Knowing the right procedure

DGCH promotes studies for evidence-based medicine (EbM) in surgery to establish guidelines

Research suggests that in the USA and The Netherlands has shown that 30-40% of patients do not receive the scientifically proven best treatment for their condition, and about 25% of patients receive unnecessary treatment. Evidence-based medicine (EbM) serves to evaluate the use of diagnostic and therapeutic services. In an ideal case it ensures patients always receive the best possible medical treatment, the DGCH points out. ‘Researchers also identify ineffective or even damaging treatment and cut costs for healthcare systems.’

EbM also can be used as a record of the effectiveness, or superiority, of an operative procedure.” However, Professor Bauer, secretary general of the DGCH in Berlin, points out: ‘Essential progress in surgery has so far rarely been achieved through methods used in evidence-based medicine.’

Researchers mainly obtain scientific evidence through examinations of different, randomly distributed patient groups - so-called randomised controlled studies (RCT). These are generally carried out ‘blind’: Neither doctors, nor patients, are aware which medication is being tested, which produces constant test conditions and forms the basis for meaningful comparisons. In 2000, a survey of clinical studies of surgery showed the percentage of RCT to be only 2.8%. Of course, in surgery it is almost impossible to ‘blind’ patients and doctors. What can be achieved in drug trials using placebos can hardly be replicated in ‘pretend’ surgical operations. That would be unethical.

With its study centre (SDGC) and linked network of five regional centres (CHIR-Net), the DGCH promotes large, multicentre clinical studies in surgery. ‘The necessary repeatability and comparability of procedures require a high degree of standardisation, not only for the surgical operation but also for the entire peri-operative treatment regime,’ Professor Bauer explains. The SDGC is able to meet these complex scientific, methodical and ethical requirements by carrying out national studies. In this way, the DGCH promotes patient-oriented research in Germany and contributes to the realisation of treatment procedures with proven effect and evident benefit for patients.

Source: www.dgch.de

Changing operations and work patterns

Under the banner Surgery and Changing Systems, the 124th Congress of the German Society for Surgery (1-5 May, ICM Munich) promises to be a stimulating programme. According to its President and Secretary General, respectively Professor H U Steinau (left) and Professor H Bauer, the focus will not only be on current operating procedures, interdisciplinary problem cases, and troubles with surgical provision under changing economic conditions, but the current situation for junior surgeons and future prospects for surgeons in Germany will come under scrutiny.

Along with advanced training courses, a training laboratory, video presentations, careers advice, satellite symposia to simplify the collation of clinical data, the forum will present a platform for young scientists. The programme also will define the ethical basics of experimental and clinical research.

On 2 May, the congress will merge with the Congress on Accident and Emergency Medicine, organised by regional branches of the Professional Medical Associations in Saxony and Bavaria, to present and discuss aspects of rehabilitation, MRSA and particularly nosocomial illnesses acquired by operating theatre staff. N: For those who could not attend the congress the contents of the clinical and experimental sessions will be presented on the Society’s website (www.dgch.de), and in publications from the DG and the BDC.

FAST TRACK surgery

‘The term fast track surgery refers to a combination of findings from current, high quality studies of anaesthesics, surgery and perioperative care for a certain medical indication,’ explained Professor Schwenk. The evaluation of these findings is then transformed into a certain path of treatment followed through all the treatment stages, i.e. from admission to a hospital, all the way to out-patient aftercare. In short, fast track surgery is a procedure specific, evidence based and inter-professionally optimised course of therapy.

‘Although there already is an established procedure for a certain indication, the initial reason why such a treatment path should be developed can be explained using colon surgery as an example. With traditional treatment, postoperative general complications such as pneumonia or cardiovascular complications, tend to occur in every third or forth case. Obviously the question arises as to how these postoperative problems can be minimised. This is the basic question that must be dealt with by all the medical disciplines involved - in this case surgery, anaesthesics, nursing care and physiotherapy. Having looked at medical findings from all over the world, they research and define what can be classed as evidence based and what can then be implemented in hospital. Results are then summarised in a catalogue. In the case of colon surgery, the treatment path is as follows: A patient can drink up to two hours prior to surgery, no colon preparation, regional abdominal anaesthesia via thoracic peridural catheter, additionally general anaesthetic, minimal invasive surgery or transverse opening of the abdominal wall. The patient is aggressively mobilised out of bed by the evening of the day of surgery. There is no infusion or drainage and the patient can eat normally the next day. On the second day after surgery the patient is fully mobilised, and from the fifth day onwards the patient can be discharged. With this treatment plan we have been able to lower the rate of complications in colon surgery to only 10% and have cut the length of individual hospital stays by half.

