WHO endorses strategy to beat burden on society and healthcare

Czech Republic - "Obesity has reached an epidemic proportion affecting almost one fifth or a quarter of the adult population in many European countries ... over 50% of the adult population in some European countries are overweight or obese," said Dr. Vejtech Hainer, President-elect of the European Association for the Study of Obesity (EASO) addressing some 2,500+ scientists, doctors, and health specialists at the 13th European Obesity Congress this month. Governments, he warned, must recognise that obesity treatment is a top priority.

Dr. Hainer was echoing findings that led to The World Health Organisation (WHO) Global Strategy on Diet, Physical Activity and Health being endorsed by Member States at their annual Health Assembly in Geneva last month (May 2004). This strategy addresses two of the major risk factors responsible for the heavy and growing burden of noncommunicable diseases (NCDs), responsible for some 60% of global deaths and almost half (47%) of the global burden of disease. Obesity is not limited to affluent countries. It is increasing in developing countries. The worst statistics indicate that one in ten children are overweight or obese - globally.

With input from 58 Member States, the strategy explains the global burden of NCDs and how healthier diet, nutrition and physical activity can help to prevent and control them. The specific roles are identified, for WHO Member States, UN agencies, civil society and the private sector in helping to reduce the occurrence of NCDs. The document also addresses the role of NCD prevention in health services; food and agriculture policies; fiscal policies; surveillance systems; regulatory policies; consumer education and communication including marketing, health claims and nutrition labelling; and school policies as they affect food and physical activity choices. It suggests limiting intake of sugars, fats and salt in foods, and increasing the consumption of fruits, vegetables, legumes, whole grains and nuts. The strategy emphasizes the need for countries to develop national strategies with a long-term, sustainable perspective to make the healthy choices the preferred alternatives at both the individual and community level.

The trouble with ties

USA - Doctors' neckties, observed occasionally brushing against patients during ward rounds, prompted a study to analyse the bacterial content of ties worn by doctors, their assistants and medical students, who worked in surgical, medical and cardiac intensive care units, and on surgical and medical floors. Ties take from the hospital's security personnel (the control group) were also analysed. Over a period of three randomly selected days, at the New York Hospital Medical Centre, Queens (NYHMCQ), samples were scraped off the ties, cultured, and the pathogens were identified. 20 out of the 42 ties of clinical staff contained pathogens, whereas only one in 10 in the control group were contaminated (50% compared with 10% in non-medical personnel).

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The study brings into question whether wearing a necktie is the best interest of our patients," said Steven J. Nurnberg, who led the NYHMCQ team. "Being well-dressed adds to an aura of professionalism but this notion must be correlated with higher patient confidence, but while there is no direct evidence to implicate neckties in the transmis-

On a brighter note, co-researcher Ed Mangini said none of the germs were resistant strains, and that he did not think ties are a major culprit in the spread of nosocomial infec-

SARS doctor still missing

Physicians demand release 'of courageous man'

China - Last year Dr Jiang Yanyong, 72, a semi-retired military surgeon, exposed China's cover-up of the Severe Acute Respiratory Syndrome (SARS), which forced the Chinese government to admit the true extent of its SARS epidemic. On 1 June, this year, he and his wife, Madam Hua Zhongwee, also a doctor, disappeared - just prior to the 15th anniversary of the Tiananmen Square massacre (3/4 June 1989). Dr Jiang is also a well-known campaigner for democracy in his country. In February, this year, he had sent a private letter to the National People's Congress, and other political leaders, to ask for an official reassessment of the Tiananmen events. It has been reported that some of China's current leaders were involved in - or benefited from - the Tiananmen Massacre. Clearly an investigation of the event would not suit them. Dr Jiang's letter somehow became public and was soon endorsed by physicians in China.
OBESITY: UP WITH THE BIGGEST KILLERS
continued from page 1

Health problems associated with obesity include difficulties, chronic musculoskeletal problems, skin problems and infertility. Among the most daunting problems are: cardiovascular disease, conditions associated with insulin resistance e.g. type II diabetes, cancer (particularly hormonally related and large-bowel cancers), and gallbladder disease.

By hostilities surrounding the Tiananmen con-
gress on the subject of obesity, the Czech Republic's (CR) own stas-
tics are not under scrutiny. With obesity levels of 22% men and 25% women (an increase in 12-14 years), 17% men and 20% women) and 5% of children, the CR is among Europe’s leading countries for obesity, Dr Marie Kunesova, of the Czech Obesity Management Centre, pointed out. The causes are common to all increased food intake plus decreased physical energy expenditure at home and at work, as well as less walking, both in cars and better public transport.

Michael Vit, Czech Deputy Health Minister, said that the CR is already active in prevention and the management of obesity. In the last three years, he pointed out, the health ministry has allocated — tens of millions of crowns to projects on the prevention and education of children and their parents, to inform them about healthy eating habits, I should also stress that the Czech government is aware of the problem and adopted the Zdravi 21, govern-
mnt is to improve the health stan-
dards of Czech citizens. However, he added that to win against the obesity epidemic the government needed to gain support from other sectors, most specifically co-opera-
tion and agreement with food pro-
ducers. We must convince them to respect proposals from experts and scientists,’ he said. ‘The Czech Republic has been concentrating on obesity prevention among children very intensively because our stas-
tics are alarming.’

The CR operates five centres for severely obese patients, and about 40 obesity outpatient units, clinics, and the country is also seeking ways to gain the collaboration of the food industries.

However, although public aware-
ness of the hazards to health has been improved — about 95% of the population now know obesity is unhealthy, and about 25% of obese adults in the Czech Republic seek help - weight loss is not easy to gain. Although most obese people can lose weight through exercise, eating less or even medication, for the morbidly obese or those who suffer a weight-related illness, this does not always happen. More people are seeking surgery as a last resort. ‘Non-surgical treatment fails in perhaps 70%-80% of patients, but surgical treatment is successful in 70-75%,” and, of the morbidly obese about 30-40 percent would certainly be better served. ‘If Dr Martin Fried, of the Laparoscopic Obesity Treatment Hospital, Prague. About 50,000 of these opera-
tions are performed annually in the USA and the number of people suffering from morbid obesity, or ‘diabesity’ (insulin resistance e.g. type II disease; conditions associated with our stas-
tics, said GPs need to cooperate on this increasing problem: ‘This is a medical crisis. But there are two fundamental problems: the ques-
tion of whether doctors are going to be enough, and that they are seen to have neglected the problem of obesity. So, patients, from all analyses, do not visit their doctors, because they don’t think they will be helped. We are therefore pro-
ducing an extension to the scope process, whereby we are going to develop educational techniques for nurses, pharmacists, and for oth-
ers, starting with a new pro-
gramme towards the end of this year.’

Footnote: According to new data, the Czech Republic has the second lowest fertility rate in the world (average number of children per woman under 1.5). There are now 10 million Czechs. Only the Ukraine has a lower level (1.1 children per woman). The fertility rate is over 1.6 or 1.7 in EU countries such as France, Norway and Denmark.

Report: Brenda Marsh

SARS DOCTOR STILL MISSING
continued from page 1

hundreds of Chinese dissidents, academics and others, in China and abroad.

Surveillance of Dr Jiang soon increased at the No. 301 People’s Liberation Army Hospital, where he worked part-time. He had to gain permission to attend social events with his wife, who had to be screened and he was questioned after some had left; he was barred from treating patients at other hospitals, and his family was kept under surveillance. When his wife arrived at the hospital, she was stopped and questioned by officials to deliver his father’s casket. On August 24, her father was told by officials that his incarceration could be long-term. On 8 June, her son was told by officials that his incarceration could be long-term. On 8 June, her son was told by officials that his incarceration could be long-term.

