

ultrasound

post

technical development and medical research –
NEWS and FACTS.

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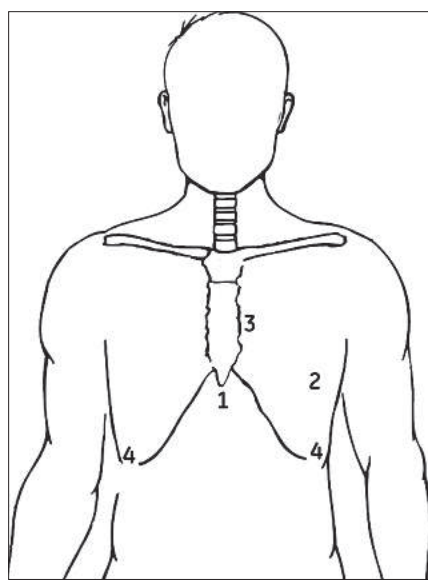


Fig.1: Transducer positions in the FATE protocol.
1 subcostal view
2 apical view
3 parasternal view
4 pleural view

Life Saving Decisions in the ICU – FATE Protocol Might be a Helpful Tool

Monitoring and treatment of the haemodynamically unstable patient in the intensive care unit (ICU) is a complex challenge. Often the time factor is a major concern and the outcome depends on a rational and problem-focused approach. The FATE protocol (Focused Assessed Transthoracic

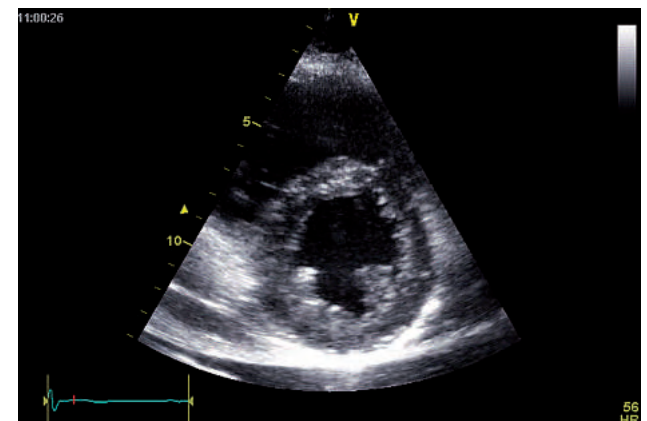
Echocardiography), developed over the last 15 years and published by the Danish specialist in Anesthesiology and Intensive Care medicine Erik Sloth in 2004, allows easy and fast decisions in life-threatening situations for non-cardiologists. The fascinating aspect of FATE is that it is learned

quickly and easily and meets the basic echocardiographic needs of the non-cardiologist in order to guide cardio-pulmonary optimization. FATE also provides quick guidance for interpreting the echocardiographic findings and putting them in the appropriate clinical context. The essential elements of FATE can be printed on a double-sided laminated card, which fits easily in your pocket. Thousands of FATE cards have recently been distributed

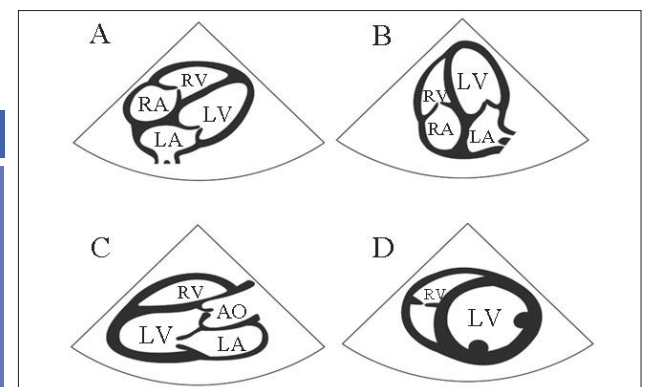
worldwide. FATE is a supplement to the clinical evaluation of the patient including the pleura scan and is not a full diagnostic procedure as performed by the cardiologist – “this is an important difference to emphasize” says Erik Sloth.

