 52% of all risk capital invested in Germany - flowed into biotech and pharma companies.' So it comes as no surprise that experts in the biotech sector are forecasting moderate growth for the new few years. BioAnalytica 2005, say the fair's organisers, will use its exhibition concept to actively promote this upward trend.

This event is also very new. However, in 2003, during the first BioAnalytica, about 5,000 visitors from many countries visited, to gather information about the latest developments and applications in biotechnology and life sciences from 270 exhibiting companies originating in 14 countries.

Klaus Dittrich, Managing Director of Munich Trade Fairs International, which is organising next year's key exhibition for the bio-industry and its suppliers, reports that the event will have three main focal points, to lend structure to the various growth markets; illustrate current and future market potential; and depict the entire value-added chain in the pharmaceuticals, medical, bioprocessing and biolaboratory sectors, from research and development (R&D) to industrial applications, which will be rounded off by special networking arrangements.

Fair rates for the fair - 'The industry is still dominated by small and medium-sized enterprises, although the share of extremely small biotech companies increased again in 2003,' he pointed out. 'BioAnalytica will take this trend into consideration by offering a new exhibition package for small biotech companies and startups, allowing these companies to have professional exhibits at the event at affordable prices. The fair will also feature a special exhibition sector for startups, technology centres, universities and bioregions.' The banner for this area will be *Minimum investment - Maximum communication*, and it will be set up like a meeting lounge. For 500 euros, companies will be able to book space called a 'demopoint', where there will be sufficient space for posters, company logo, brochures and presentation equipment. The lounge will also have meeting facilities for discussions with business associates and customers, or for participation in the forum. This new exhibition section has been named *BioAnalytica Marketplace - Life Sciences Meet Business*'. Demopoints have enough space for posters, a company logo, brochures and presentation equipment.

The section will primarily address bioclusters in northern and eastern Germany, but will also address biotech and bio-analysis networks in the new EU member states and Scandinavia.



Klaus Dittrich

Networking - Although biotech companies are increasingly more product-oriented, in many cases, conducting research and providing services remain the focus of their business activities, the fair's organisers point out. 'According to the latest *Biotechnology Year and Address Book 2004*, only 42% of all German biotech companies currently have products on the market, but 95% are conducting research and 55% offer services to third parties. To meet the needs of these major target groups, networking will be just as important at BioAnalytica 2005 as having products on display. For example, a special programme of events for German bioregions is being organised in conjunction with Bayern Innovativ, the Association of German Biologists (vdbiol) and Bio M. There will be a BioAnalytica Forum for presentations and company lectures, and once again the BioAnalytica Business Conference is being held at the same time as BioAnalytica 2005.'

The BioAnalytica Business Conference - to be held on 5-6 April, this will feature a series of lectures, and '.... experts will give biotech companies tips for business success and will cover all the aspects facing the life-science industry, such as current economic and political challenges, the development of sales markets, financing and marketing strategies, and the way to sound out promising innovations. The conference will address decision-makers in the commercial, scientific and political sectors and is an information platform for biotech companies, the pharma industry and investors,' Klaus Dittrich, Managing Director of Munich Trade Fairs International explains.

Key questions will be

- How are biotech and pharma industries converging and what are their mutual requirements?
- What demands do the life-sciences industry place on the scientific sector, politics and capital markets, and vice-versa?
- How can the scientific sector help the biotech and pharma industry?
- What can the industry itself do to ensure successful positioning and ongoing development?

Two panel discussions - **Market meets Science and Area Focus - What can we learn from the USA and vice-versa?** are also planned. Participation fee for the one-and-a-half-day conference: 1,245 euros + tax for commercial participants; 745 + tax for universities and non-profit organisations

Despite the unfavourable situation that still plagues the industry, the level of registrations for BioAnalytica 2005 is on target. Leading biotech and bio-analysis companies, such as Bio-Rad, Bio-Tek Instruments, Bruker, CyBio, Dionex, Gilson, MWGT Biotech, Shimadzu and Tosoh Bioscience have already booked to exhibit at the fair. Participating bioregions include Bayern Innovativ, Biotechnology Park Luckenwalde, Technology Park Munster and the Dresden Technical University. Companies with laboratory technology for the life-sciences sector will include Eppendorf, Hamilton, Mettler-Toledo, Miele, Millipore, Tecan and Waters. The fair's major exhibition sectors are pharma, bioprocess technology, biochemicals, optical image processing, bioservices and biomedical.

Further details: www.analytica-world.com

Shifting to automation

Two hospitals explain decisions and results from radically updating testing systems

Germany - As one of the country's biggest communal hospitals, Dortmund Clinic, handles 1000 blood samples from over 650 patients daily. In November the Clinic installed a new automation system - an ADVIA WorkCell from Bayer HealthCare - in its central laboratory, and a scientific symposium was held for laboratory staff and administration directors.

Automating the central laboratory has made satellite laboratories superfluous, making it possible to annually save 360,000 euros on manpower (nine medical technicians) and 150,000 euros on materials. The total investment costs of approximately 800,000 euros will have amortised in less than two years, Bayer pointed out.

Joachim Hehner MD, the project director at Dortmund Clinic, explained that the laboratory had been due for modernisation for some time. A full examination of numerous systems on the market was made, and all facets of laboratory medicine taken into account before the choice was made. These included methodology, quality aspects, logistics, safety issues and business management considerations, he said. The clinic finally chose the ADVIA WorkCell. 'Bayer HealthCare laboratory automation means we no longer need to worry about cost efficiency, staff costs, workflow, optimisation of work processes, but can at last concentrate on medicine again,' he added.