On 27 May, a Chinese official held a press conference to say that the Chinese government has detained Dr Jiang Yanyong, a doctor who lived in Beijing. The couple have only been heard from in recent weeks; his family is not sure if he is still alive.

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Report: Brenda Marsh
Healthcare reform
Fact-finding from a global network

In 2002, a large international project, ‘International Network Health Policy’ (International Network Healthcare Policy) and organised by Bertelsmann Stiftung, an independent consulting and competence centre for socio-political reform issues, had recruited healthcare experts from renowned professional and research institutions in Germany, Denmark, the Netherlands, Austria, England, Spain, Finland, Austria, and Switzerland, and work began to continuously evaluate healthcare experiences and concepts in those countries, with input from Australia, Japan, Canada, New Zealand, Singapore, South Korea and the USA.

Sophia Schlette, MPH (Master of Public Health) the Project Director, discussed its aims in an interview with Christian Prusznicky, our correspondent in Vienna, giving examples of the many questions to be addressed: How does healthcare policy function in industrialised countries? Can, should or must a country, government, or ministry learn from experiences in other countries, and profit or adopt other approaches for their own systems? If so, does such thinking matter? If not, why, if sometimes, things have been proven elsewhere, are they unsuitable for one’s own healthcare system? When is a paradigm shift necessary? How can this be argued? How long does the process last until a new idea has been implanted, established and exhibits measurable effects? Who determines what in a power game of interests? What impact does a bundle of measures have on the daily lives of patients, healthcare facilities, hospitals, physicians, sickness funds, insurers and service staff? Such questions and considerations are the starting point of efforts at healthcare reform, regardless of the initial situation, responsibility for financing, system organisation, preparation of quality criteria and their weighting. Sophia Schlette pointed out.

If it is assumed that reform efforts in a country pursue the same great objectives, albeit with differing speed and intensity – financing services provided, own responsibility – efficiency (quality, transparency, system organisation), own care, access, fairness – the importance of cross-border information and experience exchange, with comparable data and rapid access, is evident for their respective reform efforts.

To obtain the data, a questionnaire is used, which had been tested, discussed and revised by all network partners to reach a common understanding of objectives, method and terms. (This is still a work in progress, as is the network.) The six parts include:

● Content of policy or idea. A summary description of the main objectives, incentives, and groups affected.
● Economic and social background of policy. Pressures, driving forces, and influences from abroad, financing or quality concerns.
● Policy process. A detailed analysis of actors and influences at each stage of the policy development.
● Expected outcome. Expert opinion regarding the likely results of a policy compared with its objectives, or regarding the feasibility of a comprehensive idea or approach.
● Review mechanisms and their outcome.
● Ratings of policy: expert assessment of policy or idea in terms of innovation, impact, controversy, public visibility and transferability.

Using this, in six-month cycles, participants report current developments in healthcare policy in their individual countries. Subjects are oriented towards (estimated) urgency in the reform debate and include, above all, related revaluation process (not always).

In the first semi-annual report, edited by Sophia Schlette and Professor R. Risse, head of the Healthcare Management department at TU Berlin, the focus is on financing, remuneration, quality assurance, integrated care, and public health. The breadth of information extends from Japanese experiences with surcharge increases, to England’s alternative methods of healthcare financing and Finnish plans to reform invoicing for hospital services. An additional special report deals with insurance and care gaps in the USA. Of special value is the ranking offered, with which the innovative value, impact and transferability of individual ideas and measures in other healthcare systems are appraised.

The second report (March-October 2003), which appeared this June, continues the subjects discussed, and also deals with healthcare policy challenges, such as demographic change, pharmaceuticals policy and questions on personnel development. The value of hospitals, in the course of the reform debates and efforts, is seen by Sophia Schlette as clearly positive. Optimisation of healthcare provision remains an uncontroverted political interest. The hospitals’ position in acute medical care and highly specialised treatment will be even further strengthened in future, given efficiency concerns – polyclinic versus individual specialist surgery. She maintains that the challenge for shaping healthcare policy lies not so much in demographic changes (‘People live longer but are not so ill, thus demography pointing to a challenge for retirement policy’) but in a far more elemental value debate: ‘How much solidarity with its old, sick, low-income, handicapped people can and will a society afford itself?’

Notwithstanding political ‘short-termism’, it is clear that health services cannot be looked at only when holding a red pencil, as in Austria. On the contrary, they can be expanded, and at a high level, as proved in regionalisation examples from Finland and Spain, where even psychiatric illnesses, dentistry and nursing care have been integrated.

Further details and purchasing: www.healthpolicymonitor.org Publication purchasing: Verlag Bertelsmann Stiftung, Postfach 103, 33311 Gütersloh, Germany.

Sophia Schlette, political scientist and health policy expert

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Computed Tomography Laser Mammography is a method of examining the female mammary gland, which works by shining a non-absorbing laser light through the breast, where it is eventually absorbed (Dear Dr Helbich - If the light is non-absorbing, how does it become absorbed - i.e. is it absorbed only by a tumour area?). The difference between this and conventional mammography examination is that there is no ionising radiation, so patients are not exposed to that. Another advantage is that the breast is not compressed during the examination and the patient feels no pain. While lying on her front, the breast is lowered into an opening in the table, and an examination can be carried out very quickly - and repeated as often as required. This is a brilliant method for young patients, those at particularly high risk and for patients with breast implants.

Could CTLM become the sole method of examination?

'We are still in the trial phase, but the objective is to find an alternative to conventional mammography and ultrasound. Initially, CTLM is a method that has to be used in combination with other imaging diagnostic procedures. We are learning a lot about the interdependencies between CTLM and mammography and CTLM and ultrasound. The next step will be to use CTLM completely alone, but we are not quite there yet. Are there comparative studies for this and other methods?'

'Some are being carried out by a number of institutes and hospitals in several countries. In the USA the first results, from a large-scale study with trial groups ranging between 50 and 1,000 patients, are currently being presented at various congresses. FDA licensing is expected there soon.'

CTLM is a completely new procedure for all of us; it can determine morphological changes, such as changes in the blood supply to tumours. Diagnosticians know that it is not always easy to differentiate between benign and malignant tumours. CTLM seems to be developing into a method that essentially makes the tumour light up, helped by a fluorescent media that is similar to contrast media but used in much smaller quantities. Therefore, tumours that might otherwise be overlooked can be diagnosed using this method. So, I believe that the future of CTLM will be its use in combination with these types of fluorescent media.

Initially, will these images be difficult to read?

'We'll learn about it just as, way back, we learned about ultrasound scanning. Those images were nothing like as good then as they are now. When the handbook for CTLM is completed and the initial training period is over, we should be able to familiarise ourselves with this new method very quickly, particularly from the experience of using it in about 2,300 trial cases. This is an innovation - and if we don't press ahead with it, somebody else will. There's always a political decision as well.'

Dr Thomas Helbich, head of the Women’s Imaging Department, University Clinic for Radiodiagnosics, AKH Vienna, describes the development and potential advantages of CTLM

Evolutionizing the Point of Care
The new scanner

The CTLM scanner is designed to acquire data to allow reconstructing cross-sectional images of the breast based on measured optical data. A laser beam of approximately 0.3mm diameter impinges on the breast and a circular array of collimators and photodiodes measures light emerging from areas on the breast that are within the field of view of each detector. The wavelength of the laser is within the 700-1000nm ‘optical viewing’ window for human tissue. The measured optical values are directly related to the optical effective transport coefficient, μeff, of the breast. Each pixel of the displayed image of the breast has a grey-scale value related to the measured μeff.