‘As this treatment plan has resulted in standardisation of processes, even though there are still individual aspects for each patient, it is easier to calculate treatment costs. Deviations from the “normal course” are significantly lower than those occurring with traditional methods, which is particularly important for patients who are operated on in hospitals in surgeries outside a hospital. Moreover, the treatment path ensures a streamlining of procedures and prevents, for example, redundant examinations. Finally, the lower rate of postoperative complications results in lower follow-on-costs.

‘Of course fast track methods require investments, such as intensive staff training, so that the methods can be successfully implemented in practice. Often the structures required for successful implementation must be created, such as the setting up of acute pain services. All in all, these investments pay off in the medium term, particularly for patients.’

So why is ‘fast track’ still infrequently used? ‘The exact number of surgeons fast-tracking patients in Germany is unknown. Only 24 hospitals in Germany are undertaking a joint internal quality assurance programme offered by the Charité. On a European level the fast track principle, which is known as Enhanced Recovery After Surgery (ERAS), is a registered concept. Currently, hospitals in Sweden, Scotland, Norway and The Netherlands are participating in this programme.’

‘We mustn’t forget that there are probably some hospitals already using this method without being aware of it and without having a specific term for it. I believe fast track surgery will gain more importance in the future and that it will also be implemented in other medical indications. But, whoever opts for fast track needs to be aware that the method has to be continuously advanced. Once developed, any treatment path must be checked regularly to include any relevant new findings. Fast track surgery is a continuous process that adapts to new medical findings.’
New device leads airway management evolution

i-gel, a new single-use, supraglottic airway device designed for quick, easy insertion, also comes ready to use. Intersurgical, its UK-based manufacturer, reports that the device ‘...accurately positions itself over the laryngeal framework to provide a reliable perifaryngeal seal without the need for an inflatable cuff’. For greater safety, it also incorporates a gastric channel; an integral bite block to reduce the possibility of airway occlusion, and a buccal cavity stabilizer to aid rapid insertion and eliminate the potential for rotation.

‘The i-gel is a truly unique airway device. It represents the culmination of years of extensive research and development,’ says Intersurgical, which is inviting EH readers to see the device at Stand 20 in Euroanaesthesia 2007, 9-12 June, in Munich, Germany.

Details: www.i-gel.com

Bowa ARC 200

For more than 85 years, BERCHTOLD has been a world leader in the design and manufacture of quality surgical equipment. With our focus on the operating room, we deliver best-in-class products, experienced planning and project management, and service with a personal touch.

BERCHTOLD – Your partner in the operating room

BERCHTOLD GmbH & Co. KG
Ludwigshofener Strasse 35
78535 Tuttlingen (Germany)
Tel. +49 (0) 74 61/181-0
Fax +49 (0) 74 61/181-200
info@BERCHTOLD.de
www.BERCHTOLD.de

Further details: www.berchtold.de

See saw blades on the Web

Komet Medical has developed rotating and oscillating instruments since 1923. In its ‘Evolution’ range the various sized, hardened, stainless steel saw blades are compatible with common drive systems, and suit both knee and hip endoprosthesis – 90mm length for knee; 50mm-70mm for hip. A varying material thickness makes vibration in the saw blade template impossible, Komet points out.

To provide the obligatory evidence these reproccesable blades are in fact clean after cleansing and disinfection, with an independent validated reprocessing method. These individual reprocessing steps can be viewed at:

www.kometmedical.de

Pioneering vertebral procedure

Czech Republic - In 2001, when doctors at the Motol Faculty Hospital first saw Dusan Matras, he was diagnosed with a thyroid gland problem. However, they later found he had a tumour. Six years later, Dusan has become the first in the world to undergo a unique surgical procedure on the vertebral column in the neck area.

Dr Jan Stulík, who heads vertebral surgery at Motol, explained that the patient originally had thyroid gland neoplasm, and this had been removed. However, five years later a vertebral metastasis was found in the second cervical vertebra. After lengthly discussions, then planning, the Motol team decided to remove the entire C2 vertebra – a risky procedure.

All previous efforts to do this have resulted in partial brain damage because C2 protects two large brain vessels, one of which had to be sealed off.