The installation comprises two ADVIA 1650 and one ADVIA Centaur connected by an ADVIA WorkCell. The entire system measures 6.1 metres by 5.4 metres, covering an area the size of an average living room. A sample transport system routes the sample tubes to each analyser as required. A central data processing unit collects all data. Samples needing express analysis, e.g. direct from the operating theatre, receive preferential treatment, entering the system on a 'fast lane'. The automation system operates 24 hours a day, seven days a week.

The automation has lightened the staff workload in the central laboratory enormously, the clinic reported. (During routine operation, just one member of staff can supervise the system). 'The ADVIA WorkCell takes over many simple and time-consuming manual jobs. All I have to do is place the barcoded samples on a special tray, which is then taken in to the sample manager. Complete analysis, including sample routing, predilution and return of processed samples now runs fully automatically,' said Melanie Irmer-Vorpeil, chief medical technician, adding that any sample can be tracked at any time.

Chemistry and immunoassay tests on one platform

UK - The Royal Cornwall Hospital has consolidated its routine chemistry and immunoassay testing onto one integrated platform, using a Roche Modular Analytics system - front-ending three Modular <P> (chemistry) units and three Modular <E> (immunoassay) units with 'full' Modular Pre-Analytics with twin centrifuges, Roche reports. 'The system undertakes all uncapping, recapping, centrifugation, aliquoting and archiving. All the IT aspects are handled by a Roche PSM interfaced laboratory information management system. The Roche solution includes a soon to be commissioned request form scanning system, which will increase speed, and improve accuracy, reliability and quality of data transfer from request forms to the LIMS. The new Roche solution also incorporates two Cobas Integra 800s at the Royal Cornwall Hospital and a further two Cobas Integra 400s at a multi-disciplinary (haematology and clinical chemistry) satellite lab in Penzance (25 miles away).

'We wanted to consolidate as much analysis on the minimum number of analysers as possible. Installing the Modular Analytics also means the phlebotomy requirement is reduced because we can use one sample for immunoassay and chemistry tests,' said Bruce Daniel, Chief BMS at the Royal Cornwall Hospital. The system chosen offered the most suitable package in terms of staffing, he added. 'Although we are not looking to reduce staff numbers, we are constantly exploring options for job restructuring. We believe automation will free-up time for BMS and MLA staff, allowing them to perform important tasks that, at present, they do not have the time to undertake.' Laboratory staff and management were fully involved in the decision-making and visited other laboratories to see how the equipment performed routinely. They have all welcomed the changeover, he pointed out, adding: 'The Modular Analytics

concept will provide ample capacity now and for the lifetime of the seven-year contract, even if our existing workload continues to increase by 12-15% per annum. Cost was also a deciding factor since purchasing larger reagent volumes will lead to higher discounts and economies of scale, leading to a lower cost per test.'

The *Integrating the Healthcare Enterprise* project

Setting up an IHE transnational committee

By **Professor Paolo Inchingolo**, Director of Higher Education in Clinical Engineering (HECE) at the Health Telematics Laboratory (HTL), University of Trieste, Italy, and President of *EuroPACS-MIR 2004 in the Enlarged Europe*

The 22nd International Conference of the European Association for the Picture, Archiving and Communication Systems Association (EuroPACS), combined with the Management in Radiology Conference (MIR), held in Trieste this September, aimed to discuss and propose innovative and organisational solutions for the ICT-based integration of the health systems in the enlarged Europe (supporting the EU programme 'e-health+'). This ranges from beginning in radiology departments, then moving towards the integration of the entire healthcare enterprise. The conference has been partially supported by the Central European Initiative (CEI).

As the conference organiser, and its President, with radiologist Professor Roberto Pozzi Mucelli, I encouraged discussion around some key points and strategies already successfully experimented on in our laboratories at the University of Trieste - thanks to 13-years research work in this field.

The core of our experience is a Data & Picture Archiving and Communication System (DPACS). This was designed in 1995 and implemented, at that time, in the Trieste Province, and is now presented as 'PACS 2004', an IHE-compliant, Java-based, Open-source Modular System that can store and manage any type of data (radiology, cardiology, clinical laboratory, homecare, etc.) in a citizen-centred vision of health management in the future. Java assures independence from the hardware platform (unix computer, pc, palm, etc) and from the used operating system; Open-source assures the pushing and diffusion of e-health both in the industrialised world and in transitional countries, such as European central-eastern countries. Full compliancy with the Integrating the Healthcare Enterprise (IHE) project assures interoperability at local, regional and transnational levels.

To work with DPACS 2004, we developed the HTL Dicom Workstation (HDW), which is a modular IHE-based application, written in Java, working as a DICOM and HL7 client, and with some special characteristics, such as management and visualisation of a wide range of DICOM modalities (including Structured Reporting and Waveforms for cardiology, pneumology, etc.) and wide scale configurability, e.g. referring WS for radiology specialist, reports and images visualisation WS for the general practitioner, anonymous search & visualisation WS for education, etc.