The patient lies prone on the scanning table with one breast at a time pendant in a scanning chamber. In 8-45 seconds, the laser beam, in a horizontal plane, sweeps 360° around the breast, i.e. one orbit. The orbit’s direction alternates on each scan, from clockwise (CW) to counterclockwise (CCW) rotation, to prevent winding up the electronic cables. The laser beam projection apparatus and the detector array are moved vertically downward a selectable distance, typically 4mm, and another slice plane of data is acquired.

Data from each individual slice plane is used to reconstruct an image of the interior structure of the breast. The process of moving the laser beam and detectors is repeated until the entire breast from the chest wall to the nipple is imaged. The geometry used is essentially the same as the geometry used in third generation CT-scanners. The x-ray tube has been functionally replaced with a laser and the x-ray detectors have been replaced with optical detectors forming a 2960 array around the breast. At 100-350 points (depending on the breast size) in the orbit around the breast, data is collected from the array of 168 detectors and is referred to as a ‘fan of data’. The data acquired in a scan performed using this geometry is collected from the array of 168 detectors and is referred to as a ‘fan of data’. The measured μeff values are directly related to the optical effective transport coefficient, μeff, of the breast.

IMRT

Misinformation on the Net

USA - Increasing numbers of patients search the World Wide Web to glean information about their diagnoses or treatments, and doctors are frequently faced with questions from patients who have been misinformed or even dangerously misleading.

A study, published online in June by the American Cancer Society, underlines the problem. Researchers at the Departments of Radiation and Cellular Oncology, and of Radiation Oncology, University of Chicago, examined information focusing on intensity-modulated radiotherapy (IMRT) and found, in general, that this presented poor content and quality on many websites. They warn that both patients and doctors need to be aware of these problems when selecting treatments.

About a third of US radiation oncologists currently use intensity-modulated radiotherapy (IMRT), in which, instead of passing a single, large radiation beam through the body, radiation is broken into thousands of thin beams to intersect on the cancer, which, it is understood, provides greater accuracy and minimises harm to surrounding tissues.

In the study the team used the full name and the IMRT abbreviation as search terms and, from five search engines, reviewed the first 50 uniform resource locators. Three informal observers then evaluated each site to assess presentation, accuracy and balance of information on IMRT. Scores: low, moderate, or high were used to describe each category, based on a predetermined scoring system. The overall score for each website ranged from -35 to 100 points.

In all, 77 patient-oriented websites giving IMRT information were identified (45% private, 21% academic and 18% commercial). 82% of the sites used patient-oriented language. 42% of all the sites gave false and/or misleading information.

58% of the sites gave a low level of information and 50% offered the fundamental aspects of IMRT planning. The most commonly discussed tumours were genitourinary (65%), and head and neck (53%) lesions. Few sites described the potential benefits of IMRT. The median overall scores for academic, private, commercial and other sites were, respectively, 10, 20, 25, and 20 points.

Paediatric patients

MDCT angiography is better

Turkey - Multidetector computed tomography (MDCT) angiography can be used safely and effectively as an alternative to conventional angiography in imaging the extremities of paediatric patients, according to a study published in July in the American Journal of Roentgenology.

This is the first review of MDCT angiography of children suspected of having arterial occlusion and stenosis, or for pre-operative evaluation before reconstructive surgery. The study involved six paediatric patients, said Dr Musturay Karcaaltincaba, at Hacettepe University School of Medicine, Ankara. ‘The technical success rate in our study was 83%, but diagnostic information was obtained in all patients.’

Arteries in children are small and difficult to locate so modified automated bolus tracking was used. Success depended on the ability to image the arteries when they were fully enhanced by the contrast media, he said. 10 seconds after the contrast media was injected intravenously, stationary images were taken near the proximal artery and the monitor was watched to see when the media began to enhance the artery lumen, then sequential scanning could begin to assess flow.

Conventional angiography is a long procedure, during which patients are sedated, and an arterial catheter is inserted. Dr Karcaaltincaba said MDCT angiography needs no sedation, requires a low volume of contrast media, is non-invasive and quicker.

To avoid complications from the conventional procedure, he recommends paediatric radiologists to consider non-invasive vascular imaging tests such as this.
Automation

‘A dramatic impact on human error reduction’

USA - The need for accuracy in laboratory testing is obvious, since up to 80% of the data used for medical decisions is based on laboratory tests (Source: Joint Commission on Accreditation of Health Organizations).

Now the value of automation systems has been underlined in a poster presentation at the 6th Patient Safety Congress, organised by the National Patient Safety Foundation (NPSF) in May, which focused on safety as well as medical error reduction. The poster presenter Denise L Uettwiller-Geiger PhD, administrative director and clinical chemist at John T Mather Memorial Hospital, Port Jefferson, NY, said automation improves patient safety in two important ways - by improving the precision and reliability of test results and reducing turnaround time (TAT) to deliver them faster, enabling quicker diagnoses/treatments.

The 248-bed John T Mather Memorial Hospital began extensive laboratory renovation in 2000, which included upgrading instrument systems, and installed robotics and software to automate testing processes, including pre- and post-analytical sample handling.

The hospital selected the Power Processor by Beckman Coulter Inc, whose automation systems include automated centrifugation of samples, in addition to pre-analytical steps, e.g. automated labelling of aliquot tubes, sorting and decapping of sample tubes. Dr Geiger pointed out that the pre-analytic phase is the most error-prone phase of testing because of the preponderance of human steps. By automating steps in this phase the Power Processor was found to have ‘...a dramatic impact on error-reduction’. The Beckman Coulter systems also provide extensive post-analytical capabilities, such as refrigerated sample storage and automated sample retrieval for additional testing.

Bar-coding and automated sample sorting and handling helps to ensure that every sample and result is matched to the right patient. Underlining this aspect, Dr Geiger said that, since automation, the hospital had reduced labelling errors by 20%. The Power Processor also indirectly improves the quality of manual tests, Dr Geiger added, because tasks now performed automatically are those that were mundane, time-consuming and not a productive use of technologists’ expertise and energy. With the Power Processor handling most pre-analytic steps, technologists can focus on interpretation of test results.

Dr Geiger said that the hospital sharply improved patient safety by using Beckman Coulter’s Access AccuTnI troponin I assay for cardiac testing. Producing results in 12 minutes, this means the lab can deliver them to a physician less than 30 minutes after blood sampling. The TAT for troponin testing dropped by 30 minutes - a 33 percent reduction in TAT to the emergency room, she pointed out, adding that Access AccuTnI yields high-quality results, both in comparison to traditional markers and other troponin assays. It is highly resistant to interferences in blood samples such as heterophile interferences, human anti-mouse antibodies (HAMA), and rheumatoid factor, for instance. This means fewer false positive results and fewer delays from repeat analyses.

Dr. Geiger also noted that AccuTnI protects cardiac patients by being specific and sensitive to cardiac damage. Troponin in general is more specific to cardiac damage than traditional markers such as CK MB. In addition, AccuTnI is more sensitive to cardiac necrosis than many other troponin assays.

The laboratory’s financial performance has also improved, said Dr Geiger. Since 2000, test volume increased 18% and productivity (tests per full-time employee) increased 73%. ‘There’s a myth that automation is mainly for large hospitals and commercial labs, not modest-sized labs like ours,’ said Dr Geiger, concluding that, although the Mather lab’s test volume is only 1.6 million tests annually, the hospital has benefited both in terms of efficiency and lower operating costs.
“In the UK, small companies supplying the NHS have traditionally been unable to expand because of the high costs and long lead times involved in procurement. As a result, there are remarkably few vigorous and growing UK-based IT companies, and even fewer who can compete internationally.

However, the massive and far-reaching changes in the procurement of IT through the NHS National Programme for IT threatens to make - or break - players of every size in this market.