The FATE protocol

The FATE is performed from four positions, subcostal view, apical view, parasternal view and pleural view (Fig. 1) in a rapid sequence



By imaging the heart, for example in short-axis view, we quickly learn about the real hemodynamic status of critically ill patients.



Typical echocardiographic views used as part of the FATE protocol

with the following objectives:

1. Exclude obvious pathology.
2. Assess wall thickness and dimensions of chambers.
3. Assess contractility.
4. Visualize pleura on both sides.
5. Relate the information to the clinical context.

The overall purpose is to screen for significant pathology and to obtain information about volume status and contractility of the heart. Quantitative

measurements of dimensions and contractility are provided by utilizing the measurement and analysis functions of the echo machines. Appropriate Doppler modalities are applied as necessary, e.g. for pressure measurement, evaluation of valvular pathology, myocardial defects and assessment of cardiac output. The FATE may be interrupted as soon as the clinical problem/question has been solved, quite often only lasting a few seconds. However, it is recommend-

EDITORIAL:



Heinz
GLOOR

Vice President / General Manager
GE Healthcare Technologies
Ultrasound & PCD
Europe, Middle East & Africa

Dear Readers,

Here at GE Ultrasound we are very impressed with the developments in our Compact Ultrasound products that we, together with our customers, have been fortunate enough to be a part of. One of the main goals of this development is bringing Ultrasound diagnosis closer to the patient and helping them faster and more effectively. For a while, I truly believed we had created an entirely

new innovation.

But a few weeks ago I was reading a Biography of Dominique Jean Larrey, who was for many years Napoleon's surgeon-in-chief and who had accompanied Napoleon in all of the battles he ever fought. As most Ultrasound Post readers are from the medical community, you may have already heard of this very impressive person, who is still very highly regarded, especially in France. For me this was a new acquaintance and I had to realize once again, “there is nothing new under the sun.” I was deeply impressed by the ideas he had approximately 200 years ago. For the 24 battles during which he was responsible for medical care, he developed new techniques with his “ambulances volantes” to help

the wounded soldiers much faster, thus saving thousands of lives. Our use of modern technology today is simply an attempt to achieve the same goals.

With our Compact Ultrasound product line, GE provides high quality diagnostic capabilities and high image quality in hand-held units, thus setting yet another landmark in medical evolution by continuing the philosophy of Dominique Jean Larrey in bringing the hospital to the patient.

Compact Ultrasound devices open new fields in diagnosis and treatment, fields in which excellent image quality, accuracy and flexibility are of highest importance. Allow me to mention the use of ultrasound in the emergency

room or in the intensive care unit, the operating room or even at the immobile patient's bedside. What's more, no matter where you perform your diagnostics, you will always have excellent image quality, unique features and the machine settings you are familiar with. We would really like to hear Dominique Jean Larrey's opinion about these new diagnostic tools and what he would do with them. But we also invite you to read about more new information from your peers working with our Compact Ultrasound devices, because they too are pioneers in their field.

Yours

Heinz Gloor

ed that all imaging positions are completed because of the possibility of further disorders, which would otherwise be missed. In addition, a specific finding may be better evaluated from a combination of different views.

Ultrasound is, at present, the only method that can provide bedside real-time and dynamic imaging of the heart – either through the Transthoracic Echocardiographic (TTE) approach or

by means of Transesophageal Echocardiography (TOE). With these methods, the heart, the great vessels and the pleurae can be visualized, giving important information about cardiac morphology, systolic and diastolic function, and significant pathology. "Therefore FATE is now mandatory on admission of an acute patient in our ICU", says Erik Sloth.

There is no doubt that the results of the FATE protocol,

and therefore the basis for life saving decisions in the ICU, are very much dependent on the ultrasound equipment at the physician's disposal.

GE's Compact Ultrasound system VIVID *i* is currently the system of choice for Erik Sloth, "The VIVID *i* is the perfect tool for our demands. It is portable, small, lightweight and it delivers perfect image quality



By imaging the heart, for example in short-axis view, we quickly learn about the real hemodynamic status of critically ill patients

ty – the ideal equipment for the ICU."

If you are interested in learning about the details of FATE, we recommend visiting the www.fate-protocol.com website hosted by Erik Sloth. You can also order double-sided laminated FATE cards at this website. FATE saves lives, optimizes treatment, improves workflow and supports key decision making.