Finally, to allow wide integration of hospitals and territorial bodies at any level, Virtual Integrator of the Electronic Health Record (VI-HER), based on XML/XSLT technologies, completes the DPACS family: information is collected on demand from different and potentially heterogeneous sources, which perceive the VI-EHR as one of their clients. The physician or the public, are able to select and retrieve part of the data, when and where needed for a particular care, welfare or emergency situation. Access to the VI-EHR is possible in multiple ways, devices and communication means, both fixed and mobile. All necessary concerns for security and protection are considered, and addressed mainly by sets of static and dynamic policies and rules.

Thanks to the experience made with DPACS 2004, we have been able to propose, at the end of a very intensive IHE workshop at the conference, the creation of a European transnational IHE committee, under the umbrella of the Central European Initiative (CEI), with the task of proposing technical, legal and harmonisation solutions for real e-health integration in the enlarged Europe, which is characterised by several languages, different economics and multiple uses and legislations. This European committee is now being set up, with an extension from the 17 CEI countries to the three Baltic countries, Greece and Russia.

Tapping in to e-health

Netdoctor.es

Eduardo Susanna, Director of Netdoctor Spain

Ministers of the EU member states, acceding and associated countries, as well as EFTA countries met in May 2003, during the eHealth 2003 conference (organised jointly by the European Commission and the Greek Presidency of the Council Ministers). At that meeting the participants expressed their commitment to the development of national and regional eHealth implementation plans as an integral part of eEurope 2005, and declared their willingness to work together towards best practices in the use of information and communication technologies as tools for enhancing health promotion and health protection, as well as quality, accessibility and efficiency in all aspects of health care delivery.

eHealth refers to the use of modern information and communication technologies to meet the needs of citizens, patients, healthcare professionals, healthcare providers and policy makers. European countries devote an increasingly high percentage of their GNP to healthcare (7%-12%). Therefore, efficiency becomes a key issue in healthcare policies: 'Maximising the output that one gets from given quantities of inputs'.

Our Spanish Correspondent, **Dr Eduardo de la Sota**, met with Eduardo Susanna, director of **Netdoctor.es** to discuss the development and aims of this service in Spain.

'Netdoctor,' Eduardo Susanna explained, 'is Europe's leading, technology-driven, healthcare communications company, which improves health outcomes by breaking down the 'medical language barrier' - by presenting evidence-based medical information in a clear and understandable way so that the patients are empowered. We have demonstrated that the Netdoctor's innovative approach to patient's disease awareness can positively impact patient behaviour.

'We also recognise that this new patient will place more demand on the healthcare system so we are committed to applying our technology and medical expertise to develop programmes to support clinicians, payers and other healthcare organisations in meeting these challenges.'

'Netdoctor's philosophy, strength and resultant success is derived from our close collaborators: committed physicians, healthcare professionals, information specialists and patients who believe that best medical practice should be based on quality information and evidence-based medicine. Today, 60 Spanish leading experts and specialists are involved in Netdoctor Spain. Our editorial independence and reliance on professional advice is our single most important asset. There is a clear distinction between the editorial and business staff. As a matter of policy our doctors, writers and editors are not allowed to be influenced or answerable to our sponsors or advertisers. We follow the same standards of practice as the leading medical journals.'

Asked what products are included in Netdoctor, Eduardo Susanna said: 'Our portals and Communities provide a unique and powerful channel to reach health consumers. They consist of information and tools around diseases states and issues of key interest to healthcare consumers. We also provide patient-focused clinical software tools to help physicians achieve greater efficiency, especially in the area of chronic diseases.

In terms of innovative solutions, Eduardo Susanna said he believed that Netdoctor' partners primarily rely on Netdoctor for new ideas in healthcare marketing and healthcare products, such as emerging technology; new insights into, or ways to modify, patient behaviour, or innovative approaches to enhance the efficiency of healthcare delivery. 'Specifically, Netdoctor intends to deploy new solutions that can impact on disease awareness and diagnosis rates; brand differentiation, retention, and loyalty, and compliance and concordance.'

For the present, he pointed out that Netdoctor recently signed an agreement with the Spanish online newspaper 'abc', a publication owned by the leading Spanish communications group Vocento. 'We are now working together for future developments.'

SEEN AT MEDICA

MEDICA®

Footwear inspired by Africa

'Masai Barefoot Technology (MBT), is a revolutionary range of footwear, which re-establishes the natural conditions of standing and walking,' the manufacturer Swiss Masai reports, adding: 'This design has some remarkable effects. It improves posture, strengthens the back, in fact MBTs are recommended by orthopaedic and physiotherapy specialists across the world. It tones muscles and constantly works the legs, stomach and buttocks.

'All the principles of MBT have been verified by the Human Performance Laboratory at the University of Calgary, one of the world's leading research centres on the body's biomechanical movements.'

The footwear imitates the terrain the Masai walk on, turning hard and even surfaces, which we walk on every day, into the soft and natural ground of The Masai Mara, the firm explains. 'This causes our muscles to work harder and become the natural shock absorbers they were designed to be, thus protecting our back and joints. Instead of a traditional heel, a heel sensor and pivot sole force us to balance and straighten up. With a more upright posture we not only look better but are healthier, and automatically stronger.'
Details: www.swissmasai.com

Safer archiving

Digital data archiving is now a legal requirement in most countries, so suitably safe, long-term storage is vital - particularly in hospitals.

