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SPECIAL ISSUE: MEDICAL, TECHNICAL, PHARMACEUTICAL, INDUSTRIAL NEWS

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Breakthrough law to insist on video cameras

Troubleshooting 'near miss' surgery

Should video cameras record surgical procedures? Athletes and sports teams review videotapes of their performance to learn how to make improvements. Could surgeons and operating theatre teams use videotapes for quality improvement and to increase patient safety and clinical outcomes by identifying and reducing errors or bad practice? Or would this be an intrusion, a distraction for a surgical team? European Correspondent Cynthia E Keen reports

In addition to the expense of installing and maintaining sterile video cameras, videotape reviews would create their own set of issues and costs. Who would review? What protocols would be used to identify and report possible problems?

At a time of lean budgets, from where would funding come to pay for this? These are unanswered questions, but video cameras in surgery are making the news.

Characterising 'near miss' events in complex laparoscopic surgery using video analysis

Teodor P Grantcharov MD PhD, a professor of surgery at the University of Toronto and a staff surgeon at St. Michael's Hospital in Toronto, Ontario, has been recording his surgeries with a 'black box' he designed that works with laparoscopic procedures. The device records conversations in the operating theatre and records the video feed from the surgical camera being used, as well as a wide-angle view of activities within the room. Dr Grantcharov, also the Canada Research Chair in Simulation and Surgical Safety, meets with his surgical colleagues at St. Michael's Hospital every week to review the collected data.

'Root cause analysis of surgical complications are of high importance to ensure surgical quality, but specific details on technical causes often remain unclear,' Dr Grantcharov said. 'Near misses – situations that have the potential to result in an injury or adverse outcome – may not be captured by retrospective reviews of archived charts or malpractice claims. However, by identifying them, they allow protective measures to be taken to avoid future adverse events.'

Dr Grantcharov and colleagues conducted a study to analyse 54 unedited recordings of bariatric laparoscopic procedures. Their findings have been published in BMJ Quality and Safety.

66 events in 38 surgeries were identified, the majority of which were minor bleeding and haematoma. Bariatric surgeons rather than trainees caused the majority of these events and the most common injuries were due to basic surgical tasks.

'The opportunity to learn from errors represents a valuable source of information that can be used to teach surgical decision making, risk management, and error recovery mechanisms. The current study highlights the benefits of detailed video analysis to create a database of common injury mechanisms and video clip repository that can be used in tailoring future training interventions, the study authors wrote, adding that understanding the casual relationship between minor errors and intraoperative events is essential to be able to develop effective error rescue mechanisms for future cases.

The ARIBO Project: a French study recording OR staff behaviours to reduce infection

In France, a multicentre prospective study is underway to record the behaviour of medical staff performing surgeries in 20 operating suites in 12 healthcare facilities used for cardiac and orthopaedic surgery. Motion tracking, using a video tracking system, is being used to assess the behaviours of surgeons, anaesthesiologists, nurses, and other clinicians entering operating rooms to determine their impact on surgical site infection risk during surgical site procedures.

Surgical site infection is a major public health problem, which substantially increases the severity of illness, length of hospital stay, mortality risk to patient, and related costs of treatment.

The study's principal investigator Dr Gabriel Birgand of the University Paris Diderot and colleagues are trying to determine if movement in and out of the operating room during a surgical procedures and specific behaviours of clinical staff may be linked to the source of contamination of a surgical wound.

High-tech video tracking systems can obtain comprehensive and systematic data that is impossible to collect by human observers. However, the tracking systems do not actually record videos of the surgical procedure but rather the positions of the surgical staff. The number and length of times doors are opened and shut are also being analysed.

The study's objectives are to assess best-practice guidelines in a surgical suite, to assess correlations between movements of the surgical team and surgical site infection risk, and to assess the correlation between the particle count and the microbiological contamination in the air. Additionally, the researchers are observing changes in practice by clinical staff when they know their movements are being videotaped.

Government legislation aims to protect patients from surgical errors

The introduction of video cameras in operating theatres could also be the result of government legislation designed to protect patients from accidental errors made during surgery. In April 2015, a bill requiring hospitals to install video cameras in

Continued on page 2

St. Michael's Hospital, Toronto, Ontario

3-D viewing benefits gastroenterology

Report: Anja Behringer

Source Olympus

During many and various 2015 medical congresses 3-D visualisation has been a key topic as the industry continues to introduce improved hardware and software in ever-shorter intervals. Interventional medicine is entering a new dimension, was a popular slogan. The crystal clear, coloured visualisation of body cavities previously only visible in cloudy black and white may be fascinating, but it does not replace the interpretation of images by an experienced doctor.

Wide-angle and full-spectrum endoscopes may facilitate views behind folds and flexures during a colonoscopy but, from experience, the detection rate for the procedure is only around 58%. 'Around 30% of polyps are not discovered during screening examinations,' one experienced endoscopist pointed out.

Stereoscopic imaging was controversial as far back as the 1990s, but this subsided over time due to improvements in visualisation technology, which, in the early days, had not been so advanced. The significantly improved quality of today's imaging systems gives rise to hope because they are at least on a par with the current 2-D display systems.

To check whether the user actually benefits from a measurable added value with 3-D images, under Feussner the MITI Research Group in Munich carried out a prospective clinical study. The latest 3-D systems were compared to a high-end 2-D monitor system for laparoscopy.

European Hospital had three questions for the professor.

Why were promising approaches from 20 years ago not pursued any further? Feussner: 'The technical quality of stereoscopy back then was nowhere near as good as it is today. The cloudy view lead to tiredness and headaches for the users and the monitor glasses caused nausea.'

The study specifically focused on the difference between doctors with little surgical experience and experts with longstanding surgical experience. 'However, Feussner immediately clarifies, 'Five percent of people cannot see stereoscopically.' Even these days three-dimensional viewing is exhausting and takes getting used to. Despite this, none of the participants of the study complained about visual impairments or paraesthesia, not even with the glasses-based 3-D system compared to a 2-D display.

EH wanted to know about other particular results the study delivered. 'The most surprising finding is that even experienced experts benefited from the visualisation, even though they did not perceive it subjectively. But, we were able to prove this increase in efficiency objectively.' When these findings catch on in the future, 3-D will become standard, at least for laparoscopy, the surgeon foresees. Asked about further areas of application for this technology he referred to the first approaches in interventional, endoscopic manipulation in gastroenterology. 'Theoretically our findings can be transferred here as well. However,' Feussner stresses, 'one limitation is that the technical requirements for such 3-D systems in endoluminal endoscopy are respectively even higher than in laparoscopic surgery, due to their significantly lower spatial depth.' Nonetheless, he still believes that experimental and clinical studies on the subject will be beneficial for gastroenterology.

Internist **Hubertus Feussner MD** pioneered MIS and was a founder/leader of the research group 'Minimally Invasive Interdisciplinary Therapeutic Intervention' (Institute MITI). He chairs the Section for Computer- and Telematics-Assisted Surgery at the German Society of Surgery (CTAC) and is a key figure at the Society for Computer- and Robot-assisted Surgery (CURAC).