Article with extracts from European Journal of Anaesthesiology 2004, 21 & www.fate-protocol.com

Compact Echocardiography - Prof. Zamorano's View and Vision



Madrid, Spain. Prof. J. L. Zamorano, the new President Elect of the European Association of Echocardiography (EAE), is Director of Non-Invasive Cardiology at Hosp. Clinico San Carlos in Madrid, as well as ESC Board member and Councilor. His internationally recognized echocardiography lab is a high-throughput department with 16,000 studies per year and has gained experience with multiple compact echocardiography systems over the course of several years, assessing and evaluating different portable devices and their impact on clinical practice.

Despite his busy agenda, Prof. Zamorano was kind enough to give us some of his time for an interview.

ULTRASOUND POST: How does Compact Ultrasound impact clinical practice in your department?

ZAMORANO: To receive the history of a patient the conventional workflow in the past required the patients to come to our echo lab, where we would per-

form the echo exam, give them the report, and finally save the report to the patient's file.

With compact echo we are able to separate different types of echo requests, the conventional request and those which can be performed anywhere else, at the patient's bedside, in the emergency room, the intensive care unit, the operation room or even outside the hospital. We still have the high-tech echo lab with 3D, stress echo and other advanced tools, but with compact echo, the echo exams are also performed outside the echo lab, so it definitely changes the workflow, with a clearly positive impact for the lab and for patient care.

ULTRASOUND POST: What has been your experience with the new VIVID *e* compact echo system? What is special about it?

ZAMORANO: Our experience with the VIVID *e* has been very positive. And what's really special about VIVID *e* compared to other compact echo systems is its image quality. I'm not the only one – all of our senior echocardiographers are truly impressed by the image quality of VIVID *e*. Most compact echo systems on the market are now small enough to move around the hospital easily and conveniently and VIVID *e* also meets that requirement. But again, the special strength of VIVID *e* is the

excellent image quality which allows you to perform full exams with strong diagnostic confidence anywhere.

ULTRASOUND POST: How do you compare the diagnostic confidence you can achieve with VIVID *e* versus that of large console echocardiography machines?

ZAMORANO: In our hospital we have performed a high number of examinations in both large echo systems as well as in different Compact Ultrasound systems, often doing the same patient/exam in both compact and large machines, to better understand the diagnostic confidence we can expect with different systems. Thanks to the excellent image quality of VIVID *e*, we are totally satisfied with the diagnostic results we can achieve with it when compared to larger echo systems.

ULTRASOUND POST: Do you consider compact echocardiography to be an "evolution" or a "revolution"?

ZAMORANO: With the arrival of high-quality compact echocardiography systems which do not sacrifice image quality, I would say that echo is moving from an evolution into a revolution.

ULTRASOUND POST: What will be the future of com-

compact echo? What is your vision?

ZAMORANO: I believe that compact echo will move even further, become even smaller, and soon become a part of routine clinical exams, as an extension of what we do today. Like a "visual stethoscope" that allows simplified echo exams as part of the clinical examination. And these echo exams will not only be performed by cardiologists, but also by specialists in other disciplines, including Emergency, General Practitioners, etc.

Those clinicians will be able to differentiate between normal and abnormal exams, thereby reducing the number of "normal" exams we currently perform at our sophisticated and busy echo labs (which represents a significant waste of technological and human "power"), and at the same time they'll be able to send us patients with abnormal exams which would otherwise not be detected until later, after they begin to show more severe symptoms. I envision a future where basic echo will be taught in Medical Schools to all physicians, making this revolution easier and more effective. Either way, echo labs will remain the focal point for complete echocardiographic exams, with all the high technology such as 3D, Stress, and more to come.



VIVID *e*

GE Supports

Eritrea, Africa. Since October 2005, a small team of doctors specialized in children's urology has been traveling twice a year for one week to Eritrea to perform operations on children within the scope of a humanitarian aid project focused on children. This action is being conducted in cooperation with the Hammer Forum – an NGO based in Hamm, Germany – with major financial and organizational support coming from the Rotary Club Linz-Altstadt in Austria.