A data safe manufactured by the German firm Lampertz and shown at MEDICA, had been tested for eight hours in a bush fire, raging at 1,200-1,400 degrees. The firm reported that the data was not damaged.
Details: www.lampertz.de

Aid to reduce backpain

The Staby, equipment developed by Andrea Burkhardt of S.W.H.C GmbH (www.staby.de) treats back pain by sending vibrations through the body, and these cause core muscles, which support the spine, to react and try to maintain the spine's optimal position, the firm reported when demonstrating the device at MEDICA. 'For someone recovering from a back injury or back pain, this forced reaction draws blood and oxygen into the injured area, removes waste products and toxins, strengthens the core muscles, and improves the efficiently of the nervous system. While positive results are quick to appear, regular use is recommended if you don't want to return to your painful state. The experience of German physiotherapists indicates it can take as little as three weeks for problems to begin to reappear. The Staby offers an effective means to maintain a pain free existence, without the expense of ongoing therapy,' the firm pointed out.

'The equipment looks like a plastic garden cane with rubber pieces attached to the centre and each end. To operate, you shake it forcibly a couple of times until momentum takes over. It then continues vibrating with only minimal movement of the arms needed - the key is keeping the abdominal muscles contracted. Relax these and the bar stops'. The user performs various exercises, against the vibrations, such as squat-thrusts and lunges. Shock waves from the vibration through the body force it to work harder, the firm explained

Bin it!

Healthcare hygiene regulations cover the disposal of soiled items in rubbish bins. A product named Autobin, seen at MEDICA, features an integrated infrared sensor that opens the bin at a distance of 20 cm, ensuring touch-free rubbish disposal.
Details: www.saydamoebel.de

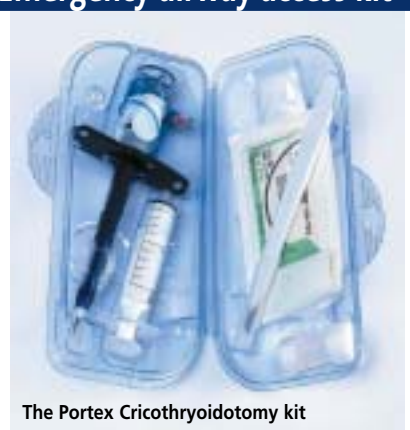
NEW Protective and fun

Medical Index GmbH, one of Germany's leading manufacturers of X-ray protection garments, brightened many faces at the MEDICA fair this November, by launching this new design of non-lead protection material in bright, fresh colours. The garment has a new back support to take weight off the shoulders and prevent back pain, the firm reports, making it more comfortable. It is also light in weight and easy to clean, the manufacturer adds.
Details: www.medical-index.de

NEW Emergency airway access kit

The Portex Cricothyroidotomy Kit (PCK) - which comes pre-assembled in compact, robust packaging and contains all items needed to establish emergency airway access - was designed specifically for use by clinicians in civil and combat situations.

Based on an innovative veress needle design that confirms entry into the trachea and indicates any subsequent contact with the posterior tracheal wall, the firm reports that the device has a 6mm bore Cricothyroidotomy tube that enables spontaneous breathing and a Portex Soft Seal cuff to secure the airway.



The Portex Cricothryoidotomy kit

At MEDICA, Smiths Medical also launched its Deltec Cozmo insulin pump into the German market. (Over 10,000 Deltec Cozmo insulin pumps have been sold beyond Germany). This device is part of the firm's CozMore concept, which combines insulin pump therapy, blood glucose monitoring and personalised data management in just one system. Small and lightweight, the pump delivers insulin continuously through a small plastic tube inserted under the skin, and diabetics can personalise various features, such as their names, basal rates or meal boluses, alarms and reminders to prompt them to measure blood glucose or deliver a meal bolus. Programming is fast and simple, using CoZmanager PC Software, which is easy to set up via an integrated infrared interface.

All in all, the device enables diabetics to manage their disease at a greater personal level, which won the firm the US Medical Design Excellence Award.

The Cozmo launch continues Smiths Medical's run of firsts. The firm was the first to introduce a smart insulin pump, upgrade insulin pump software and attach a blood glucose monitor to an insulin pump.

Lighter oxygen cylinders cut injuries

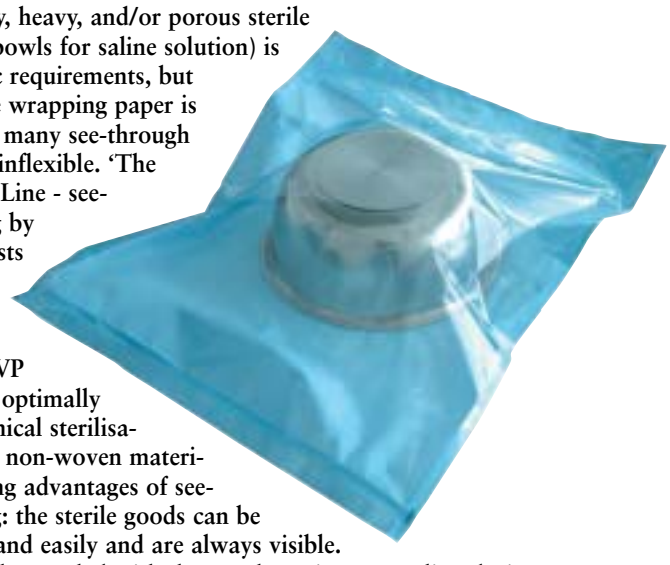
The range of ultra-lightweight medical gas cylinders produced by Luxfer Medical aims to minimise occupational injuries associated with patient and equipment handling.