By Rostislav Kuklík

The Prague surgeons became the first to successfully complete such an operation without destroying any articular vertebras or damaging the patient’s brain. The team first worked from the back of patient’s neck, removing the articular posterior vertebral. Three weeks later they removed the remaining C2, by centrally splitting the lower jaw (mandibula). They fixed C1 (atlas) and C3 together using a metal fitting enclosed in bone implants taken from the patient’s pelvis. At the same time, to support the nerves and large vessels, they replaced the missing C2 frontal area with a titanium inlay.

Thus, the surgeons removed the whole vertebra without harming the vital structures running through the spinal canal and secured almost the full physiological movement range of patient’s head – 11 hours after surgery.

‘I have just slight difficulties turning my head to the furthest left and right positions, but otherwise everything is absolutely perfect,’ 27-year-old Dusan told the waiting press.


Bowa says.

By Rostislav Kuklík

The Prague surgeons became the first to successfully complete such an operation without destroying any articular vertebras or damaging the patient’s brain. The team first worked from the back of patient’s neck, removing the articular posterior vertebral. Three weeks later they removed the remaining C2, by centrally splitting the lower jaw (mandibula). They fixed C1 (atlas) and C3 together using a metal fitting enclosed in bone implants taken from the patient’s pelvis. At the same time, to support the nerves and large vessels, they replaced the missing C2 frontal area with a titaniuin inlay.

Thus, the surgeons removed the whole vertebra without harming the vital structures running through the spinal canal and secured almost the full physiological movement range of patient’s head – 11 hours after surgery.

‘I have just slight difficulties turning my head to the furthest left and right positions, but otherwise everything is absolutely perfect,’ 27-year-old Dusan told the waiting press.


Bowa says.

‘Supersuite’ describes a valuable service provided by Berchtold, specialist manufacturer of operating theatre lights (e.g. Chromophare), camera systems, monitor arms, surgical tables (Opericon) and equipment management systems (surgical and anaesthesia booms, but not the device control units). For the company not only sells and installs its individual products, such as the simple anaesthetic pendant soon to be installed at the Siemens Radiography suite in Kent and Canterbury Hospital, but also runs the Supersuite service to undertake the planning, design and installation of integrated, customised operating theatres – notably the 10 in use at Krefeld Hospital, Germany, and 12 at Baylor Regional Medical Centre in Plano, Texas.

Supersuite can produce an up and running operating theatre in 6-15 weeks, depending on size and other factors. ‘Generally speaking, Berchtold supports the structure of the operating theatre,’ explained Judith Szmacht, Marketing & Communications Manager at Berchtold. ‘We design where our lights, tables, booms, etc. would best be located. We don’t manufacture device control units, but we manufacture the system where the device control units can be placed, so we team up with partners for integrated services, including imaging and device control and visualisation, such as from Storz, S&N, etc.’

Additionally, should a hospital want other, perhaps specialist equipment, Berchtold also sources and supplies it.

Supersuite specialties include orthopaedic surgery, advanced laparoscopic surgery, general and neuro surgery and cardiac surgery.

Details: www.igel.com

20 in Euroanaesthesia 2007, 9-12 June, in Munich, Germany.
Electron intra-operative therapy

Developed by Professor Umberto Veronesi, breast cancer specialist and former Minister of Health in Italy, in certain cases electron intra-operative therapy (ELIOT) could become a substitute for postoperative radiotherapy. As the new method undergoes clinical tests at the Breast Centre, Milan, Meike Lerner of European Hospital spoke with radio-oncologist Professor F-J Prott about current results and ELIOT’s potential future in oncology.

‘ELIOT means that single-fraction radiation of 21 Gy is delivered directly to the tumour bed during a surgical intervention, to a depth of about 3 cm,’ Professor Prrott explained. ‘Due to this procedure the treatment takes about 30 minutes longer than usual, but post-operative radiation therapy is no longer needed. Consequently, for most patients, the treatment is complete, with hospital discharge, and they don’t have to undergo outpatient radiation therapy, which could take up to six weeks.

‘Since post-operative radiation of the entire breast and the surrounding tissue is no longer indicated, ELIOT is suitable only for a clearly defined group of patients. These parameters must be present: the patient is older than 50 years; the tumour is not larger than 2 cm (T1) and no lymph nodes are affected (N0). The histological degree is maximum G2 and there must be no indications of metastases. The surgeon has to be extremely careful to remove any traces of tumour-carrying tissue.

‘Due to today’s advanced diagnostic methods, the number of early detections and thus of T1/N0 tumours is increasing constantly. However, many women with such early detected tumours are under 50 years old, so are not eligible for this kind of intra-operative radiotherapy.