Innovative small and medium sized enterprises (SMEs) have much to offer the NHS, and the UK eHealth Association’s Special Interest Group for SMEs has been established to ensure that they are not overlooked during IT procurement. The SIG will provide a platform to discuss issues and ideas, and through the National Programme’s Supplier’s Consultation Group and the media, we aim to raise the profile of SMEs within the marketplace.

In healthcare, as in most industries, SMEs are the primary source of IT innovation. In the UK, SMEs in healthcare IT employ almost half as many people as the 25,000 that work in NHS information technology departments, and so represent an essential resource for the coming revolution to tap.

Having transformed the English healthcare IT market, and with it the prospects for health IT SMEs, the National Programme should deliver:

- A set of clearly defined channels through which to distribute SMEs products
- Standard, nationally defined, terms and conditions under which to supply their products and services
- Clearly defined channels for SMEs to promote their offerings in the marketplace
- Clear standards with regard to interoperability and interfaces to ensure that small companies can integrate new offerings with other NHS systems
- A clear process for the accreditation and certification of new IT applications and innovations, allowing rapid evaluation and availability to NHS users
- Build on the openness of the procurement process by wider communication of all the key IT specifications and deliverables and by encouraging healthcare IT vendors to promote their offerings in the context of the National Programme
- Provide clearly documented standards with regard to interoperability and interfaces to ensure that smaller companies can integrate new offerings with other NHS systems
- Any market where the customer is committed to raising spending on the use of IT from the current 1.4% of 97 billion euros to 4% of 144 billion euros by 2008 should be bound to be an interesting place for IT companies. Also the NHS represents a particularly great opportunity for the origination and application of research, dedicated as it is to the provision of healthcare to the complete population of the UK.

SMEs, not content with the historical constraint of having only a small circle of contacts to sell to, are now able to grow valuable and capable businesses by investing, innovating and partnering with the existing and new players in the revitalised NHS IT sector. But this can only happen if such companies enthusiastically adopt the new processes and adapt to the new and faster competitive imperative created by the National Programme.”

We see a way to quadruple patient throughput in PET/CT

We see a way to offer the world’s fastest CT scanner with 0.37s rotation time

Mark Simon, Chairman of the UK e-Health Association
Small and Medium Sized Enterprise Special Interest Group and CEO of the UK-based software and services firm ComMedica, discusses IT development and the UK’s NHS National Programme for IT

OPINION

IT & TELEMEDICINE

Background - Specialising in radiology and ophthalmology, ComMedica has installations in the US, UK and Saudi Arabia. As one of the companies chosen to supply IT systems the UK’s National Programme for IT, The firm is currently completing an electronic link between the burns/cuts unit at the paediatric A&E department, St Mary’s NHS Trust (London) to the specialist burns unit at Chelsea & Westminster NHS Trust. Prior to this, phone calls were made to determine whether patients should be transferred for specialist treatment.

Doctor Volker Krause, Senior House Officer at the St Mary’s A&E unit, said the new system will initially handle c. 200 cases of face/tなか and burns ridden annually, but he added: “We hope to extend the technology to other areas, e.g. dermatology, and for referring ophthalmology injuries to the Western Eye Hospital.

For the last two years, a ComMedica electronic image-sharing link has operated between St Mary’s and the National Hospital for Neurology and Neurosurgery (London), to speed up diagnosis and treatment of critical head injuries.

SIEMENS medical

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Spain - Starting as an initiative of the Bioengineering and Telemedicine Group (GBT) at Madrid’s Polytechnic University (UPM) and the city’s Engineers Without Borders Association (ISF-Madrid), EHAS now works in partnership with several Spanish and American institutions working in partnership, and the UK’s London School of Hygiene & Tropical Medicine provides technical support to the project in Colombia, Peru and Cuba.

EHAS reports that it specifically targets primary healthcare personnel, who are predominantly female, and insufficiently trained, poorly paid and very isolated. ‘Telephone networks and computers are scarce in developing countries, there is limited access to the power grid and the transportation infrastructure can be poor,’ AHAS points out. However, even where land and power lines are absent, the group has overcome such problems by providing rural health centres and medical outposts with voice communication and electronic mail via VHF and HF radio, which has no operating cost. The programme also offers distance training courses, relay queries to medical specialists; help to access published medical papers, and advices on developing computer based epidemi surveillance systems.

In evaluations prior to the set up, nine out of ten healthcare workers said they found consultations were either impossible or difficult to make. However, after using the system the same number said consultations had become easy - and fast. AHAS reports: ‘The project has cut by a quarter the amount of hours staff spend delivering administrative and epidemiological reports, and reduced the time it takes to detect malaria cases by half.’

At the London School of Hygiene & Tropical Medicine, Dr. Carolyn Stephens, who led the project, said the team were delighted and honoured by the award. ‘EHAS shows that telemedicine is not just about high-cost technology and high-cost healthcare. We are showing that information technology can be harnessed to support millions of dedicated front line health workers bringing health care to the most isolated rural communities’.

The Stockholm Challenge awards pioneering IT projects worldwide, and helps to build networks between entrepreneurs who will benefit from contacts across borders, cultures and economies. The artist Jonas Torstensson created the award trophies.
EU - The technical barriers and limited flexibility of standard telemedical services, usually based on a single mode of access, e.g. internet or phone, can now be overcome due to the integration of Web and phone services, plus the arrival of palmtops and the smart modem to download data. These provide patients with multi-access modes to a single service. The M2DM project (funded by the European Commission) had a specific aim: to investigate the potential of such multi-access services in diabetes management, and to design a new service to provide a 24/7 access system for diabetics and carers with case management teams.

Such a service has been designed and implemented in the diabetic units of five European medical centres: Fondazione S Maugeri and Policlinico S Matteo Hospital, Pavia, Italy; Bogenhausen Hospital, Munich, Germany; San Pau Hospital, Barcelona, Spain and the Padova University Hospital, Italy.

The service comprises a database, linked to the hospital’s EPRs, which is accessible through: i) the Web (and Web-TV); ii) an interactive voice responder system for fixed and mobile phones; iii) a smart modem for data downloading from reflectometers; iv) a palmtop.

A distinguishing feature of M2DM is its capacity to tightly couple the different modalities of telematic access, relying on an advanced system for data management based on a software tool called a multi-access organiser. Thanks to this organiser, the system can, for example, automatically notify physicians about data downloading performed by patients, then relay back modifications in therapy from his/her care providers. Finally, M2DM explicitly manages available knowledge on the care process, enabling automatic data analysis, simulation and a watchdog function to advise patients and care providers of potentially dangerous situations.

The system was used by 62 diabetic patients receiving insulin (55 type 1 diabetes mellitus (DM), 7 type 2 DM, 49 adult, 33 paediatric, mean age 55 years SD 16.2 years, 37 males, 25 females). These participants transferred 40,595 blood glucose (BG) readings and 15,497 insulin dosages (ID) (avg. 12.7 BG and 4.8 ID per patient per week).

Clinical visits were held every three months, when HbA1C was tested. During the first three months 2.3% of the 13,510 BG were below 50 mg/dl, 16.6% were below 73.2 (SD 1.33) mg/dl to 73.2 (SD 1.85) mg/dl. The reduction in variance was also significant (p<0.003).

