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Press release DGU

Patient information speeds across the digital highway



Medical doctor while making the diagnosis via TKmed, © UKR

Trauma surgeons are able to send radiological images and findings from one hospital to another in the space of a few seconds - securely and in compliance with data protection laws. Well over 1,000 cross-sectional images are created during a whole-body computed tomography (CT) scan of a severely injured person. If someone has sustained a life-threatening brain injury, for example, they often need to be transferred to a specialist hospital. This hospital receives the diagnostic images while the patient is being transported via rescue helicopter, meaning that before the patient even arrives, the trauma surgeons can assess the injuries, plan the necessary surgery and assemble the surgical team. The digital exchange of data through TKmed®, the German Trauma Society (DGU) teleradiology network, saves time that can save lives.

On 10 May 2015, at the 16th Congress of the European Society for Trauma and Emergency Surgery in Amsterdam, DGU president Prof. Michael Nerlich will explain how TKmed® can help both doctors and trauma patients and how it can be used in the future for research and specialisation purposes by doctors in Germany and abroad.

In 2012 the DGU first began linking trauma centres with one another using the online platform TKmed®, to enable the electronic transfer of X-rays, CT scans, and MRI scans as well as test results and doctors' letters. More than 600 hospitals across Germany in 50 certified TraumaNetzwerk DGU® regional networks work in close collaboration to treat trauma patients. Currently, more than 130 of the hospitals use the TKmed® telecooperation platform. "An initial assessment at our clinic has shown that the electronic image data taxi saves us around 30 minutes in the trauma room. Before TKmed®, the images would arrive on CD with the patient, so we could only see them once the patient had arrived. Sometimes our patients' lives depend on the diagnostic data that races ahead of them from one hospital to another along our digital highway," says Prof. Nerlich, director of the Department for Trauma Surgery at the University Medical Center Regensburg.

In Germany we can expect up to 38,000 serious, potentially life-threatening injuries each year (1), such as

serious head injuries, injuries to the liver or spleen, or a fractured pelvis. Polytrauma occurs when a person sustains multiple serious injuries at the same time, where at least one injury or the combination of various injuries is life-threatening. The most common causes of polytrauma are road traffic accidents and falls from height.

Severely injured patients are initially brought to a “resuscitation room” or “trauma room”, where surgeons work together with other specialists to fight for the patients’ lives. The trauma room is the first-response area of the A&E department and a place of highly structured action. Every team member is well prepared to receive severely injured patients. Detailed recommendations for treatment are given in the DGU Whitebook Medical Care of the Severely Injured (1) and in the S3 Guideline on Treatment of Polytrauma (2). The whole-body CT scan is one of the most important diagnostic tools in cases of severe injury, and was performed on 80 per cent of such patients in 2013 (3). In 2009, researchers using data recorded in the trauma registry of the German Trauma Society showed that use of the whole-body CT scan reduced the risk of mortality (4). By following the White Book’s precise recommendations for action, and also on the location of equipment – the CT scanner must be located near the trauma room – doctors were able to perform whole-body CT scans on patients 23 minutes after arrival on average in 2013. Ten years ago, this procedure still took 31 minutes (3). The resulting images and findings are immediately available in the TKmed® system and can be sent in compliance with data protection laws to specialists at other hospitals or accessed by different departments in the same hospital. A whole-body CT comprises more than 1,000 megabytes (MB), and transfer to an external hospital generally takes less than 15 minutes. However, in this critical period of patient care, it is crucial that the consulting specialist can immediately see each image as soon as it arrives. The specialist can then decide, together with other colleagues, whether a transfer is necessary or whether the patient should remain at the receiving hospital.

“TKmed® enables us to bring the expertise of a maximum care hospital that sees hundreds of the most severely injured patients each year to smaller hospitals across the country. At the same time, our own doctors already know what the optimal treatment strategy is before the patient arrives,” says Nerlich.

TKmed® is also proving useful in other ways. In Nerlich’s hospital, for example, morning X-ray checks are performed using TKmed®, it facilitates multi-site teleconferences, and in some cases doctors on call can consult with their colleagues in the clinic from home.

A new module, TKmed® Direkt, will also make international transmission secure and compliant with data protection laws for foreign hospitals and doctors in private practice in Germany.

The 16th European Congress for Trauma and Emergency Surgery (ECTES) will take place from 10 to 12 May 2015 in Amsterdam. The motto of this year’s meeting is “Save lives, share knowledge”.

Trauma surgeons from more than 70 countries will attend to share their knowledge of effective approaches and concepts related to the medical care of the severely injured. A particularly large number of participants will be attending from the Netherlands, Germany, Italy, Japan, Portugal, the United Kingdom, and the United States.

On 10 May Prof. Nerlich will report on TKmed® in his lecture on “Telemedicine in a trauma network”. The lecture is part of the session on “Innovations: Ups and downs” from 8:30 to 10 a.m.

Sources:

(1) Whitebook Medical Care of the Severely Injured (in English)

http://www.dgu-online.de/fileadmin/published_content/5.Qualitaet_und_Sicherheit/PDF/2012_DGU_Whitebook_Medical_Care_2ndEdition.pdf

(2) Treatment of Polytrauma/Severe Injuries (in German), Association of the Scientific Medical Societies in Germany (AWMF) Register No. 012-019

<http://www.awmf.org/leitlinien/detail/ll/012-019.html>

(3) Annual reports of the TraumaRegister DGU®, 2003 and 2014 (in German)

http://www.traumaregister.de/index.php?option=com_content&view=article&id=49&Itemid=55&lang=de

(4) Effect of Whole-body CT during trauma resuscitation on survival: a retrospective, multicenter study, The Lancet Vol. 373, April 25, 2009

Date and press accreditation:

10-12 May 2015: 16th Congress of the European Society for Trauma and Emergency Surgery, Amsterdam

Media representatives can get an accreditation to attend the congress free of charge by contacting

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Further information

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 www.dgu-online.de

 www.tkmed.org

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