Improving the a

The fields of application for endoscopy now extend far beyond gastroenterology, reaching through to pneumology, ENT and orthopaedics. Technical advances have enormously improved the options for seeing into bodily cavities and hollow organs and these options have therefore caught the interest of diverse medical specialists

In 2012, Olympus reached another milestone in innovation with the introduction of EVIS EXERA III with improved narrow band imaging (NBI).

Focusing on relevant colour spectra with NBI

In narrow band imaging, specific colour spectra are filtered out from the white light produced by the endoscopic light source, which equates to the spectrum of our daylight. Inflamed regions, and particularly tumour cells, are characterised by excessive or uncontrolled production of new blood vessels, so-called neovascularisation. 'NBI exploits the property of haemoglobin whereby light is absorbed in a specific colour spectrum. When a filter is used to ensure that only blue and a little green light, corresponding exactly to the absorption spectrum for haemoglobin, is shone on tissue containing blood vessels, this light is absorbed by the regions with blood flowing through them and they become black, thus providing a greater contrast to the surrounding tissue.

'This enhanced contrast between a vessel and the surrounding mucosa allows better differentiation between regions that are changed due to disease and healthy areas and thus support the physician in making an assessment and then taking a decision on how to proceed,' explains Mirko Feuring, GI Product Manager at Flexible Endoscopy.

The previous series, EXERA II, already exploited NBI and supported the user in the assessment of tissue changes, both with reference to changes in gastric mucosa and in Barrett's oesophagus. This was proved in multiple clinical trials. 'However, some trials reached the conclusion that NBI did not constitute an advantage in the detection of malignant areas in the colon. What emerged over the course of the years was that the first generation NBI was simply not bright enough. That greatly challenged our Japanese engineers,' Feuring said, describing the learning curve that the developers went through.

Olympus is at Medica
Hall 10 / Stand D20

What has now been achieved in the EXERA III series is to get more light to the investigation site through optimised focusing of the xenon light beam and coupling into the light guide in the endoscope. In addition, Olympus has developed a new image sensor for the EXERA III series endoscopes that is more sensitive to light.

According to Feuring, the new image sensor is capable of far higher levels of performance than its precursor model. This now means that extraordinarily bright and clear, high-resolution internal body images can be produced both in the white light and NBI modes. Above all, it is hoped that the rate of adenomas that are missed in screening colonoscopy can be substantially reduced from the current 20-25% through NBI with the EXERA III series. These and other

Breakthrough law ...

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operating rooms was introduced in the Wisconsin State legislature. The proposed legislation would require hospitals to offer videotaping to patients, or their guardians, of surgical procedures, and would also allow surgeons themselves to request this if the patient had no objections.

Milwaukee-area State representative Christine Sinicki introduced the bill so that plaintiffs in medical malpractice cases would have visual documentation. If the act is passed by the State legislature and signed by Wisconsin's governor, the Julie Ayer Rubenzer law – named for a woman who died from an overdose of anaesthesia while undergoing breast implant surgery – will be the first of its kind in the USA.

The proposed legislation sparked a national debate about the merits of taping surgeries. Patient advocate organisations, such as the National Organisation for Medical Malpractice Victims, which represented the estimated 400,000 individuals who die annually in the USA from medical errors and oversights, consider this breakthrough legislation. To date, professional medical associations declined to comment.

Further details: http://www.gabrielbirgand.fr/en/2015/03/aribo-project-attitudes-risk-of-infection-and-behaviours-in-the-operating-room/

denoma detection rate

Mirko Feuring, GI Product Manager at Flexible Endoscopy, Olympus Deutschland GmbH

with a different wavelength. If this light information is attenuated in specific areas, then this may indicate the presence of pathological processes. However, the EXERA III series does not have the autofluorescence (AFI) mode. For technical reasons, this is only available in the LUCERA series that is mainly used in Asia.

Feuring: 'We do, however, currently offer the pneumologist the option of combining the two video processors that are required, using a universal light source, enabling NBI and AFI to be used with the compatible endoscopes. I would like to see these two series, the European and the Asian series, being merged further.'

Computer-assisted endoscopy and 3-D imaging

As for future perspectives, this product manager is optimistic that developments such as computer-assisted diagnostics will also will also be able to support the physician in the identification of potentially suspect tissues. This problem is going to be the subject of joint research with the University hospital of Jena.

In contrast to laparoscopy, 3-D imaging with a flexible endoscope is currently also a long way off in flexible endoscopy, even if it is of interest to the user.

'3-D endoscopy could provide potential advantages in the removal of polyps,' Feuring suggests. 'Technological development will continue, that is certain. But no matter how much innovative technology is involved, a trained eye and a learning curve will also be essential for successful applications in the future. 'Perhaps NBI will even mean that tissue biopsies will not be required in specific cases - that is the vision of the future. An analysis for the USA (Kessler W R et al. A quantitative assessment of the risks and cost savings of forgoing histological examination of diminutive polyps… Endoscopy 2011; 43: 683–691) revealed that one billion dollars could be saved there alone if hyperplastic polyps of up to 5 millimetres no longer needed to be removed and sent to the pathologist.

In many cases, endoscopic results are unambiguous and the pathologist only needs to verify them.'

questions are currently being investigated in clinical trials.

Applications beyond gastroenterology

Problems in pneumology have also become easy to investigate using EXERA III and narrow band imaging. In addition to NBI, a further procedure for aiding diagnosis will be of interest to the pneumologist: autofluorescence. In this case, light is not absorbed, but is taken up by tissue components, such as collagen, where it is transformed into light

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Brahms or Beyonce? Metallica or Madonna?

Music in the operating theatre - the great debate

Report: Mark Nicholls

A debate has flared up across the United Kingdom over which genre of music should be played in the operating theatre during surgery.

Amid claims that loud music can be distracting to some surgical personnel, questions have also been posed as to who should choose the music – the head surgeon or nurse? How loud it should be played, or should music is permissible in the operating theatre (OT) at all?

The debate erupted after a study from Imperial College London and UCL Institute of Education suggested that OT teams should review the use of background music because of potential risks and its potential impact on concentration levels. The research team analysed video footage taken during 20 operations, which they say shows that some operating theatre teams are negatively affected by background music during surgery.

They also suggest that the decision to play music during an operation should be made by the entire team, taking into account the benefits and the risks. In OTs observed by the research team, usually the senior medics made the decision about background music.


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Concerns raised by the study include fears that communication between the theatre team can be impaired when music is playing and requests or instructions often had to be repeated. Lead author Sharon-Marie Weldon from the Department of Surgery and Cancer at Imperial College London, said: 'Music can be helpful to staff working in operating theatres where there is often a lot of background noise, as well as other distractions, and it can improve concentration.

'That said, we'd like to see a more considered approach, with much more discussion or negotiation over whether music is played, the type of music, and volume, within the operating teams.'

Music was first introduced into operating theatres in 1914 to relieve the anxiety of patients. However, today, with patients placed under anaesthetic outside the theatre, the music is routinely played for the benefit of clinical staff within the theatre suites, often equipped with docking stations, MP3 players as well as portable speakers.