Professor Mario Stefanelli said the study team concluded that the use of telemedicine-based management of diabetes mellitus lead to a significant improvement of BG and HbA1C and reduced the rate of hypoglycaemias. The users recognised M2DM as an excellent tool to efficiently and effectively manage diabetes.
The increasing implementation of Information and Communication Technology into clinical practice will have a deep impact for the hospital of the future especially for the surgeon. Using computer assistance, it will enable surgeons to produce more accurate diagnosis and more efficient therapy. Image processing, integration of biological signals, mechatronics, and system safety issues are the main areas of development. Similar to other high-tech fields, a new way of thinking and a common language is required for both surgeons and engineers. The next 5-10 years will see computer assisted surgery (CAS) become a scientific discipline that will have important impacts on surgical planning and practice and clinical developments in the upcoming era of technology driven surgery. Economic considerations are of equal importance to justify new technological applications.

The Innovation Centre for Computer Assisted Surgery (ICCAS), at the University of Leipzig, is an interdisciplinary cooperation between surgery, informatics and medical engineering. Funded by the German Ministry of Research and Education, ICCAS focuses on the development of interactive surgical workflow and surgical integration profiles as the basis for the conception, specification, simulation, design and rapid prototyping of CAS components. Another focus is the integration of medical imaging and biological data, into a surgical picture acquisition and communication system (Surgical PACS). By creating two research groups at the interface of IT and surgery, ICCAS will hold a key position in the development of future surgery. By applying standard IT methods, such geometrical file generation will be generated. Visualisation methods will be applied to facilitate the interpretation of workflow. Ontology - a new language - will be developed to optimise communication between IT and surgical communities. A systematic description of surgical procedures can be developed based on data derived from a multidisciplinary and multi-institutional surgical workflow analysis. Using this large database of surgical integration profiles the conception, specification, simulation and design of prototypes of surgical assist systems and interface technologies can be validated. Integrating additional modalities, such as functional, such as visual as well as biological signals, will enhance traditional descriptive and morphologic image analysis. Therefore, the presented image will be a synopsis of all available signals, to allow data transfer between different sources. Surgical research is an interdisciplinary task. A special consideration of this discipline is the creation of a new surgical workflow. The answer is provided by the recent CAS research history and current research developments. Given current economic restraints, individual orientation is impossible.
A bio-implant developed by H. Sorojhi and Gert Grabenseer at the Innsbruck Laboratory for Tissue Engineering (Director: Professor W. Puelacher), in co-operation with the Department of Oral and Maxillofacial Surgery, Innsbruck University Hospital, is a ‘sensation-al success that opens new horizons for OMF surgery’, the team reports. The implant - a disk of the temporomandibular joint - was engineered from the cells of a 44-year-old patient, who had suffered angle of mandible following an accident and could intake only liquid nutri- tion via a straw. In this particular case, a joint space had to be creat- ed to receive the implanted disk. The low-invasive procedure required a high-precision 2.5 cm cut in front of the ear. Just five days after surgery, the patient could move his mandibular and open his mouth to ca 30 mm, allowing almost normal eating.

Preparation for engineering the cartilage was conducted at the Innsbruck Laboratory for Tissue Engineering. Cartilage was extract- ed from one of the patient’s ribs and the cartilage cells were repro- duced in a GMP lab in Wels, Austria, using the patient’s plasma. Because living cell material must be processed very quickly, both the implant’s production and the surgery presented a logistical chal- lenge. On the same day as delivery to the Wels lab, the cells had to be fused with the biological carrier substance. Then, an implant was formed to fit precisely into the joint space and was implanted in the patient’s mandibular.

Within a few weeks the body turned this bio-engineered spare part into tissue, which assumed its function within the body. The highly sensitive immune system readily accepted the bio transplant because it had been created from the patient’s own cells. The OMF team - For over a decade Professor Puelacher’s team at Innsbruck’s Laboratory for Tissue Engineering, which specialises in oral, maxillary and facial surgery and the clinical application of bio-engineered tissue, has pio- neered bio-engineering of cartilage, bone, and tendons, and registered numerous bio-implant successes during the last three years. Patients suffering painful stiffening of the mandibular joint that prevents normal food intake, can be helped by this new method, but the team reports that it has far more poten- tial - i.e. over-used joints can be coated with new cartilage, and other parts of the mandible, such as the disk, can be replaced.

The technique could also travel beyond cartilage replacement. The team plans to focus on bone mar- row stem cell research and say small bone fragments already can be precisely engineered in labora- tory animals. A next step may well be maxillary surgery with bio-engi- neered bones, they add. ‘Jaws will not be the only area to profit from the new technology. We will be able to create tailor-made replace- ments for knees, hips, and inter- vertebral disks from the patient’s own tissue.’
1st World Congress of Paediatric Surgery

Ivan Fattorini

infant concept - and marketing rules. In such conditions, children are often treated, for reasons way beyond strictly medical ones, by physicians who were not properly trained for such medical care. This subject is covered in the Declaration of Paediatric Surgery, adopted by the World Federation of Associations of Surgeons in Tokyo, 2001.

Given these points, it is obvious that paediatric surgeons face many challenges, and these were just some of the questions discussed during the 1st World Congress of Paediatric Surgery (Zagreb, 22-27 June). The options are many, and on the many roads towards the future many cross-roads will be presented. It is hard to tell which will follow but the Paediatric Surgery Declaration remains as a guiding light. So, we have every right to ask “Quo vadis, paediatric surgery?”

Boris A Kobrinskiy, of the Medical Centre of New Information Technologies, Scientific Research Institute for Paediatrics and Children’s Surgery, Moscow, Russia, described how new information technology has already affected paediatric surgery. He pointed out that information and telecommunication (IT) support was important, and decision-making support (by medical professionals in various disciplines, including paediatric surgery. In this field the following are all crucial: (a) Patients’ electronic medical files (b) databases to provide previous case precedents; (c) Computer-integrated systems for diagnosis/treatment advisories; (d) Surgical/post-surgical care; (e) Telemonitoring; (f) medical videoconference systems to remotely carry out difficult investigations, manipulations and surgery; (g) soft-ware for radiological diagnoses, as well as functional and laboratory investigations; (h) programmes to estimate the outcome of children’s therapies; (i) information systems to provide standards for qualified and specialised medical care at various stages (i) training/testing multimodal stratification; (ii) physicians/nurses in surgical units and first aid; (iii) programmes for diagnostic and surgical statistics from surgical units.

Thus, he said, using those aids, paediatric surgeons could use precise clinical data exchange between surgical and other departments, ultrasound and other diagnostic techniques; organise diagnostic processes; optimise examination and therapy planning; access comparative analysis and so on. The firm’s experience with children; find new methods of analysis as well as increase produce with the help of teleatherapy and other diagnostic departments; estimate surgical risks; gain remote advisory help for surgery/anesthesiology; increase efficiency control over treatment/rehabilitation activities; analyse surgical activities using evidence-based methods, and manage streams of victims in catastrophes.

‘For extreme situations, such as natural or technological disasters, or local conflicts, a highly efficient disaster telemedicine system is need-ed to cover diagnostics, medical tacts, evacuation of patients/victims, the possible structural and functional disorganisation of public healthcare services, and difficult medical and tactical conditions,’ he pointed out. ‘A tele-advisory service to deal with organisational and clinical situations in field med-i cal hospitals would help reduce decision-making delays about ther- apies and, in the case of trans-portation of children, help to define which cases to expedite to special- ist hospitals.

Cardiopulmonary bypass in connection with heart surgery on infants is a challenging procedure requiring experience and expertise on the part of the perfusionist. These patients are not small adults and cannot be managed as such. Equally the perfusion equipment used for these patients must be both designed and sized appropri-ately.