'Risk Management issues in equipment handling remain high priority across Europe resulting in unprecedented demand from healthcare specialists and managers keen to benefit from the physical and operational advantages associated with Luxfer Medical's lightweight oxygen cylinders,' explained Vicky Butler, the firm's European Marketing Manager who has been liasing with medical gas companies to meet the increasing demand for ergonomically designed equipment. 'Luxfer Medical's 7000 series range of oxygen cylinders has been developed to provide lightweight alternatives to liquid oxygen systems and traditional steel prescriptions by offering dramatic weight reductions of up to 55%.'

Luxfer Medical's lightweight aluminium, hoop-wrap and composite cylinders are now widely used in hospitals throughout North America and Europe as part of the drive to minimise absenteeism caused by occupational injuries amongst medical teams.

The firm also points out major benefits for patients who need home oxygen therapy, such as extended gas delivery together with easy portability for increased freedom and mobility.
Details: www.luxfercylinders.com

Transparent packaging for heavy use



Packaging of bulky, heavy, and/or porous sterile goods (e.g. metal bowls for saline solution) is covered by specific requirements, but packaging in crepe wrapping paper is time-intensive and many see-through pouches are often inflexible. 'The alternative is Blue Line - see-through packaging by stericlin that consists of non-woven material and film,' says the German manufacturer the VP Group. 'Blue Line optimally combines the technical sterilisation advantages of non-woven material with the handling advantages of see-through packaging: the sterile goods can be packaged quickly and easily and are always visible. The packaging is then sealed with the usual continuous sealing devices. When compared directly with packaging in crepe wrapping paper, it quickly becomes obvious that Blue Line is the more efficient and more economical solution. In addition, less space is needed for storage. To ensure easy opening, Blue Line pouches have a specially marked and shaped seal on both sides of the pouch, which can then be peeled apart from the corners - an advantage, particularly when packaging heavyweight objects. A symbol clearly indicates in which direction the pouch should be peeled open. Blue Line pouches can be used when sterilising with steam, formaldehyde, or ethyleneoxide. An indicator for each one of these sterilisation methods is printed on the front of the packaging - of course, outside of the space filled by the object to be sterilised.'

Blue Line comes in five different pouch sizes, from 27 x 36 to 57 x 72 cm, and as a 20 cm wide tube.
Details: www.vp-group.de

Easier monitor mounting

Ergotron specialises in ergonomically designed workstations and provides desk and wall-mounted TFT monitor mounts and mobile stand/seating combinations. The firm's new Neo-Flex arm, in silver metallic finish, has a sleek design and refined construction that makes TFT monitor positioning far more flexible and easy. Additional turn and slant functions allow the user to achieve an optimum visual angle, and the swivel function means the monitor can be turned left or right to enable other users to view the screen. The monitor also can be used in either a portrait or landscape position. Additionally, the arm is supplied with an adjustable desk mount so that it can be fixed above a desk to free up workspace.

Price: €129.


Noel Rose (left) with Yehuda Shoenfeld

Auto-immunity research honoured

Hungary - Donato Alarcon Segovia, Ian R Mackay and Noel R Rose, notable research pioneers in auto-immune diseases, were rewarded for their life's work at the opening session of the 4th International Congress on Autoimmunity in November. The German firm Aesku Diagnostics, which donated the *Aesku Award for a lifetime's contribution to autoimmunity*, pointed out that studies by these three researchers have formed today's understanding of the principles of such diseases.

Donato Alarcon Segovia, of the National Institute of Medical Sciences and Nutrition, Mexico, could not attend the event. However, his life's work was presented by congress chairman Yehuda Shoenfeld of Tel Aviv University, who was the world's first autoimmunity professor.

In his lecture on '*The transition from benign to pathogenic autoimmunity: the myocarditis model*', Noel Rose, of the Departments of Pathology and Molecular Microbiology and Immunology, John Hopkins Medical Institutions, Baltimore, USA, described mechanisms that turn a relatively benign disorder into a life-threatening disease. Dr Rose, and his team at Baltimore, are analysing the transition of autoimmune myocarditis, which in some cases results from myocarditis caused by a viral infection, to a progressive life-threatening dilated cardiomyopathy.

Lecturing on *Autoimmune epitopes: auto-epitope*', Ian Mackay, of the Department of Biochemistry and Molecular Biology, Monash University, Victoria, Australia, used PBC as an example to focus on a topic that will significantly influence diagnosis and therapy of autoimmune diseases. Recent research is tracking auto-epitopes - auto-antibody targets at a molecular level - work that is expected to lead to a far more specific diagnosis and prognosis of autoimmune diseases, Aesku pointed out.

The firm's award not only indicates the importance of research on autoimmune diseases, but also aims to establish the significant field of autoimmunity as an independent research area, and to foster inter-disciplinary co-operation, Aesku said. The company, which continually invests in research and development to create new opportunities to improve diagnosis and therapy of autoimmune diseases, also contributed to the congress scientific programme along with its university research partners
Source: www.aesku.com

The Aesku Award was presented to Ian Mackay by congress chairman M E Gershwin (left), of the School of Medicine, University of California

Cancer research awards

Germany - Dr Angela Risch, of the Department of Toxicology and Cancer Risk Factors, based in the German Cancer Research Centre (GCRC), and Dr Gerald Antoch, of the Institute for Diagnostic and Interventional Radiology, University Hospital Essen, have received the Salzer Awards (each worth 5,000 euros) at a ceremony organised by the GCRC in Heidelberg.

