EFORT Congress in Vienna: Experts call for better medical training for treatment after terror attacks

Following terror attacks in Paris, Brussels, London, Berlin and, most recently, Manchester, experts at the EFORT Congress in Vienna are clear about the ramifications that global terrorism has for healthcare systems. There is a need for better training of orthopaedic and trauma surgeons and immediate care physicians to treat terror victims, says EFORT President Prof Jan Verhaar.

Vienna, 31 May 2017 – "Sports activities and orthopaedic practice" is the theme of the 18th Congress of the European Federation of National Associations of Orthopaedics and Traumatology (EFORT). Experts from all corners of the world are gathering in Vienna for this event, which is being held from 31 May to 2 June 2017. Yet there is another issue that is also of concern to the 6,000 or so experts. EFORT President Prof Dr Jan A.N. Verhaar from the Erasmus University Medical Centre in Rotterdam, the Netherlands: "As specialists in orthopaedics and traumatology, we too must be able to deal with rare and unexpected challenges. We have a huge responsibility to serve our communities by delivering the best care in the most urgent circumstances. Because colleagues from all over Europe and other parts of the world have recently been confronted with the consequences of growing terrorist violence, we have decided to devote some of this meeting also delve into acts of terrorism and their consequences for orthopaedic surgery."

The congress programme poses this question: "Terrorist attacks: Are we prepared?" "Terrorism is always something unforeseeable. We are not well enough prepared for terrorism in Europe and must greatly improve our knowledge of the many implications these acts of violence have on our work," Prof Verhaar says. "As an initial step, colleagues who have recently been themselves directly confronted with the results of terrorist attacks in Paris, Brussels, Berlin or Israel have been invited to give presentations. By sharing the lessons they learned, they help prepare us for the unexpected, unwanted, but nevertheless, real possibility of a terrorist attack."

Paris 2015: Successful "war medicine by civilians"

The attack in Paris on 13 November 2015 had particularly severe consequences. Dr Olivier Barbier, orthopaedic surgeon at Bégin Military Teaching Hospital, Paris, reports: "We quickly realized we were facing the worst attack since World War II.". For 120 victims, the help came too late; another 302 sustained injuries, in some cases very serious ones. The Bégin Military Teaching Hospital alone treated 45 individuals from this latter group. 22 of them underwent emergency surgery for soft-tissue-lesions, ballistic fractures and abdominal wounds.

"It was the civilian application of war medicine," Dr Barbier notes. "The injured brought into military hospitals in such cases benefit from the staff's professional experience with triage management and the principles of damage control." Following a practice often used in wartorn areas, the victims brought in were sorted by severity of injury. Eight were classified as T1 – those requiring treatment most urgently, ten were placed in the triage category T2, and 27 were deemed to be less urgent with a category of T3. This allowed the surgeons to perform a total of 50 operations in an orderly and efficient fashion.

"The key criteria in the initial hours after the terrorist attack are to manage the vital interests of the patients, call in additional medical personnel and ensure access to all operating rooms," Dr Barbier noted in his summary of this experience. In the end, the Parisian physicians had a respectable outcome, which has since been published in scientific

journals: Twenty-four hours after the start of the attacks, all 302 of those injured were released from the emergency rooms and trauma units and all emergency operations were completed. Only four of the injured patients died.

Preparing for emergencies

"Something like this can happen anywhere nowadays, even in small towns," Prof Verhaar notes. "We must make sure that everyone is prepared to handle such a large number of injured people immediately." The emergency and disaster plans that are available in some cases do not always suffice. "A terrorist attack differs intrinsically from a mass accident. For instance, a crash involving multiple vehicles on the motorway is clearly defined and finite, whereas it is never clear whether a terrorist attack is really over and how many patients really require medical treatment. For this reason, completely different decisions must be made."

Training required: civilian physicians must treat war injuries

EFORT President Prof Verhaar said there is a need to update medical training: "In the accidents orthopaedic surgeons and traumatologists normally deal with, most of the victims have sustained a series of bone fractures and the victims' survival depends on how, and in which order, these injuries are treated. However, terrorists often use weapons of war that cause injuries civilian medical personnel have rarely seen and that result above all in heavy bleeding. That is why civilian physicians must also be trained in the treatment of gunshot wounds and blast injuries."

Israeli physician Prof Alexander Lerner reports to the EFORT Congress on his experience at the Syrian border with the management of more than 800 refugees, some seriously injured: "The initial treatment should include general stabilization and basic life support, bleeding control and, in many cases, effective minimal-invasive fracture immobilization. The most common problem is wound infection. Our experience has shown that radical primary debridement with stabilization, using external fixation frames, staged treatment protocol, based on damage control principles, is crucial for the success and return, at least, to independence in basic daily functions."

Psychological support for victims and helpers

Prof Lerner made another important experience during his missions along the Syrian border: "Psychological support for patients and practitioners is essential. No one can handle the pressure, responsibility and challenges raised during treatment of helpless severely wounded people, and particularly, children."

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