Eritrea has 4 million inhabitants and is one of the world's poorest countries. It borders Sudan in the north, Ethiopia in the south and the Red Sea in the east. There are only 160 doctors for the 4 million inhabi-

tants, half of these are on loan from Cuba, India and China. The population has free access to the very few hospitals, which, compared to Europe, have exceptionally low standards. The in-



First Ultrasound Guided Regional Anesthesia Symposium & Workshop in Saudi Arabia

For any new medical application, education is one of the most important aspects of spreading information among physicians and allowing patients to profit from these new applications. One of the latest improvements in Regional Anesthesia is ultrasound guidance in Peripheral Nerve Blocking.

GE's commitment to education is well known and was once again demonstrated in the First Ultrasound Guided Regional Anesthesia Symposium held on March 8th this year. GE Ultrasound participated in the symposium in Saudi Arabia at King Khalid University Hospital in Riyadh, the largest educational center in the country. The workshop was rich in scientific content and contained an analogy between regional anesthesia

using conventional techniques and ultrasound guided regional anesthesia.

Dr. Ahmed Thallaj, Consultant Anesthesiologist at KKHU, gave a live presentation of the superior capabilities of GE's Compact Ultrasound system LOGIQ *e*.

Question:
What are the main differences between conventional and ultrasound guided techniques?

"Conventional techniques using nerve stimulators rely on the prediction of internal anatomy based on surface landmarks, which is not always accurate because of body habitus and anatomic variation; this approach can result in excessive performance time, frustrating trial-and-error efforts and block failure.

Moreover; "blind" technique cannot avoid complications. Ultrasound guided technique represents a new paradigm in regional anesthesia that enables the anesthetist to visualize the internal anatomy, allows clear depiction of the target tissue and the adjacent sensitive structure. In other words, ultrasound technique allows the anesthetist to advance the needle with precision under real time imaging of the patient's actual anatomy and not that implied by surface anatomical landmarks.", says Dr. Thallaj and he continues, "As a regional anesthetist looking for small parts "nerves", I want high quality images that provide detailed information. I have been using LOGIQ *e* for about six months. LOGIQ *e*, with its unique "cross x beam" feature, has a superior im-

age quality that I have never seen before with other portable ultrasound machines. The machine is extremely flexible; images and video clips can be stored and transferred to USB storage devices by pressing one button."

The lectures were followed by a hands-on session on LOGIQ *e*. All the attendees were impressed by the added value that ultrasound can bring in Peri-

pheral Nerve Blocking as well as the premium quality of LOGIQ *e* in this application.

Dr. Thallaj, "The most demonstrable value, in my opinion, is that ultrasound enables the anesthetist to

reposition the needle and change the local injection morphology in the middle of the procedure." This was the first workshop in a series of planned activities in Saudi Arabia.



LOGIQ *e*

Humanitarian Aid Project in Eritrea

fant and maternal mortality rate is very high; only three of 10 children reach the age of 10. Approx. 10 % of all children die during birth, and often young mothers die as well.

A team of children's urologists led by Dr. Marcus Riccabona travels to Asmara in the spring and fall for one week at a time. Approx. 25 - 35 children can be treated in this amount of time, predominantly those born with malformations of the urogenitalia or those suffering from the effects of injuries and genital mutilation. In addition to these, another 100 children are examined and cared for as out-patients. The operations are organized, conducted and aftertreatment is given with the help of the local staff. A retired German doctor resides there the entire year to take care of the patients' specific after-care needs.

Particularly complicated and difficult cases that re-



Dr. Riccabona in the "echo lab"

quire a special diagnosis or a complex operational therapy are brought to

Barmherzige Schwester hospital in Linz, Austria where they are treated free of

charge. Individual sponsors are currently needed who can bear the travel costs for these children on a case-by-case basis (the costs lie between approx. 800 € and 1,200 € for the flights from Asmara - Frankfurt - Asmara).

During the last trip, GE Healthcare Ultrasound provided the team of children's urologists with a compact series Voluson *i* ultrasound system to use free of charge. "The Voluson *i*

was extremely useful during the screening of the children, especially in the pre and post-operational clarification. It was put to use in both the polyclinic, at the children's medical unit, as well as in the operating room and proved to be very helpful.