Biochemist Dr Risch was recognised for her investigation of genetic factors influencing lung cancer risk, and Dr Antoch for establishing and evaluating an improved method to diagnose cancer.

For research on immune defence Dr Markus Feuerer and Dr Philipp Beckhove, both based at the Department of Cellular Immunology at the GCRG, received the Richtzenhain Award 2004 (value: 10,000 euros).

The first Sibylle Assmus Award, granted by the Sibylle Assmus Foundation (value: 10,000 euros), was given to Dr Christel Herold-Mende, of the neurosurgery clinic at Heidelberg University, and Dr Bernhard Radlwimmer, of the Department of Molecular Genetics, DCRC, for their 'Identification of clinically relevant markers in stem cell population of brain tumours' project.

From left: Left Bernhard Radlwimmer, Dr Christel Herold-Mende

Far left: Dr Angela Risch
Left: Dr Gerald Antoch

Far left: Dr Markus Feuerer
Left: Dr Philipp Beckhove

EUROPEAN HOSPITAL@MEDICA

This year, Medica presented itself in a sparkling new outfit: the new metro station made life much easier for thousands of visitors, now able to arrive directly at the North Entrance in the Messe Dusseldorf grounds. ***EUROPEAN HOSPITAL***'s team, at all entrances, welcomed visitors (though not all 136,000 of them, we admit!) and provided our latest 2004@MEDICA publication - now an appreciated and established landmark at the fair. The team also manned our stand, where a multitude of visitors and experts dropped by for information. We also fanned out through the halls and meeting areas, to see conference delegates, exhibitors and specialist visitors.

DESIGN in EH - our newest publication, which is now in its second year, proved a strong attraction. We are more than pleased about the interest in hospital architecture and design, as well as equipment design, and the positive reaction to this magazine, because we take this as evidence that the hospital landscape indeed is changing and will alter more, from an outdated and intimidating prospect, to an aesthetically and emotionally appealing environment.

As in each Medica, the EH team walked miles to meet old friends and to gain new ones, as well as to gather material on medical advances for our readers. Even if, after four days, our feet hurt and some hallucinated when finally back in comfy chairs at home, we love the excitement and inspiration of Medica - the world's biggest medical fair.

Now, of course, we're looking forward to meeting you there in 2005.

Best wishes to you all
Daniela Zimmermann,** Executive Director, and all the **European Hospital@MEDICA team

Daniela Zimmermann (right) with members of our international team at Medica

UN award for heart campaign

Switzerland - The 2003 World Heart Day Campaign, devised for the World Health Federation by international public relations agency Cohn & Wolfe Geneva, has won the 2004 United Nations Grand Award for 'outstanding achievement in public relations'. Jointly sponsored by the Department of Public Information (DPI) and the International Public Relations Association (IPRA) this annual award recognises excellence in public relations campaigns addressing priority issues before the United Nations.

Launched on St Valentine's Day, and titled 'A Heart for Life', the winning campaign utilised research that indicated love is good for the heart. International press releases, leading up to September's World Heart Day, also advised women on the cardiovascular effects of physical activity, nutrition and passive smoking.

The campaign is said to have reached over 300 million people.

EUROPEAN HOSPITAL

Published by: EUROPEAN HOSPITAL Verlags GmbH, Höherweg 287, 40231 Düsseldorf
Phone: +49 (0)211 7357 532
Fax: +49 (0)211 7357 530
e-mail: info@european-hospital.com

www.european-hospital.com

Editor-in-Chief Brenda Marsh
Art Director Mary Pargeter
Executive Directors Daniela Zimmermann, Reiner Hoffmann
Editorial Assistant Denise Hennig
Founded by Heinz-Jürgen Witzke

Correspondents
Austria: Christian Pruszinsky. ***Belgium***: Hannes Frank. ***Czech Republic***: Rostislav Kuklik. ***Finland***: Marti Kekomaki. ***Germany***: Anja Behringer, Annette Bus, Heidi Heinold, Max Heymann, Peter Howieson, Prof Tinneberg, Holger Zorn. ***Great Britain***: Brenda Marsh. ***Italy***: G. Sinaccio. ***Poland***:Pjotr Szoblik. ***Spain***: Eduardo de la Sota. ***Sweden***: Ake Spross. ***Switzerland***: Jaqueline Merlotti. ***USA***: Karen M Dente, Ivan Oransky, Craig Webb.

UK editorial address
55 Wey Meadows,Weybridge
Surrey KT13 8XY

Subscriptions
Denise Hennig, European Hospital,
Höherweg 287, 40231 Düsseldorf, Germany

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Advertising:
Ted Asoshina, Japan, +81 3 3263 5065
Ben Chen, Taiwan, +886 2 8712 2385
Denise Hennig, Germany, +49 211 7357 532
Juri Laskin, Russia, +70 95 2711 006
Simon Kramer, BeNeLux, GB, Scandinavia, France +31 180 6172 26
C.K. Kwok, Hong Kong, +85 2 2890 5510
C.H. Park, South Korea, +82 2 3644 182
Hanna Politis, USA, Canada +1 301 8696 610

Germany
Head Office Düsseldorf
European Hospital, Höherweg 287,
40231 Düsseldorf, Federal Republic of Germany
Tel: +49 211 7357 531, Fax: +49 221 7357 530
e-mail: dz@european-hospital.com