Whilst there is a public perception that the music is smooth and soothing, researchers found that often dance and drum and bass were played fairly loudly. Surgeons canvased by a national British newspaper over their choice of music during surgery had playlists that included Kanye West, Oasis, Sam Smith, Daft Punk; to Offenbach and Drake; Pavarotti, Tchaikovsky, Shostakovich, Nina Simone and Queen; favourite radio stations; Blondie, David Bowie, reggae and Elvis; through to total silence. Through video technology, the study investigated how music impacted on nursing and theatre staff during real time surgical operations, with multiple cameras placed at strategic points to provide researchers with an insight into the verbal and non-verbal communications between operating teams as surgeries happened. Of the 20 operations analysed, lasting a total of 35 hours, 70% had music playing. The study recommends that theatre teams hold frank discussions about playing music during surgery – ideally as part of the World Health Organisation (WHO) Surgery Safety Checklist element of the process - with particular emphasis on considering nurses' views.

In some incidences, nurses struggled to hear the surgeon's instructions and, during one operation, the scrub nurse asked the surgeon to turn the music down because she was finding it hard to count up how many swabs had been used. The Royal College of Surgeons said there was 'no evidence that loud distracting music' was a widespread issue in NHS hospitals, but a spokesman added: 'If music is played during surgery it must not be a distraction for any members of the surgical team and must not discomfort patients.'

Sharon-Marie Weldon is a Senior Research Officer in the Department of Surgery & Cancer at Imperial College London. Her research focuses on Sequential Simulation (SqS), communication and public/patient engagement/involvement activities.

Convincing Overall Package

The joint practice of Drs. Ulrike and Dieter von der Burg in Münster, Germany, decided on the GU60 digital X-ray system by Samsung Health Medical Equipment (HME) and is very pleased with the image quality and workflow. The strong Samsung support and comprehensive expanded training program which allows the exploitation of the full potential was also a factor in choosing Samsung HME

The X-ray room at the join practice of Drs. Ulrike and Dieter von der Burg in Münster is less than 11 square meters. But despite the limited space, the practice needs a premium digital X-ray system. "And that's exactly what our GU60 can offer," explains Alexander Türk, Product Manager Digital Radiography at Samsung HME. "This compact yet powerful device can even be installed in limited spaces and still offers the user the full range of options, whether a patient is standing, sitting or lying."

Enhanced Imaging and Faster Workflows

Dr. Ulrike von der Burg, Orthopedic Consultant: "The GU60 has been absolutely outstanding. Compared to our previous device, patient radiation exposure is much lower and image quality much better. These high-resolution images allow me to make a more accurate diagnosis." Patients can be given comprehensive advice faster because diseases and disorders are easier to identify. Ulrike von der Burg adds: "Since the diagnosis is clearer, patients often do not need a second imaging procedure, such as an MRI or CT." "In diagnostic terms, the GU60 has opened up a very different world," added Orthopedic and Rheumatology Consultant Dr. Dieter von der Burg. "Thanks to a fully digital and portable solution with a direct detector we have entirely new possibilities." In his area of expertise the advantages of the GU60 are evident in the early diagnosis of rheumatic diseases: "I can now identify changes on the borders between bones and soft tissue much sooner – and that's important in my work. The post image processing technology makes changes in the soft tissue mantle clearly visible, providing me with information crucial for advising patients and deciding on treatments."

"Especially when we have a lot to do and many of our patients need diagnostic imaging," Ulrike von der Burg commented, "we notice that workflows have become faster and better organized." As a result waiting times for patients can be kept to a minimum.

Service and Training Program – One Factor in the Purchase Decision

Dieter von der Burg also highlights one other factor: "When you make business investments, you often sense the supplier's interest rapidly fading once a sale is secured. But it was very different with Samsung – and that was a major factor in our decision." The joint practice initially planned to approach another company to supply the technical equipment – but due to the lack of any systematic training program, the sale fell through. Dieter von der Burg adds: "About a year after the decision to expand our equipment, we have reconsidered our options and decided to buy the Samsung digital X-ray system."

All questions were answered by the Samsung partner who stayed on site for three days and made sure the entire team felt comfortable with the equipment. The training program also included another session three months later. "The aim of this expanded training program is to ensure that the entire clinic or practice team has the same level of expertise," says Alexander Türk. The second part of the program covers hands-on training. A member of the Samsung support staff visits the users at the workplace and offers advice on how to use the settings most effectively.

"In the final analysis, when you buy this kind of equipment, you strike up a long-term relationship with your supplier – and that includes a need for maintenance contracts as well as a good training program. […] Samsung has given us all the assistance we could have wished for – cooperating with us in the interests of our patients' health. And that is the most important thing." Dieter von der Burg says

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Tomorrow's operating theatre

Previously known as a provider of high quality, high-end monitors, Eizo is developing into a systems solutions supplier. The company's new division for operating theatre (OT) solutions is aimed at advancing technological networking in the OT. Matthias Lubkowitz, the company's Vice President of this division, reports on the new requirements for intelligent operating theatre technology

EIZO's individually configurable wall consoles for operating theatres

CuratOR Caliop is an all-in-one software that is centrally controlled

Speaking of the multitude of data generated in today's hospitals – data from MRI and CT scans, endoscopy videos and electronic patient files – Matthias Lubkowitz pointed out that many hospitals '… make do with PCs on mobile technology trolleys, with the respective logistics, space and hygiene problems this causes'.

Eizo GmbH, OR Solutions, offers monitors, video management and data transmission technology from one source,' he explains. 'The CuratOR surgical panels are centrepieces of the installations. They facilitate the administration of patient data, control of external devices or the transmission of image- and sound signals. The user or clinician respectively perceives the surgical panels as wall-mounted monitors with PC systems. Additionally, so-called monitor suspension systems or satellite monitors stream the required information to all relevant locations in the operating theatre or elsewhere.'

EIZO is at Medica Hall 10 / Stand H41

How do the surgical panels work?
'The user decides what can be seen on the monitors. The CuratOR Caliop software, named after one of the nine muses in Greek mythology, allows the user to select the information required for each monitor. Not only that – the screen can be divided into several segments, so that all image sources, ranging from MRI or CT scans and digital X-rays, from the patient file to live images from the endoscope, ultrasound or surgical cameras, to the display of vital parameters, can be displayed in selected combinations.
'During surgery an operating theatre nurse usually controls the surgical panels. Depending on instructions received from the surgeon the nurse selects images for display on the monitors. The documentation can also be done via the surgical panels, such as information about which material is being used or whether complications occurred. A nurse usually loads the data into the hospital information system. 'The customer normally decides on specific settings for different operating theatre situations, so-called pre-sets. These pre-sets can be selected based on the type of surgery, the location and even on the individual. Indeed, the system can even be configured according to an individual surgeon's ideas.'

How many different sources can the system include?
'The system can receive and transmit the most varied types of media signals. It's so flexible that we can configure it specifically around our customers' desires and requirements. All this is made possible by the technology that runs in the background. The central element of control is known as the large monitor manager. This important yet unimposing piece of equipment will be located in the technology room.
'We differentiate between front and back end, with the customer mostly exposed to the front end. The entire system is independent of modalities and therefore compatible with equipment from different manufacturers, and it can process all known analogue and digital signals.'