Josua Maquet report that the firm’s Safe Micro and Safe Mini oxygenating systems ‘have been developed to provide both effective and safe function in connection with cardiopulmonary bypass in patients up to about 15 kg in weight.’ With a blood flow rating of 2 l/min and a priming volume of 50 ml the Safe Micro/C oxide for babies up to about 5 kg in weight. The very high efficiency heat exchanger of the Safe Micro makes it very appropriate for use in profound hypothermic procedures. The Safe Mini with a blood flow rating of 2.1 l/min and a priming volume of 50 ml has been designed for patients from about 5-15 kg. The venous/cardiostomy reservoirs for both oxygenators are low profile sealed units (compatible with vacuum applications) with separate large surface reservoirs and one-way valves. Both oxygenators and reservoirs can be used as integrated or stand-alone units.

‘Other important features include connectors in some positions, onto which either 3/16” or 1/4” tubing can be mounted. This is particularly useful with the Safe Micro as it allows tubing circuits to be designed to give total circuit priming volumes under 200 ml. All gas and water supply tubes enter and exit from the bottom of the oxygenator. Both reservoirs include a unique dual function safety valve to prevent any accidental over-pressureisation of the reservoir. The oxygenator with integrated reservoir includes complete purge, recirculation and sample lines with sampling manifold and one-way valves. Both oxygenators are also available with either Saline or Bicarbonate lines for improved biocompatibility. These unique features further improve optimal blood handling, which is so important in the patient group.

‘With eight years of clinical use for the Safe Micro and five for the Safe Mini these two oxygenators provide the perfusionist and patient with optimal oxygen- izing systems designed specifically for these small patients.”
Yes, but it's also fascinating to see how the participants of the MBA module ‘Management in Different Health Systems’ learn together and from each other. It’s not the case that the students speak to each other very much – and not only the course students tend to be aware that healthcare systems elsewhere are ‘somewhat’ different, but subconsciously they think their own country is the norm. They are different, but basically only in the standards to which our students are accustomed. But although they assume their standards are best, and although coming from 13 countries, participants soon realise this is a false premise. This is the third objective.

Does this result in recalcitrance or a more broad-minded approach?

Not recalcitrance! Participants have either invested a lot of money in the course or fought hard for a grant, so naturally they are very open-minded. Does this experience affect your syllabus?

Yes of course! Although our professors have knowledge of many healthcare systems globally, we learn something new all the time. Some of our information is even obtained during the courses. Before seminars begin, participants are asked to present insights into their healthcare system in their own countries to the group, and once we all examine these, all of us gain insights that we could not obtain otherwise. Another aspect of this is the questions and discussions that arise during the presentations encourage us to question and revise our own material. We can make our presentations more explicit about certain things. Does this progress in to comparative students on any healthcare system?

I personally publish these, but no, the objective of the ‘Management in Different Health Systems’ module is to teach students to ask the right questions about their healthcare systems: How do I look at a healthcare system? What are its elements, and how do I tell them apart for analysis? There are tools to help analyse the different elements. We want to enable students to quickly translate their knowledge to systems in other countries. For example, let’s say we have a student who runs the healthcare institutions as a sort of holding group. During our visit, maybe we present their complete portfolio of strategies for the future. The incredible level of Finnish organisational experience. The Coxa Hospital, founded in September 2002, is the first hospital to specialise on hips and knees, as well as considering musculoskeletal trauma. Coxa now serves above 20% of all Finnish patients needing joint replacements – 1,500 operations last year.

This visit inspired and excited the students, in that the Coxa Hospital, as well as those in the entire hospital district, gave us very deep insights into strategies: plans and models to ensure there will be good, sensible and affordable hospital services for Dubai hospital, without major difficulties. Could you suggest three relevant questions they need to ask when they become managers?

The entire course, with all its modules providing the tools as well as questions to ask in each country, should enable them to manage a hospital and run a healthcare system in Dubai. This week, I work covers the interrelations of a hospital with the its healthcare system. ‘Target-oriented questions for this are: What must I do if I want to open a hospital? Are there guidelines on where my hospital can be opened? What services should I offer? Would I only be allowed to provide inpatient treatment? The next set of questions include: Where do I obtain funding? Do I need contracts with health insurers or can I simply wait for patients to walk through the doors and pay? The third set would be: Who should become chairman of the healthcare system? Who could help me reform the healthcare system if I find there aren’t actually any patients coming to pay for themselves – because they have no money? I might need to get together with others to lobby and convince a government that they should set up health insurance funds. Or, I might need to talk to other service providers, because I may have found that my hospital is good at some cases, but lacks performance in rehabilitation, which means I may need to link with a rehabilitation clinic to improve my services. Here, you are three questions: Who decides what I can actually do? Where do I obtain funding? Who could link with me if I want to change the first two conditions?

The highlight was the visit to the hospital district in Tampere (c. 250,000 inhabitants). Healthcare is organised in such an efficient way that everyone can rely on the healthcare institutions as a sort of holding group. During our visit, maybe we present their complete portfolio of strategies for the future. The incredible level of Finnish organisational experience. The Coxa Hospital, founded in September 2002, is the first hospital to specialise on hips and knees, as well as considering musculoskeletal trauma. Coxa now serves over 20% of all Finnish patients needing joint replacements – 1,500 operations last year.

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UK hygiene is poor

In a study carried out by Natasha Crowcross for the UK’s Health Protection Agency, in association with the UK’s Office of National Statistics, the author pointed out that the rise in MRSA cases in UK hospitals indicates hygiene is very poor in that country, and that clinical staff need to be more aware of the dangers and give more support to tackle this problem ‘...from the top professors down to ward cleaners’. She also pointed out that, because MRSA infection is relatively rare, death can result from delayed diagnosis and treatment of the pathogen, adding that hospital staff should not wait for confirmation of a suspected case before isolating a patient.

By contrast with the UK, the author points out that the conscious adoption of meticulous hygiene and isolation procedures in the Netherlands has shown a drastic fall in MRSA rates, placing the Dutch among the best in Europe.

(‘Figures were derived from analysis of thousands of death certificates, where doctors’ or coroners’ notes specifically showed MRSA as the cause of death).

Disposable or multiple-use bedpans are an obvious source of dangerous pathogens. ‘The method of working with these reduces hygiene efficiency whilst increasing the danger of contamination for all concerned,’ the firm Meiko Maschinenbau reports. The risks lie in the details. The disposable bedpan has a frame to ensure its stability under a patient, but that frame could play a multiple role in the transmission of life-threaten-

ing bacteria if it is not thor-

oughly disinfected after each use - that is, before being passed on to another patient. The smallest omission in the cleansing cycle can have appalling consequences. ‘Testing the effectiveness of disinfection specified by a disposal equipment supplier is of true of branded products, effec-

Disinfecting dangerous pathogens!

In Denmark in 1967, over a quar-
ter of all S. aureus isolated from one country hospital were methicillin-resistant and 20% of S. aureus iso-

lated from blood cultures from near-

ly all Danish cases of staphylococcal bacteraemia were MRSA. In France as early as 1963, the incidence of MRSA in nine hospitals in Paris was 12%, rising to 19% by 1963; Methicillin-resistance among S. aureus in Greece during 1978-79 was 67.5% and, in the General Hospital of Athens, a prospective study carried out in 1982 showed that 50% of S. aureus were MRSA.

The United States differed from Britain and Europe in that MRSA were rarely found. Only two outbreaks were reported prior to 1976. Between 1961 and 1967, no MRSA were found among 1,000 patients tested at the Boston City Hospital. However, since the late 1970s, MRSA have become a major prob-

lem in hospitals worldwide, and no

country has escaped from the emer-
gen and spread of MRSA. This organism causes serious infections and is particularly troublesome when introduced into specialist units such as burn, surgical intensive care, or orthopaedic. The reservoir within the hospital is infected, or colonised patients and staff carry MRSA in their noses and on their hands.

Infection control measures used in hospitals in the spread of MRSA concentrated on identifying infected or colonised patients, barrier-isola-
tion, and following the rules of asept-
tic and antiseptic practice, including the most effective control measure, hand disinfection.