GB, Scandinavia, BeNeLux, France
Simon Kramer, Willem Alexander Plantsoen 25,
2991 NA Barendrecht
Tel: +31 180 6172 26, Fax +31 180 6200 20
e-mail: sk@european-hospital.com

Hong Kong, China
Eastern Source Int. Media Centre, C K Kwok,
25/F Great Smart Tower, 230 Wanchai Road,
Wanchai, Hong Kong
Tel: +85 2 2890 5510, Fax: + 85 2 2895 1443

Japan
Echo Japan Corporation, Tetsuzo Asoshina,
Grande Maison Room 303
2-2 Kudan Kita, 1 Chome Chiyoda-Ku
Tokyo 102, Japan
Tel: + 81 3 3263 5065, Fax: +81 3 3224 2064
e-mail: ta@european-hospital.com

South Korea
Far East Marketing Inc, C H Park,
Room 1806/7, Golden Tower Building, 191, 2-ka
Choongjung-ro, Sedoaemun-ku, Seoul, Korea
Tel: +82 2 3644 182/3, Fax: +82 2 3644 184
e-mail: chp@european-hospital.com

USA & Canada
Media International, Hanna Politis, 8508 Plum
Creek Drive, Gaitherburg, MD 20882, USA
Tel: +1 301 8696 610, Fax: +1 301 8696 611
email: hp@european-hospital.com

Taiwan
Jurassic Communications Corp., Ben Chen,
2F-3, No. 147, Lung Chiang Rd., Taipei 104, Taiwan R.O.C.
Tel: +886 2 8712 2385, Fax: +886 2 8712 2618
e-mail: bc@european-hospital.com

GLOBAL EVENTS

2005

JANUARY

9-13 Helsinki, Finland
'Medicine' - healthcare exhibition
www.finnexpo.fi

15-19 Phoenix, USA
34th Congress of the Society of Critical Care Medicine
www.sccm.org

16-21 Flims, Switzerland
Ewoc 9 - European Winter Oncology Conference
www.uicc.org

28-30 Stuttgart, Germany
Medicine and rescue meeting
www.auma.de

FEBRUARY

1-4 Paris, France
16th International Congress on Anti-Cancer Treatment
www.uicc.org

5-9 Davos, Switzerland
14th European Urology Winter Forum
www.uroweb.org

10-13 Salzburg, Austria
8th International Symposium on Analogues in Cancer and Human Reproduction
www.kenes.com

12-14 Hyderabad, India
Hospimedica India
www.mdna.com

12-15 Dubai, United Arab Emirates
Arab Health
international trade fair; medical tech and hospital equipment
www.iirdubai.com

18-19 Dusseldorf, Germany
Diagnostic & Therapeutic Endoscopy
7th International Symposium
www.cocs.de

22-25 Minsk, Belarus
Belarusmedica
Pharmaceuticals, laboratory, dentistry and optics exhibition
www.tc.by

MARCH

3-5 Amsterdam, The Netherlands
Targeted Anticancer Therapies
3rd International Conference
www.docguide.com

4-8 Vienna, Austria
European Congress of Radiology (ECR)
www.myecr.org

10-11 Paris, France
ECCO 2005
European Cancer Conference
www.fecs.be

16-17 Glasgow, Scotland
3rd Medical Patients' Acute Care & Treatment
www.docguide.com

16-19 Istanbul, Turkey
EAU - 20th Congress of the European Association of Urology
www.uroweb.org

17-19 Posen, Poland
SALUS - Prevention and Health Care, Forum and Exhibition
http://salus.mtp.pl/

17-20 Seoul, Korea
KIMES 2005
21st Annual Korea International Medical & Hospital Equipment Show
www.kimes.info

21-23 Cambridge, England
British Society for Investigative Dermatology - annual meeting
www.docguide.com

21-25 Brussels, Belgium
Intensive Care and Emergency Medicine
25th ISICM Meeting
www.intensive.org

31- 5 April New Orleans, USA
SIR 2005
30th Annual Scientific Meeting
www.sirweb.org

APRIL

2-6 London, England
14th Annual Congress of the International Society for Gynaecological Endoscopy
Hosted by the British Society for Gynaecological Endoscopy.
www.isge2005.org

4-7 Harrogate, England
BES 2005: 24th Joint Meeting of the British Endocrine Societies
www.docguide.com

4 - 8 Edinburgh, Scotland
Molecular Pathogenesis of Virus Infections
www.docguide.com

5-8 Munich, Germany
German Surgical Society 122nd Congress
www. chirurgie2005.de

6-8 Luxembourg, Luxembourg
Int'l Fair for Telemedicine and Telecare
www.medetel.lu

5-8 Edinburgh, Scotland
EANO VI - 2nd Quadrennial Meeting of the World Federation of Neuro-oncology
www.fecs.be

7-11 Florence, Italy
International World Congress of the Society of Thoracic Radiology
www.docguide.com

7-11 Strasbourg, France
Neurochirurgie 2005 (Neurosurgery)
www.docguide.com

7-13 Miami Beach, USA
13th Scientific Meeting & Exhibition of the Int'l Society for Magnetic Resonance
www.ismrm.org

8-11 Lisbon, Portugal
ICNC 7 - International Conference of Nuclear Cardiology
www.escardio.org

9-11 Stockholm, Sweden
12th European Congress of Clinical Neurophysiology
www.docguide.com

8-12 Prague, Czech Republic
10th Symposium European Society for the Study of Purine and Pyrimidine Metabolism in Man