Why has Eizo entered the systems solutions field?
'Our company has been known as a provider of high end monitors for more than 50 years,' Lubkowitz reflected, and listed some of their presence in renowned design agencies, air traffic control centres, aerospace setups and the automotive industry. 'In 2002 we made the move into the sensitive world of medicine and developed high quality monitors in cooperation with doctors, IT specialists and specialists in medical technology. With the CuratOR, Eizo is now moving into the field of solution providers.
'We offer system solutions for the operating theatre or, put even better, for the operating theatre of tomorrow. With our modular structure we are not only able to equip new settings with a complete infrastructure but also to adapt to existing environments. We have seen that the requirements in the operating theatre, and in the world of medicine as a whole, including all the IT networking, have become very complex. Whilst other, larger providers often feature complete solutions in their range we have designed our software very flexibly so that individual elements also can be easily adapted around the interfaces.'

How does this new division fit into the company?
'Flexibility is something that's also a feature of the corporate structure at Eizo. The company was founded in Japan in 1968, but is active worldwide. Our individual companies can act relatively independently of one another and are particularly adept at reacting promptly in project business. This is part of the reason behind our company's success. The different mainstays deliver their expertise, allowing us to fall back on a multitude of competencies for high-end monitors and information technology as well as for customised solutions and the industry. 'This,' he concludes, 'is very helpful when new ventures such as ours are being launched.'

Matthias Lubkowitz is Vice President of the Eizo GmbH | OR Solution division. With a diploma in media technologies he worked as a research assistant at the Fraunhofer Institute, followed by a role at Bosch and later Panasonic, before entering the medical sphere in which he continues to operate today

ONLY THOSE WHO CAN COPE SHOULD HAVE A TEST LIKE THIS

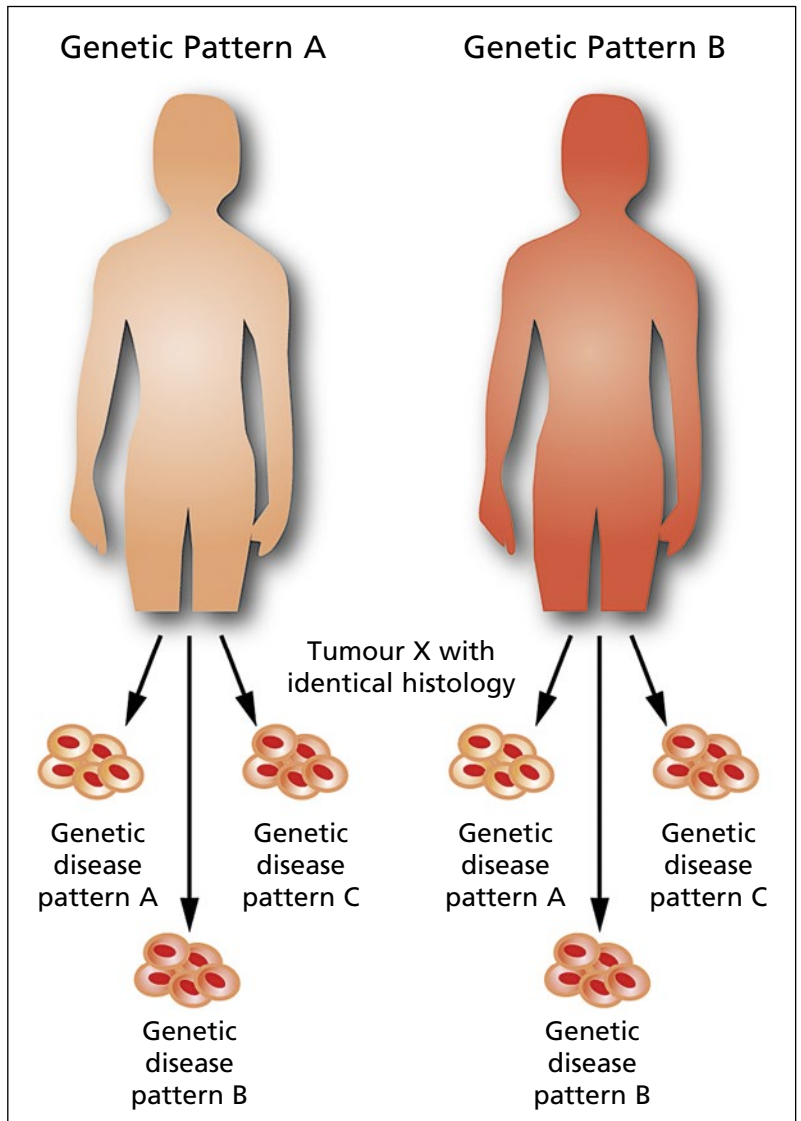
Seeing my genes changed some habits

'These days we have access to considerably more genetic information than previously available to us. For the individual, this can provide options for action towards leading a healthier lifestyle, or to try and prevent diseases,' says Dr Theodor Dingermann, Senior professor at Goethe University, who has had his own genome decoded. In certain ways the result changed his life.

Interview: Sascha Keutel

Why have your genome decoded?
Dr Theodor Dingermann: 'I'm a molecular biologist and a curious human being when it comes to this topic. I also have a weakness for wanting to find out and document things about myself, and this includes genetic information. Apart from curiosity, I also wanted to gain experience of new sources of information using a concrete example – and using myself as a test object lent itself to this.'

How is this analysis performed?
'There are several options but they all have the same approach. I have also had several analyses carried out, the first by a company called 23andme.com. I was sent a test kit with a small test tube which I filled with saliva and returned. I received the result a few weeks later in the shape of a homepage with a lot of information. At 1.2 million data points the information is so comprehensive - but also not commented on enough by experts – so, around two years ago, the FDA temporarily halted the company's activities. However, there has been an agreement on the amount and quality of information provided.
'I provided consulting services to Humatrix, a company that offers a different type of genetic test. One of them – Stratipharm – makes statements on how the body deals, or is respectively likely to deal, with certain medication. The statements are independent of whether or not the person being analysed is taking medication when the analysis is done.
'DNA is isolated from a mucosal swab and then 31 genes, the genetic products of which all have an impact on the effectiveness and tolerability of drugs, are tested for mutations. These can, for instance, be enzymes involved in metabolism, or transporters, utilised by active agents to enter or respectively exit the body. These proteins interact with drugs independent of the diseases for which the drugs are licensed as treatment.
This makes it possible to correlate the mutation pattern of these 31 genes with the entire range of drugs licensed in Germany and to use the result to analyse which drugs could lead to problems if taken.
In my case there were about 40 active agents that were unlikely to be effective if taken.'



Two individuals will principally differ regarding their germ line genome (genetic pattern A and B), which is inherited and therefore identically present in each cell of the organism. Therefore, information on the genome can be obtained from any cell. One must differentiate, however, between this and the genetic disease patterns that are only present in the cells affected by a disease. A disease which was phenotypic and physiologically clearly defined can definitely have different genetic disease patterns, which is something now attracting a lot of attention in the context of tumour treatment. These days, many drugs are only licensed for the treatment of very specific genetic disease patterns of certain diseases, ensuring the correct genetic disease pattern is present prior to such medication being prescribed.

what conclusions did you personally make?
'The analysis carried out by 23andme showed that I had a 100% increased risk of developing Type 2 Diabetes. This may still be quite a small risk, no bigger than if I was overweight, but these risks should be taken seriously nowadays. I took it seriously indeed, especially as there were other indicators that hinted that I may well be confronted with a Type 2 diabetes diagnosis at some stage. I watch my diet a lot more and do a lot more sport. 'My test also showed that I have a considerably increased risk of developing age-related macular degeneration (AMD).
'Although the ophthalmologist did not diagnose AMD when I had this checked he actually found glaucoma that needed urgent treatment. In other words: I have drawn conclusions from the genetic test that are important to me and have also proved beneficial for me.'