‘Despite these limitations, the first clinical results are very promising. A study at the Milan Breast Centre, involving 1,600 patients, showed that only 2.8% of the women suffered skin changes on the breast, so we can assume that the method is very successful. Moreover, we were able to reduce side effects, particularly skin changes on the breast, so we can assume that the method is very successful.

‘Having said that, I also want to point out that ELIOT means there is no indication for metastases. The surgeon’s eyes are relieved by a high colour temperature, for a blue background under both the iLED 5 Kelvin to cool blue at 5,000 Kelvin. An independent lighting institute conducted a study in which 30 test subjects had to identify standardised vision test characters on a colour background under both the iLED 5 and gas-discharge lamps. Results: Under the iLED, the characters were considerably clearer with weak colour contrasts. In most cases, the test subjects had the best vision at 4,000 to 4,500 Kelvin and, with a blue background, at 3,500 Kelvin. In addition, they preferred the iLED, even when the colour temperatures of both lamps were the same (4,000 Kelvin) – because the iLED’s light was more evenly distributed. For surgeons, this means that the iLED helps them to better distinguish between healthy tissue and diseased tissue that is slightly off colour. For a red wound location, the surgeon’s eyes are relieved by a high colour temperature, for a blue wound location, a few colour temperature.

Professor F-J Prrott, Director of the RIG Clinic, St Lukes Hospital, Berlin, Germany

Accuracy and precision radiation therapies, moving away from large area radiation. However, we must acknowledge that the conventional method – breast-conserving surgery followed by about 30 radiation sessions – is also very successful. Moreover, we were able to reduce side effects, particularly skin changes on the breast, so we can assume that the method is very successful. As far as the current status of ELIOT is concerned, I’d rather go for “never touch a running system”. Having said that, I also want to point out that ELIOT means there is only intra-operative radiation. As a boost, I mean an addition to whole-breast radiation therapies, intra-operative methods are allowed and may be applied outside studies. That means, during surgery a boost of about 10 Gy is applied and a conventional breast radiation therapy of about 46-50 Gy follows. This procedure reduces the post-operative radiation by one week, that’s five sessions.

In short, I look very optimistically upon ELIOT and I think it’s an important goal to make breast cancer therapy as stress free as possible. Nevertheless, we must not act prematurely, that means long-term and large-scale studies are needed before the method is introduced in to everyday practice. In my opinion that will take another five years of intensive research before we might be able to use ELIOT without reservation in every day oncological work.’
Ultrasound-guided regional anaesthesia and pain therapy - a painstaking technique

"Ultrasound-guided interventional pain therapy originates in ultrasound guided regional anaesthesia," Dr. Eichenberger explained. "The traditional method for partial anaesthesia – that is, detecting the nerve with electricity and then injecting anaesthetic – has a drawback. It shows only if the needle tip is close to the nerve. But what you really want is to transport the drug to the nerve, not the needle. With ultrasound we can visualise and localise nerves and guide the needle all the way to them, thus reducing the risk of damaging the nerve and neighbouring structures. Obviously, as an anaesthetist you know where the nerves should be, but there are anatomical variations that can only be recognised with ultrasound. Moreover, you can watch the anaesthetic spread live, so to speak, and see whether it reaches the target. With the traditional method the success rate of very experienced physicians is up to 95%. With ultrasound I’m sure we can increase that rate.

The method was transposed to pain therapy from regional anaesthesia, and the advantages are obvious: With chronic pain patients we usually diagnostically block nerves to localise the source of the pain. Before, we did this blindly - we injected large doses of anaesthetic, up to 10 ml. With the help of ultrasound we can reduce that dose to around 1-2 ml because we can target certain nerves and don’t have to spread anaesthetic over a large area. For a patient this hopefully means better diagnosis. Furthermore, dose reduction in regional anaesthesia – where larger doses are used – means a lower risk of side effects and allows us to block several regions of interest at the same time, both arms, for example. With a dose of 40 ml per side we couldn’t do this – as that dose would be toxic.

"Ultrasound-guided pain therapy is particularly interesting for very sensitive regions, such as the cervix. Very close to the targeted nerves you find a lot of different vulnerable structures. Today ultrasound can visualise small nerves down to a diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves innervating the cervical facet joints. Consequently, we can position the needle right next to the targeted nerve. The traditional method to block these nerves is based on X-ray images, which show only the neighbouring bone structure. While this gives an indication of the nerve diameter of 1-2 mm. One example is the possible visualisation of the nerves in...