11-14 Taipei, Taiwan
1st International Congress of IASSID-Pacific

19-26 Sweden
European Federation of Audiological Societies

22-25 Madrid, Spain
2nd Latin American Congress on Qualitative Health Research

23-25 Cancun, Mexico
1st Latin American Congress in Aging Male

26-30 Montreal, QC, Canada
International Interdisciplinary Congress on Emergencies

JULY

2-6 Athens, Greece
IX European Congress of the International Society of Blood Transfusion

14-17 San Diego, USA
14th International Congress and Endo Expo 2005

15-21 Rome, Italy
Pan Europe Asia Medical & Legal Conference

18-22 Melbourne, Australia
7th World Congress on Inflammation

18-23 Bethesda, USA
14th International Pigment Cell Conference

18-22 Breckenridge, USA
Tissue-Selective Nuclear Receptors

22-26 Nashville, USA
27th Annual Meeting of the American Society for Bone and Mineral Research - ASBMR 2005

22-26 New Delhi, India
Interim Meeting of World Federation of Sleep Research Societies

28-2 Oct San Francisco, USA
American Academy of Family Physicians Annual Meeting

2-7 Rio de Janeiro, Brazil
International Phlebology XVth World Conference

15-18 Berlin, Germany
1st Congress of the World Association of Sleep Medicine (WASM)

OCTOBER

14-16 Nice, France
10th Annual Meeting of the European Council for Cardiovascular research (ECCR)

NOVEMBER

2-5 Toronto, Canada
2005 Annual Meeting of the International Society for Traumatic Stress Studies

3-5 Mumbai, India
Hope 2005

10-13 19th San Francisco, USA
Annual Congress of the American College of Phlebology

12-15 Bangkok, Thailand
XIIIth Asia Pacific Congress of the ISBT

17-20 Havana, Cuba
3rd International Meeting on Visual and Neuromuscular Disorders

27-29 Haridwar, India
Psychotherapy, Yoga and Spirituality

KIMES 2005

17-20 March
Venue: COEX Exhibition Centre, Seoul, Korea

21st Annual Korea International Medical & Hospital Equipment Show promotes the development of the medical-equipment industry in Korea and neighbouring nations, and provides a commercial meeting ground that is expected to attract around 800 medical equipment firms from 30 nations. Some 12,000 medical items, in 500 medical categories, will be demonstrated on 28,746 square metres of three exhibition halls, where over 65,000 visitors from 30 nations are expected, making this the biggest medical exhibition in that country.

Along with diagnostic and therapeutic equipment, plus IT solutions, Oriental medicine will be featured.

First held in June, 1980, this annual event has contributed to the expansion of medical-equipment export and import industries during its 25-year operation, the organiser's report. Medical conferences and seminars are held concurrently with the show and at the same venue.

Full information relating to the scope and objectives of KIMES, the educational programme, detailed hall plan and list of exhibitors, transport and choice of accommodation during this four-day event is available at www.kimes.info

6-9 Bucharest, Romania
RomMedica/pharma/optic
www.rommedica.ro

7-9 Vienna, Austria
Clinical Dermatology 2005
www.docguide.com

11-13 York, England
3rd UK Radiation Oncology Conference
www.docguide.com

16-17 Chicago, USA
AOCR - Conference of the American Osteopathic College of Radiology
www.aocr.org

19 - 24 Crete, Greece
10th International Congress on Oral Cancer
www.uicc.org

MAY

1-5 Lisbon, Portugal
Cistm9 - Conference of the International Society of Travel Medicine
www.cocs.de

4-7 Berlin, Germany
86th German Radiology Congress
www.drg.de

5-7 Budapest, Hungary
8th Congress of the European Society for Paediatric Dermatology
www.docguide.com

13-17 Vienna, Austria
10th World Congress of Skin Cancers
www.docguide.com

19-21 Kaunas, Lithuania
5th Congress of Baltic Association for Maxillofacial and Plastic Surgery
www.balticconference.com/bamps2005

21-26 San Antonio, Texas, USA
Aua - Annual Congress of the American Urological Association
www.auanet.org

28-31 Vienna, Austria
EuroAnaesthesia 2005
www.docguide.com

30-1 June Madrid, Spain
CNIO Cancer Conference: MAP Kinases and Cancer
www.uicc.org

30-June 3 Dublin, Ireland
ESPR - Congress of the European Society of Paediatric Radiology
www.espr2005.com

JUNE

8-11 Vienna, Austria
EULAR 2005
European Congress of Rheumatology

8-12 Halifax, Canada
4th World Conference on Breast Cancer

3-9 Positano, Italy
Europe/Asia Medical & Legal Conference

16-19 Los Angeles, USA
9th Annual Meeting of the International Association of Medical Science Educators

24-29 San Francisco, USA
Meeting of the International Union of Microbiological Societies (IUMS)

AUGUST

15-19 Sydney, Australia
11th World Congress of Sport Psychology (ISSP)

18-19 Sydney, Australia
Partners in Pain: Patients, Clinicians and Pain Management

26-28 Sydney, Australia
4th Int. Conference on Oro-facial Pain and Temporomandibular Disorders

SEPTEMBER

3-7 Sydney, Australia
International Society of Developmental Biologists 2005

4-7 Lisbon, Portugal
9th International Conference on Methods and Applications of Fluorescence: Spectroscopy, Imaging and Probes