All positive effects – so should everyone have their genes analysed?
'To the contrary, a test like this should not be taken lightly. One has to be careful how one evaluates this type of data for oneself. Mostly, we only focus on problems indicated by these tests, i.e. the increased risk of developing disease x or y. However, such genome analyses don't only show the risks. They also indicate parameters that demonstrate that an individual may be in a better position compared to the general public, i.e. has a lower risk of developing certain diseases. The greatest weakness of such analysis is that only probabilities are revealed, which a layperson will find difficult to assess. If you have even the slightest doubts as to how you will be able to cope with the results you should not have a test like this carried out under any circumstances.'

Therefore gene analysis will not become a standard test?
'I wouldn't put it like that. Currently, most genetic analyses are carried out when they are indicated in the context of cancer treatment. The tumour genome, which is different from the germ line genome found in all healthy cells, is examined for the purpose.
'I imagine that analyses carried out to determine the effectiveness and tolerability of medication could actually become a kind of standard. It does actually analyse the germ line genome – and the results are much clearer than those achieved in the analysis of health risks. Drug-related analyses can predict, with great certainty, whether an individual actually comes within the Gaussian distribution curve applied to assess responders for drugs, or whether they are likely to be among the non-responders for certain drugs. The same applies to the prediction of intolerability reactions.
'Example: If the analysis shows that a statin cannot be metabolised correctly then this will also show when the statin is actually administered. Or, it may come to light that an individual is unlikely to be able to break down a cytostatic drug in the same way as the general population because of their specific genetic make-up.
'This is an extremely important finding as this patient must be given a significantly lower dose of the cytostatic agent to achieve the same effect, and respectively to prevent the occurrence of severe toxic problems that could arise with the administration of a "normal" dose.'

Pharmacist **Theodor Dingermann** PhD graduated from the Institute for Applied Chemistry at Erlangen University and his 1980 thesis 'Regulator Functions of Specific Transfer Ribonucleic Acids in the Development Cycle of the Cellular Slime Mould Dictyostelium discoideum' gained a doctorate. His habilitation treatise (1987) focused on 'Transcription Mechanisms of Eukaryotic Tranfer RNA Genes'. As Professor of Biochemistry and Molecular Biology he taught at the Institute for Pharmaceutical Biology, Goethe University in Frankfurt am Main, where, in October 2013, he became a Senior Professor.

MAKE A NOTE

MEDICA EDUCATION CONFERENCE

I looked into my genes and changed some habits – so could you / Prof. Dr. Theodor Dingermann, Frankfurt/Main

CCD South, 1st floor, Room 15
Thursday, 19 Nov 2015
● 10.45 a.m. – 11.20 a.m.

Good m

Whether they are wireless pacemakers or cath really innovative products must reach patients ensure that the hospitals that buy their produ treatment methods are not captured by a syst EH writer Holger Zorn spoke with Nicole Eiser Institute in Cologne, about the reimbursement instrument and regarding the lack of transpar

'After more than eleven years of the G-DRG system the economics approach is prevailing,' Nicole Eisenmenger pointed out, when asked about the continuing existence of the Reimbursement Institute, which she founded. 'Today, the decision to procure medical products is primarily based on economic feasibility. Reimbursement is the crucial issue that determines the purchase or non-purchase of a device, the use or non-use of a therapy.'

Hospitals employ medical controllers to figure this out …
'Exactly, and those controllers decide based on economic criteria. Medical

IN PURSUIT OF EFFICIENCY AND SUSTAINABILITY

How Blue is your hospital?

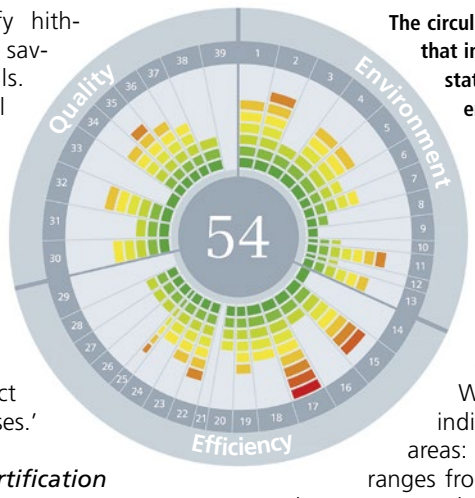
Today's hospitals must achieve sustained efficiency on an economic, ecological, qualitative and social level. However, only those that know their own weaknesses can act. Interviewed by Sascha Keutel, Jens Schneider, head of Siemens Healthcare Consulting, introduces Blue Hospital certification, conceived to scrutinise an entire hospital.

'Blue Hospital is an integrative concept designed to harmonise ecology, economy and efficiency with people's wellbeing,' Jens Schneider, head of Siemens Healthcare Consulting, explains. 'We provide hospitals with the means to enable them to create synergies from the components innovation, technological progress and the responsible use of natural resources.

'The procedure was developed by the German Commission for Electrical, Electronic and Information Technologies of DIN and VDE – the organisation responsible for the development of standards in electrotechnology, electronics and information technology – and is used by the VDE, the Association for Electrical, Electronic & Information Technologies, i.e. the testing and certification organisation, for certification implementation.

'Siemens Healthcare is the first service provider to be accredited with Blue Hospital certification and can therefore provide advice to hospitals based on the Blue Hospital standard.

'The analysis enables hospitals to identify hitherto unused savings potentials. Blue Hospital is therefore an effective tool, also not least for smaller and medium-size hospitals that look to achieve a sustainable impact on their processes.'



The circular Green+Radar that indicates the status of the environmental/ sustainability and efficiency objectives

How is the certification carried out?

'The first step is for the hospital to systematically collect the all-important key figures in ecology, economy and patient quality. In the second step we, the certified service provider, visit the hospital and carry out on-site investigations, analyse the data and determine a key score for sustainability for the entire hospital.

'This score is at the top of the pyramid. On the level below we visualise the performance of the individual sectors, i.e. the subareas of quality, efficiency and environment. We look at 40 individual subject areas: the spectrum ranges from heating and hot water supply right down to employee and patient satisfaction. For an even more detailed overview this can then be split into around 400 individual subject areas at the base of the pyramid.

'The hospital is given an evaluation of its status quo. This results from a benchmark for hospitals of similar size and structure.

'Building on this, we work out a concrete catalogue of measures with a quantified potential for improvement. The hospital can then start to implement specific improvements to achieve a higher score.'

A business management graduate from the Phillips University Marburg in 2001, **Jens Schneider** became a consultant for banks and at consulting firms until 2004, when he became head of planning at Aachen University Hospital and a business consultant for several other hospitals. In 2008 he joined Siemens AG (now Siemens Healthcare GmbH) and became principal of Siemens Healthcare Consulting in 2011. As a hospital management expert he manages consulting projects in strategy, processes and infrastructure for healthcare facilities worldwide.

What is the motivation to achieve certification?