However, different countries intro-
duced and stressed the importance of these simple measures differently.

Biological hygiene shines

Control dangerous pathogens!
UK hospital bathrooms - more bad news

Calls for improvement in the National Health Service (NHS) hospital bathrooms - made 38 years ago after a King's Fund patient survey, and again 6 years ago after a survey by Dr Andy Monro and colleagues at St James's University Hospital, Leeds (pub: Journal of the Royal Society of Medicine, May 2004). Indeed, many other problems remained the same as those observed during the previous surveys, which included concerns about cleanliness and lack of privacy; unpleasant smells, often with the scent of urine; missing locks, no heating; wet floors; obstructive clutter; delayed repair of broken equipment and poor signage. And although the survey focused on 46 wards in three hospitals in the North of England, the authors said: ‘We suspect that the inadequate state of hospital bathing facilities is a widespread phenomenon in the UK.’

72% of the patients involved in the new survey needed assistance with washing and bathing, making disabled access a top priority. Improvements for this group did include the installation of alarm call systems in all facilities; hoses and showers in use almost generally and many taps are now the ‘easy to use’ variety.

Survey recommendations

- Access to showers, mirrors and taps for the disabled should be improved
- Washing/bathing should be made more pleasurable and dignified, through better decor, privacy and cleanliness
- There should be guidelines for bathrooms for the disabled, which should become standards used as a ‘key factor in government star ratings of hospitals’
- A staff member should be designated to ‘act as a patient advocate’
- ‘The aim should be to provide bathing facilities that we would be happy to use ourselves,’ Dr Monro concluded.

THE TROUBLE WITH TIES continued from page 1

to demonstrate determination to keep it there, for your ‘aura of professionalism’ - you might also think again to that action. Recently published research led by eye specialist Robert Ritch (New York Eye and Ear Infirmary) indicates that tight ties could increase the risk of glaucoma - a sight destroying disease. He explained that a tight tie compresses the jugular vein, causing blood to back up en route to the eye, and thus raises pressure, adding that glaucoma mostly occurs due to pressure from a fluid build up in the eye, which damages the optic nerve.

‘(Results from the tie study, were presented at the 194th general meeting of the American Society for Microbiology.)

Your alternative to ties?

Dear Readers: Steven Narkin received several ideas to cut poor necktie hygiene using a tie pin, switching to a bow tie, wearing no tie; using tie disinfectants and even the creation of a ‘necktie condom’.

Do you think the time has come for doctors to stop sporting this non-essential, biblike, soap, food and drink collector, in preference for sensible medical clothing that improves hygiene? Or, do you have ideas for well-designed hygienic wear for physicians on ward rounds? Why not send in your thoughts, and photographs of an ideal existing garment, or a drawing of your concept for an alternative doctors’ garment. We would also like to hear from hospital clothing manufacturers who have specific designs for hospital doctors. (Editorial address: page 18).

Additional thoughts: Some time ago a suit and tie instantly signalled the difference between manual and ‘white’ or ‘blue collar’ workers - i.e. those who work or who have worked for non-sterile water is evidence that contact water-borne pathogens - particularly in hospital areas with high-risk patients.

One method is point of use water filtration. The preventive use of sterile filters is appropriate in areas with immune suppressed patients and has already partially been introduced in ICUs, Professor Matthias Trautmann (Stuttgart) told those taking part in the symposium ‘Legionella, Pseudomonas & Co - underestimated risk from the water pipe’, held during the 7th German Society for Hospital Hygiene Congress in April.

Filteration is not only medically useful, but also economically relevant. Referring to a surgical ICU in Southern Germany, the professor demonstrated that formerly uncontrollable Pseudomonas infections were effectively and rapidly reduced following the installation of sterile filters in every hand-basin of the ICU section (n=72). The monthly cost for this filtration was 750 euros but, due to the effective prevention of pneumonias,

The value of water filtration

Molecular genotyping of waterborne pathogens and the subsequent verification of infection chains from hand basins to patients, has shown evidence that contact with non-sterile water is one major cause for nosocomial infections. According to recent trials, up to a third of Pseudomonas spp pneumonias in intensive care units (ICUs), could be induced by routine personal hygiene procedures and wound cleaning. These newer insights lead to the consideration that additional precautionary measures need to be taken to prevent life-threatening infections with water-borne organisms - particularly in hospital areas with high-risk patients.

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The theory and methods for applying compression dressings in Germany are governed by the guideline lines set by the German Society of Phlebology, and are not necessarily in line with the techniques used in Austria and Switzerland, particularly in terms of light compression bandages. However, this only means there are different approaches to the same kind of application. One of the differences can be seen in the use of skin protection and the extent of padding used. The different approaches also make it clear that the user can and must decide which technique to use in individual cases (table 1).

### Table 1: Different indications and objectives require different materials

<table>
<thead>
<tr>
<th>Short-term dressing</th>
<th>Light support compression</th>
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<tbody>
<tr>
<td>Easy to apply (can be done by patient)</td>
<td></td>
</tr>
<tr>
<td>Changed daily</td>
<td></td>
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<tr>
<td>Personal hygiene and local therapy possible</td>
<td></td>
</tr>
<tr>
<td>High pressure during rest</td>
<td></td>
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<tr>
<td>Surface compressed</td>
<td></td>
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<tr>
<td>Lighter congestion</td>
<td></td>
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<tr>
<td>Bandage stretches when leg muscles are tended, then gives again</td>
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<table>
<thead>
<tr>
<th>Permanent dressing</th>
<th>Inelastic compression</th>
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</thead>
<tbody>
<tr>
<td>More demanding technique because it is difficult to model</td>
<td></td>
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<tr>
<td>Requires trained staff</td>
<td></td>
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<tr>
<td>Stays on day and night (for days or weeks)</td>
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<tr>
<td>Personal hygiene and local therapy are not possible</td>
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<tr>
<td>High pressure during activity</td>
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<tr>
<td>Has deep-reaching effect</td>
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<tr>
<td>Severe congestion</td>
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<tr>
<td>Leg gives in to compression effect, decongests, circumscription reduces</td>
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Leg gives in to compression effect, decongests, circumscription reduces

Both techniques prepare a patient in the same way, with skin care and elasticized tubular bandage being applied. Particularly sensitive areas need padding to compensate for anatomic unevenness. The objective is to ‘model’ as even a leg as possible, which the dressing shape will follow, thus achieving an optimum depth effect. The bandage is applied using Laplace’s Law, i.e. the bigger the circumference of the bandaged leg, the lighter the local pressure and, vice versa, the smaller the circumference of the bandaged leg, the higher the local pressure. The following procedures are essential, when applying a compression bandage:

1. Ensure the ankle joint is in a 90º position, because this is the only way to avoid about a 1-1.5cm difference in increased circumference which occurs with the foot in plantar flexion. The 90º position achieves a better fit for the dressing.

2. Ensure the gradient bandage shape supports decongestion in the veins, i.e. the bandage must be applied over the top of the foot from the big toe joint to the smallest toe joint.

3. The telltale clinical sign of the correct amount of pressure being applied is a slight blue colouring in toes of a patient with chronic venous insufficiency.