In the name of the children and their parents, we would like to express our utmost appreciation," said the head of the medical team, Dr. Riccabona.

DONATION ACCOUNT

"Barmherzige Schwester Hospital's Children's Urology Research Abroad",
Account Number 367201, Bank Code 54000,
IBAN AT93540000000367201,
BIC OBLAAT2L



Dr. Riccabona operates under Voluson *i* guidance

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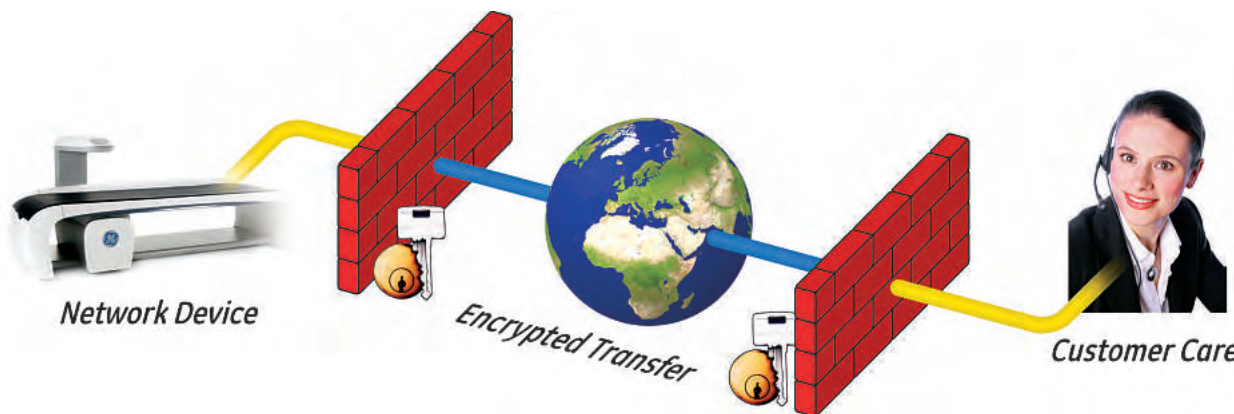
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in France, Germany, Spain, Oman and UK. Recently GE Healthcare was presented with the challenge of providing customer care to one of our more remote customers in the Gambia: after a site analysis, our field engineer succeeded in connecting the InSite with ExC technology to a satellite Internet connection within less than 20min – including the complete configuration!

The real-time revolution in healthcare customer care has arrived. Let GE Healthcare – Lunar Densitometry help take your organization to new levels ensuring quality patient care and efficiency. Contact your GE Healthcare representative for more information on InSite with ExC**.

Johannes SURMANN,
Customer Care Manager Lunar Densitometry EMEA
Pascal SITTER, Product Manager Lunar Densitometry EMEA

*Networking is the responsibility of the user
**Depending on product configuration and availability



"The goal of InSite with ExC is to provide real-time customer care, supporting existing network standards and maintaining the highest level of security."

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International Academy of Medical Ultrasound DATES for 2007

TOPIC	CHAIRMAN	LOCATION	DATE
VISUS COURSE	Prof. A. Kratochwil	Vienna, Austria	27 - 30 August
INTERNATIONAL COURSE ON FETAL MEDICINE	Guillermo Azumendi Carmina Comas	Malaga, Spain	13 - 15 September
TVI, STRAIN & MYOCARDIAL DEFORMATION IMAGING	G.R. Sutherland MD PhD	Berlin, Germany	4 - 5 October
VISUS COURSE	Prof. A. Kratochwil	Vienna, Austria	22 - 25 October

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CONGRESSES 2007

TOPIC	LOCATION	DATE
ESC	Vienna, A	1 - 5 September
ISUOG 2007	Florence, I	7 - 11 October
JFR	Paris, F	20 - 24 October
EUROSON / 3 LÄNDER TREFFEN	Leipzig, G	24 - 27 October
MEDICA	Düsseldorf, G	14 - 17 November
EUROECHO 2007	Lisbon, P	5 - 8 December

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