'Increasing healthcare system expenditure puts hospitals under enormous financial pressure. The times when simple solutions were enough are over. In some other countries, such as the USA and Sweden, reimbursement is no longer processed via a flat-rate system based on the type of treatment, but also according to treatment quality as perceived by a patient. In Germany there is a similar trend. Cutting staff or infrastructure no longer achieves the desired effect.

'It also doesn't help to optimise specific areas without first looking at the overall picture. Only once all areas have been systematically investigated can meaningful optimisation potentials be identified. It's usually fairly easy to find potentials when looking at the energy supply, and also for procedural areas such as staff, patient and logistics workflow. 'Some hospitals want to achieve certification prior to construction or refurbishment projects to guarantee efficiency and sustainability right from the start. But certification also makes sense for negotiations around grants and for general external affairs.'

At the 2013 Germany Land of Ideas awards ceremony in London

noney for good products?

neter-guided heart valve implants, new, s – somehow. Thus manufacturers need to ucts will be reimbursed. New diagnostic and tem based on the analysis of older methods. nmenger, Director of the Reimbursement t of medical products as a marketing ency in the system.

products manufacturers often have a hard time answering questions concerning reimbursement for their own products. Training of sales teams on product-specific features and clinical applications are not sufficient to conquer the hospital market. A sales representative needs in-depth knowledge on the G-DRG system to be taken seriously. Who is my customer and what does the decision path look like? These are important questions.'

And you provide the answers for the manufacturers?

'My institute brings manufacturers and hospitals together. Seamless and efficient use of innovations can only be ensured when both players access the same resources – this is the only way to create a mutually beneficial relationship between hospitals and manufacturers. Thus we have developed two services: the OPS-Guide* and the NUB-Börse* – NUB exchange. Both are designed to support on the one hand the manufacturer with communication with the hospital and, on the other, the hospital to position itself among the competitors.'

What exactly is the OPS-Guide?

'It takes time to test whether the use of a medical product is feasible under very specific local conditions – unavailable time in most hospitals. This might lead to the implementation of a new therapy being refused. Before, only specifically trained staff knew which OPS or ICD-10 codes are relevant for the assignment of a DRG and which are not. Our new OPS-Guide takes you through this jungle: Is an OPS code taken into consideration in a DRG – if so, which one? Which data (LOS, cost weight, partition, etc.) are included in the DRG? Does the code provide for a supplement to the reimbursement? Which product should be linked to which OPS? To which cost centre should the product be assigned? The OPS-Guide answers all these questions – by manufacturers and users – on a single platform.'

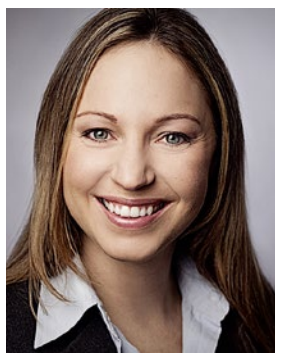
You aim to make a rather opaque constellation a bit more transparent. How can this help manufacturers, who employ entire teams to navigate the complex relationships between industry, trade, hospitals, insurers and politics, and also create ever new interfaces?

'We want to create transparency because today the post-launch process is indeed highly non-transparent. This problem is for medium-sized enterprises above all – they find it very difficult to position themselves in the G-DRG system. They don't have such teams and neither do start-ups. This is where our second service comes in: hospitals that use innovative products, receive a reimbursement of the associated costs via a DRG or a supplementary payment. However, this process needs to be planned early and meticulously, otherwise the decision on the eligibility for reimbursement might be significantly delayed. We accompany the entire process from the launch of innovative medical products down to the integration of costs incurred by this launch into the system. This helps ensure market success.'

How do hospitals benefit from this OPS-Guide?

'The OPS-Guide helps hospitals to find out, quickly and simply, which OPS is to be used with which supplies. Thus you have correct coding

Continued on page 8



After ten years in out-patient services, **Nicole Eisenmenger** enrolled in a four-year evening course in healthcare economics.
Simultaneously she switched from healthcare provision to become a sales and purchasing manager in the industry. Her job focus shifted as reimbursement issues became increasingly important.
Her studies – which provided insights into hospital economics – and her industry experience helped her recognise weaknesses in the system. The difficult interaction between the hospital and healthcare industry, and non-transparency of the system, prompted her to found the Reimbursement Institute.

MSK MRI is the gold standard

Musculoskeletal disorders need a dedicated system

For over 22 years Esaote has manufactured Dedicated Musculoskeletal MRI systems, to date supplying more than 2,700 of these devices to universities, spine surgery centres, podiatrists and, of course radiology departments and practices.

Why Dedicated Musculoskeletal MRI? 'Easy,' the Italian manufacturer responds. 'MSK MRI is the second biggest MRI application after neuro and, for diagnosis of spine and knee pathologies, MRI has become the gold standard. Esaote MRI, thanks to its balanced technical features delivers high quality MSK MRI images at a fraction of the cost of a regular or conventional MRI.'

That factor means that even medical units with a limited MRI workload can afford to install an MRI system. 'This is, of course, of particular interest for orthopaedic clinics and spine surgery centre,' the company adds. 'Esaote MRI is also an ideal solution for the radiology practice that wants to enhance their MRI capacity… By installing an Esaote MSK MRI next to the traditional MRI you will be able to download all the MSK work to the Dedicated MRI and free up time on the conventional MRI for other exams, such as neuro, brain and angio-MRI.

Esaote also reports that it has 'reached an outstanding quality in MSK MRI with state of the art technologies such as weight-bearing applications, short scan-times, slices as thin as 0,6 mm, sophisticated Metal Artefact Reduction techniques, dedicated cartilage sequences and unmatched patient comfort.'

How should a spine MRI be done? G-scan, the next frontier in MSK-MRI is a weight-bearing MRI feature. Clearly, spine curvature changes substantially from laying down to standing up and many pathologies, e.g. spine herniation, are influenced by these biomechanical changes. 'The additional information derived from an MRI in the weight-bearing position (WB-MRI) can be important for a spine surgeon who has to define the best suitable therapy,' Esaote points out. 'The G-scan WB-MRI system of course offers all the high-tech features mentioned before, such as Metal Artefact Reduction for postoperative imaging.'

Esaote is at Medica Hall 09 / Stand A14

The lon

Remote exams by robotic assistance puts experts back in charge of the patient exam, John Brosky reports

Now there are two ways to remotely examine a patient with ultrasound without leaving your office. With the novel, Melody robotic ultrasound method, the expert consultant is connected to the remote patient site through a video conference link and, using a mouse-like device, the radiologist can perform the exam by manipulating an ultrasound probe positioned on the patient's body.