4. Confirmation of pressure is correct: This colouring disappears when the patient walks and toes look rosy again.

5. Padding of the Achilles tendon and the tibia avoids pain and supports compliance.

The ‘figure-of-eight’ bandage usually fits better around conical shapes (e.g. leg) than spirally applied bandages. However, different application methods are possible, providing they are carried out correctly and have the right therapeutic effect. Successful therapy usually shows when bandages are first changed:

- The skin looks improved and healthier. There is obvious decongestion, which has a positive effect on wound appearance, as seen in our example (pictures 1-5).
- However, a reduction in the circumscription of the leg does not mean that venous insufficiency has been cured. As soon as the compression is removed for a period of time the congestive reappears, with negative effects on wound healing. Nuclear medical examinations have shown that compression removes more water than protein from the tissue and therefore increases oncotic pressure, which, if compression is not sustained, leads to a quick reappearance of the oedematous fluid. Following wound healing, compression therapy must be carried out for life, to avoid recurrence of the symptoms.


Since the 1940s, when vacuum closure was introduced, the indications and applications for its use in wound healing have increased considerably. In some countries, including Austria for large wounds, whilst in others they still doubt this method of wound management. In May, following their conference on vacuum closure, the board directors of the German and Austrian associations for wound treatment issued a ‘Consensus Document’ on the merits of this procedure, on which this report is based.

A full list of indications and contraindications for VAC closure are contained in the consensus document.

Surgeons currently use self-made vacuum therapy systems, connecting sponges, foils and tubes with a Redon bottle. The document also discusses a ‘VAC Therapy Unit’ (manufactured by the patent holder, KCI Company, and currently said to be the only complete mechanical system available). This system provides acoustic/visual alarms to warn of a leak, and the unit’s suction collection container is inserted into a pump, with suction strength settings between 50 to 200 mmHg. A 5-lumen tube continually monitors suction, even in the wound area and, if necessary, the suction strength can be changed, the document reports, also pointing out that, generally, self-made systems neither provide precise information on suction strength, nor compensation options for a leak, nor do they provide alarms covering suction loss. These systems also have not been scientifically validated, as the document continues. ‘When using the Redon bottle (suction strength between 50 - 900 mmHg), a small leak can result in suction loss and constant bag replacement. In wall suction systems, a leak can cause uncontrollable suction of air with consecutive drying and necrosis development in the wound region.’

Insurers’ backing and others’ doubts: Vacuum closure and VAC therapy is considered a state-of-the-art therapy in the USA and Switzerland for a large range of indications, whereas the benefits of ‘cover VAC therapy for home healthcare’ - if deemed suitable and if outpatient nurses and supervising physicians are adequately trained.

(A smaller, lightweight mini-VAC Therapy Unit (KCI) is also available. Now, although we use these methods for covering great scar areas, aesthetically it is not still really a satisfaction. For facial scars, or those exposed places, a transparent, quick-setting silicone gel (Dermafix - a non-prescription product) offers the apparent advantage of efficacy; the gel is absolutely comparable to sheets and patches. It also makes it easier for patients to treat their own scars. As an objective observer, I can confirm best results.’

**The merits of vacuum closure**

Dr Thomas Wild, of the University Clinic for Surgery, Choical, Department for General Surgery, Vienna General Hospital, Member of the Board of the AWA (Austrian Wound Association) and Deputy Director of the Austrian Wound Network...
is so clear that the criteria for therapy seem to be met.

The group explained that one reason why there are no larger numbers of prospective, randomised studies is that, in each patient, wounds are characterized by multiple factors as well as variable factors - age, wound size/location, underlying disorder; immune competency; infection status and so on.

However, the group does recommend basic research, to better understand the therapy's action, and the physical, biochemical and pathophysiological effects of the various sponge qualities (polyvinyl alcohol sponge, polyurethane), suction strengths (50-900 mmHg) and therapy modes (continuous, intermittent).

The group concluded: 'In principle, modern wound management should be institutionalised. Due to its complexity, only specially trained, certified doctors and care facilities should perform this wound treatment. Interdisciplinary wound centres are examples of efficient diagnostic and therapeutic care.'

In the views of the consensus group members, the report continues, ‘...it does not appear to be necessary to link professional competency for vacuum closure and VAC therapy to specific specialist arrangements, but rather to measurable expertise in daily activity. The definition of indications for vacuum closure and VAC therapy should continue to be performed by the physician.'
Anyone who has completed a relevant training will become a perfusionist. Practical experience must then be gained on the job. The Academy for Perfusion, Head of Cardiovascular Engineering would prefer a better system for entry into the profession. A joint project between the Institute for Experimental Haematology and the Austrian Society for Cardiovascular Engineering, about the development of this field and the kind of professional education the society wants to promote.

The early years of open-heart surgery the heart-lung machines were operated by physicians who assisted in surgical departments, but they generally did this for only one or two years, before returning to surgery. Those constant changes in the surgical team did not impact well on continuity, or help in further developments in extra-corpo-ral circulation. So the society became neces- sary to recruit medical personnel (e.g. nurses, engineers) and pro-

Valving without open-heart surgery?

France - Aortic valve surgery accounts for about 60% of valve replacement surgery, and this type typically involves open-heart surgery. Now the makers of a self-expanding, stented aortic valve, known as the CoreValve Percutaneous ReValving System (CRPS), report that implantation of this new device may result in significant healthcare cost-savings.

In exhibited at May in the EuroPCR Cardiovascular Congress, in Paris, the firm announced that it was seeking approval of the new procedure. The 2004 Meyenburg Prize

The number of cardiovascular opera-
tions performed without using heart-
lung machines (HLM) has decreased for the second time in Germany, attributable to developments that have led to new tech-

A joint project between the Institute for Experimental Haematology and Transfusion Medicine, at Bonn University Hospital, and the Centre of Advanced European Studies and Research (Ceasar), has gained a Special Project Award in the Bayer Haemophilia Awards Program with surgery with HLM [Source: N Engl J Med 2004; 350:12-18].

Projections do not appear to be confirmed that OPCAB operations would increase due to the gradual harmonisation of pan-European agreements and special reimbursements to Diagnosis Related Groups (DRGs). It is estimated that the high cost, are the superior results of con-

The team intends to develop a process to provide data regarding anti-

The 2004 Meyenburg Prize

Swiss cell biologist Professor Erich A Nigg (left) head of the Department of Cell Biology, Max-Planck-Institute for Biochemistry, Martinsried, has received this year’s award for his research on the mechanism of cell division and mutations that can lead to the cancer.

The genome of most cancerous cells is chaotic, said the German Cancer Research Center in Heidelberg, breast and colon cancers, many have duplicated them or translocated them. Other chromosomes exist in multiples, or

...a very comprehensive professional education, to include first-line cardio-logy. A cardio-logy calculation package is also available: ‘CoreValve and Picus Pro also include a database interface from Astastra (the Munich-based firm that provides access to Women’s Health Clinical Database for gynaecology and anten-atal assessment). A lithotripsy soft-ware package, which is compatible with and approved for EDAP TMS shock wave lithotripsy, using Sonolith Praktis and Vision systems, is also contained in the Picus Family, and the system produces...’

Patients often prefer high-quality technical performance, and catheterization with the entire range of technology used in heart surgery - in the theatre as well as in intensive care units (ICUs) and wards. The society favours polytechnic education, or a study course at the Academy for Perfusion, in Berlin - a very comprehensive professional education, to include first-line cardio-logy. A cardio-logy calculation package is also available: ‘CoreValve and Picus Pro also include a database interface from Astastra (the Munich-based firm that provides access to Women’s Health Clinical Database for gynaecology and anten-atal assessment). A lithotripsy soft-ware package, which is compatible with and approved for EDAP TMS shock wave lithotripsy, using Sonolith Praktis and Vision systems, is also contained in the Picus Family, and the system produces...’

Philipp Schröder, Chairman of the German Heart Foundation, said that the development of cancer: cells with an abnormal number of centrosomes often turn to surgery. Those constant changes in the surgical team did not impact well on continuity, or help in further developments in extra-corpo-

We present many event details that can be attended by members of the profession.

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