The other way this is done is a conventional method in which a trained operator at the remote site records the exam and sends the

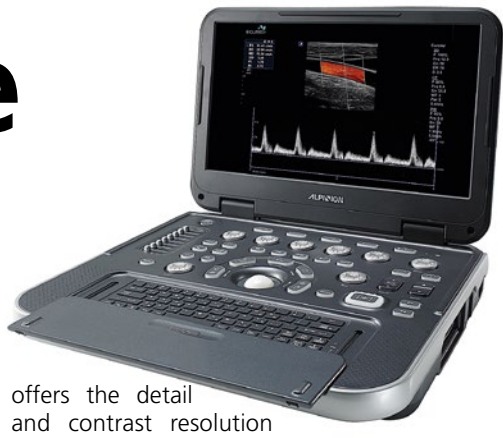
Little footprint can go anywhere

Portable ultrasound with a sliding keyboard cover

Mobile ultrasound systems are increasingly important in various applications – one reason why Alpinion Medical Systems has expanded its ultrasound portfolio by introducing E-CUBE i7, a new portable ultrasound system. This integrates high-performance hardware and software and offers a variety of transducers for high clinical versatility across an extensive range of applications including point of care applications, anaesthesiology, pain management, orthopaedic/MSK, and emergency medicine, Alpinion points out. 'The E-CUBE i7 is the first laptop-style ultrasound system with a sliding keyboard cover. The streamlined design provides a solution for users who suffer from wrist pain that often accompanies the use of bulky, heavy systems. The unique sliding keyboard cover and ergonomically located keyboard provide better support for the user's arms and wrists when typing.

According to a study conducted by the Department of Orthopaedics, at the Korea University Guro Hospital, users experienced a dramatic reduction in carpal tunnel pressure and muscle tension.'

The cart-based system architecture brings a new level of image clarity to compact ultrasound systems, the manufacturer adds. 'The system also provides advanced imaging technologies including speckle reduction, spatial compounding and harmonic imaging. Its excellent image quality



offers the detail and contrast resolution required to clearly delineate complex anatomy.'

The eight transducers provide scanning solutions for a wide range of clinical cases. 'In particular, the hockey stick shaped IO8-17T is ideal for interventional procedures. With a frequency range of up to 17 MHz, it provides excellent resolution in the extreme near field, while the shape enables the user to easily manoeuvre the device.' The small footprint makes the device easy to move around and the special battery can be used longer between charges.

Further details: www.alpinion.com

Alpinion is at Medica Hall 09 / Stand C60

Good money for good products?

continued from page 7

and high quality data feedback to the InEK – feedback that provides the basis for the DRG cost assessment. Moreover, the gap between hospitals and manufacturers with regard to reimbursement is still wide since the procedure is not always self-explanatory. Very often, innovations are not used because they don't seem sensible in terms of hospital economics. Also, a hospital doesn't know whether it is the only one to demand reimbursement of a new diagnostic procedure, or new therapy, or whether – and if so, how many – other hospitals demand this as well. 'This is where our NUB exchange offers answers.'

It's a platform for new diagnostic procedures and therapies?

'Exactly. We create transparency by sorting the applications by departments. Hospitals see immediately what's happening in the different therapy areas. Manufacturers can feed their NUB templates in the public area and see which hospitals used the template to submit their own application. This allows targeted communication with the customers. Here we can also support the manufacturers, if they want us to do so, and review the application and provide quality labels.'

In the past, not even every sixth NUB application was successful. With your service this might improve!

* OPS (Operationen- und Prozedurenschlüssel = codes for surgical interventions and procedures).

The OPS is an important basis of the G-DRG system. Codes used in in-patient care are provided by InEK – the Institute for the Hospital Reimbursement System (Institut für das Entgeltsystem im Krankenhaus) on behalf of partners in the joint self-government in healthcare, in Germany. Moreover, OPS provides the coding framework for the reimbursement of out-patient interventions and serves as the basis for hospital quality reports.

* NUB (neue Untersuchungs- und Behandlungsmethoden) – new diagnostic and treatment procedures.

g arm of ultrasound

file to the expert over the internet. Because an ultrasound exam is only as good as the operator performing the exam, the Melody robot method allows the experts to directly apply their experience, as well as their professional responsibility for the diagnoses.

This critical difference between the two approaches to teleradiology won a frontline presentation for the robot's creator, AdEchoTech at this year's French Radiology Congress in Paris. Robots are usually viewed by the French as job-stealing contraptions and are fiercely resisted. Yet here radiologists were lining up to hear how this robotic system can extend their practices by performing remote ultrasound exams in under-

Source (2) : AdEchoTech

served rural regions, or else in prisons, on oil platforms, or aboard cruise ships in the Mediterranean carrying 5,000 passengers.

They also learned that the robot does not replace the ultrasound technician at the remote exam site. Au contraire, French radiologists were shown how the role of the technician is elevated and could well be expanded in remote medical centres thanks to the robot.

Michel Claudon MD, a radiologist from the University Hospital in Nancy, France, presented colleagues with a review of published papers validating the remote examination approach in ultrasound.

In an extreme example, Claudon cited a demonstration documented in a 2011 article in the Journal of Emergencies, Trauma, and Shock where a just-in-time, pleural and lung ultrasound exam was displayed in real-time for an expert evaluation on a smartphone, using a portable ultrasound probe interfaced with a laptop computer, with video-streaming over Skype.

The key distinguishing features of the approach enabled by Melody, he said, is that the examination is synchronous, performed in real-time, as opposed to asynchronous with the record and upload method.

The Melody system is based on a robotic arm controlled by the ultrasound technician.

Using the Melody Patient system, the technician at the patient's side at a remote centre places a frame with the ultrasound transducer over the area of interest and applies gel to the targeted zone.

The robotic control arm can accept any ultrasound probe and plug into any ultrasound platform for the exam, according to Nicolas Lefebvre, general manager for AdEchoTech.

Connected by high-speed land line, or satellite transmission, the Melody Expert system at a remote medical centre controls the movement of the probe at the patient site, and it is 'marvellously sensitive and responsive,' according to Claudon. Besides moving the probe side to side, the expert can also press the probe down for better signal penetration. The remote expert, who is simultaneously connected by video conferencing with the operator at the secondary centre, views the ultrasound exam in real-time.

Newly developed touch screen software, which can be loaded to any standard computer, according to Lefebvre, allows the ultrasound expert to adjust probe depth, the gain, switch on the Doppler function and otherwise operate the ultrasound platform at the patient's side.

One megabyte per second for both uploading and downloading is sufficient capacity for transmission of the exam and video conferencing.

By the end of the presentation session in Paris, no one was asking if the robot could play a role, but how it could be applied. In addition, in a positive sign for the company, the discussion broke up with radiologists kicking around their favourite topic of reimbursement.

'MADE IN GERMANY' STANDS ALONGSIDE 'DESIGNED IN GERMANY'

Style goes along with function

Carrier solutions: 'Precise in function, precious in design'

You can't judge a book by its cover, as the saying goes. But you can if by cover you mean 'product design', which involves more than just adding eye-catching decorative elements. The approach of CIM med is a case in point. The German manufacturer of medical grade carrier solutions for health facilities is the first company providing integrated cable management, the firm reports

"Germany manufactures anything from complex machinery, cars and machine tools, to household appliances. A major factor in its exports success is undoubtedly the quality of engineering – along with product design. Every device detail is analysed and conceived for optimal ergonomics and the actual users. Even aesthetics come within the criteria for good product design.

For CIM med, the Munich manufacturer of medical mounts, outstanding product design is indispensable as it ensures the quality and optimal functionality of the products. Mounts and carrier arms play a critical role in daily operations in clinical settings, from patient and operating rooms to ICUs and doctors' offices.

These devices must meet a number of criteria and be adaptable to each client's needs; e.g. they must be strong enough to carry considerable burdens, and yet easy to manipulate, even in emergencies in ICUs. Off-the-shelf material may not be an option.

When receiving an order, CIM med has a portfolio of standardised products available. In many cases, however, custom solutions are required. The firm's product designer then consults with the customer to elicit the context in which the apparatus will be used. Only then can it be engineered and manufactured. For instance, many carrier arms must be adjustable for height and able to move laterally with ease, to ensure personnel can work ergonomically. Those used in operating theatres often support screen and trays used in many interventions. Others need strength enough to bear heavy items and still move easily.

Hygiene is also a key aspect. There are two basic approaches that must be considered. One is prevention, the other implementation. CIM med mounts are designed for easy cleaning. The company's claim to fame is integrated cable management, which avoids ugly tangles of cables that are difficult to clean and disinfect and, furthermore, are a risk, as caregivers or patients can accidentally trip or get caught in one while manipulating some other device.

To ensure its mounts and carrier arms are easy to clean, though, CIM med has chosen to use anodised and powder-coated aluminium for the surface. This material boasts greater resilience to daily wear and tear and is therefore a favourite for use in public places: it doesn't peel, since the treatment is part of the metal itself, it can be easily cleaned and is impervious to powerful and abrasive disinfectants of the types used in hospitals. Additionally it gives the surface a pleasant, almost reassuring look of stability.

German companies like CIM med invest a great deal product design and in finding new solutions to keep on improving their products. In the final analysis, it's all about optimising the functionality of each product in terms of its longevity and the way it has to be used on a day-to-day basis. The best engineering will be of no use if the device is not ergonomic, and so the label 'Made in Germany' has actually a companion to the term 'Designed in Germany.'

Hospital equipment such as mounts must be easy to use, easy to clean and easy to integrate visually, i.e. blend in to the setting. In fact, the less they are noticed, the better they work. After all, we all notice uncomfortable shoes. "

CIM med is at Medica Hall 13 / Stand C21

Biological risk control of organic fluids

FIS & DM Srl is at Medica Hall 16 / Stand B61

Work safety is among the most important aims for employers.

Biological risk can be controlled and regulated by ABT 9000 system biological risk, the manufacturer reports. Innovative and Biomedical class I b, this aims to neutralise, in one minute, high risk fluids in critical areas and intensive care hospitals. 'It's designed to never stop, and is ideal for an ecosystem hospital,' the firm adds.

Details: www.abt9000.it

Perfecting video sign

FSN Medical Technologies specialises in managing video signals in surgical rooms. The manufacturer reports that its products are designed to strict standards 'for the effective management of a wide variety of video signals found in the OR'.

'We have been engineering custom video displays for over 15 years. FSN has pioneered LCD displays and connecting infrastructure solutions for medical use, including the first complete selection of optical fibre components for surgical video,' the firm explains. 'As image generating systems in the OR have grown more complex, FSN has been there to add compatibility and functionality to equipment, new or old.'

Currently the firm provides a vast selection of surgical LCD monitors, including 4K, 3-D, touch screens, and diagonal sizes from 19-55 inches. 'Our medical grade displays provide the best feature set available,

FSN is at Medica Hall 10 / Stand G3

A focusable LED lamp for exams and minor surgery

ACEM is at Medica Hall 10 / Stand E31

Soled15-F, which supplements the Starled range of lamps manufactured by ACEM Medical Company, is a focusable LED examination light for diagnostics, minor precision surgery, intensive care, recovery room and first aid. The lamp provides a '… uniform distribution of light and can focus the light beam with perfect illumination both on the surface and in depth providing the operator with the best working conditions,' the company reports. 'The high technological level combined with the use of high-powered LEDs allow the lamp to have a very linear yield and a negligible performance decay for its entire life duration.'

Light intensity is 50,000 Lux (large spot light beam) increasable up to 77.000 lux (small spot light beam) and it has a low power consumption (24 W).

'The LEDs layout gives visual comfort and produces a uniform, homogeneous and shadow-less light,' ACEM adds.

With an iSense touch panel to control all functions, the lamp also has an easy-to-grip removable and sterilisable handle, making it suitable even for critical sanitary applications, and the lamp can be ceiling, wall or trolley mounted.

MAKE A NOTE:

Medica Education Conference
Wednesday 10.45 a.m. – 12.00 p.m. Room: 15

SCIENCE AND MEDICAL TECHNOLOGY: Geriatric medicine: Gerontotechnology – status quo and future perspectives
Chairman: PD Dr. Jürgen M. Bauer, Oldenburg

- **10.45 a.m. – 11.20 a.m. Gerontotechnology – What does it offer medical colleagues? PD Dr. Jürgen M. Bauer, Oldenburg**
- **11.20 a.m. – 12.00 p.m. Gerontotechnology – technical systems and services. Prof. Dr. Dr. Michael Marschollek, Hannover**

Simple. Secure. Strapless.

The new foetal monitoring solution

Pelican Feminine Healthcare is at Medica Hall 16 / Stand F42

Over in Hall 16, Pelican Feminine is introducing FETOfit, a new product in its obstetrics range.

This disposable device was specifically designed to secure TOCO and CTG transducers quickly and easily for strapless foetal monitoring. 'Unlike standard circumferential straps, Fetofit's hypoallergenic adhesive pads adhere directly to the front of the abdomen,' the manufacturer reported prior to the 2015 Medica Fair. 'The flexible material moulds to body contours, offering a secure fit whilst promoting maternal comfort and mobility with easy access for an epidural.'

Specialising in gynaecology and obstetrics products, devices such as the PELIspec are market leading products internationally, the British-based firm added.

Details: www.pelicanfh.co.uk

g multiple nals

FSN Medical Technologies Hall 10 G39

such as extensive signal compatibility, picture-in-picture, zoom, and freeze,' FSN adds. 'Our integrated video processing systems can improve and control multiple video signals in the OR, all with the touch of a tablet and intuitive interface. Image capture and video recording, wireless HD video, and copper/fibre infrastructure connectivity are also available.'

FSN Medical Technologies has international sales points, e.g. in the United Kingdom, Germany, Korea, China, the USA.

Details: www.fsnmed.com.

SonoScape

MEDICA®

9E25 10H05

S40

New S50

HD-500

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Video Endoscopy System

HD-330

High Resolution
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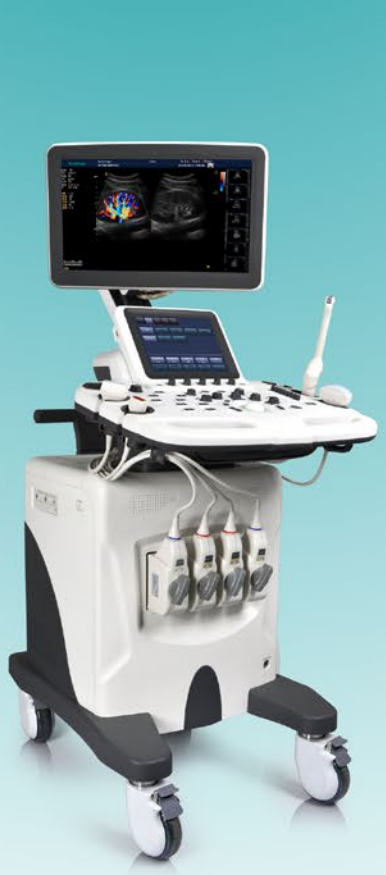
S12

S22



S30

S9

S8EXP

New X5

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