European Journal of Trauma and Emergency Surgery

Presidential Address

Which Future for Traumatology in Europe?

The Changing World of Medicine

In the last several decades, a lot has changed in our world, in our societies, in medicine in general, and in our profession specifically. First of all, life expectancy has increased significantly. Thanks to longer lives but due to lower birth rates, demographics show a growing presence of older people, of which many are sick but many are also healthy and still very active. Mobility and consumption of recreational activities have increased for all age and income levels; expectations on quality of life and recovery of functional deficits have changed and continue to evolve. Medical information has become available everywhere; definitions, symptoms, guidelines on treatment, and outcome of diseases and injuries are freely accessible on the Internet. Many patients assume that they know all about their disease and want to discuss treatment alternatives with their doctor of choice. More than before, patients and administration expect a predictable outcome of our medical activities. Medicine and medical research have become popular and are part of everybody’s business, including industry, media, justice, and politics. As medical activities are paid by collective money, many institutions and administrations want to co-decide what we have to do or abandon. Their opinion is based on medical evidence. What is not proven by evidence is not valid anymore.

As a consequence, the medical actor is observed from all directions; he or she is becoming less independent and has to explain, defend, or account publicly for his or her decisions or failures. From the central person in medicine, the final decision maker, the doctor, has evolved to one element in a chain of medical and technical directives which are elaborated by others and what we call now case management.

Parallel to these immersive changes in our societies, insight into the pathobiomechanics and pathophysiology of injuries and diseases have increased dramatically. The actual fields of medicine reflect a spectrum of knowledge which cannot be covered by one or even several persons anymore. This automatically means that a person with medical responsibility has to restrict him- or herself to a specific field, which bears his or her special interest. This means specialization. Specialization is nothing new; in earlier days, surgery was one specialty, but nowadays it is split up into at least eight sub-specialties. The Union Européene des Médecins Spécialistes (UEMS) has 37 sections, representing actual medical specialties in Europe. The section of surgery, which is only one of these 37, contains divisions of general surgery, coloproctology, hepatopancreatobiliary surgery, surgical oncology, thoracic surgery, transplantation surgery, endocrine surgery, and traumatology. Vascular surgery, cardiothoracic surgery, urology, plastic and reconstructive surgery, neurosurgery, and orthopedic surgery have different sections. We are grateful for the acquisition of knowledge in medicine, as it is of benefit for our patients. But, as a direct consequence, we are confronted with an explosion of specialization and sub-specialization, in which we have to find our way. The section of surgery of the UEMS recognizes the need for sub-specialties to meet the medical needs of the population on a high-quality level. She promotes the training toward medical specialists with a broad competence and experience in
surgery but counteracts the production of medical virtuosos of one operation. She is, therefore, against the recognition of an excessive number of surgical sub-specialities. Narrowing the scope of every specialist also means enhancing the need for working in team in case a patient’s problem exceeds the borders of the scope.

Where Does Traumatology Belong to?

What is the matter with traumatology? Did this field of activities change as well? Can the general changes in medicine also be felt in our profession? The definition of traumatology did not change over time. Traumatology covers the prevention, recognition, conservative or operative treatment, aftercare, and rehabilitation of all possible lesions in all age categories. With this definition, we immediately discover that there is a major difference with other specialties. Traumatology does not focus on one organ, one system, or even a part of it; its field of activity involves lesions of the whole human body, irrespective of any boundaries. One could wish that the activity of the trauma surgeon be restricted to a limited number of technical acts in the early posttraumatic phase, the trauma surgeon being a kind of acute care physician. But following our definition, this is not the case. Lesions of different complexity and emergency in the brain, the thorax, the abdomen, the spine, the pelvis, or the extremities fall under his or her responsibility. There are only a few other disciplines in a similar situation: pediatric surgery, intensive care, and emergency medicine are among them. Being a discipline that deals with problems of the whole human body, traumatology is often seen as a real specialty, certainly not as a sub-specialty. Medicine is rapidly evolving towards specialization and sub-specialization, but traumatology remains holistic. External and internal opinion makers, so-called professional and political experts, have problems interpreting this phenomenon. They ask: where does traumatology belong? Is it surgery, orthopedic surgery, or emergency surgery, all of this or again something else? In their eyes, the sub-specialist is the super-specialist, the doctor who knows the most of a small medical field. A trauma surgeon can never be a super-specialist, as he or she has to deal with the lung, the spleen, the spine, or the bladder simultaneously. How can he or she compete in excellence and expertise with the thoracic surgeon, the abdominal surgeon, the spine surgeon, or the urologist, who are the surgical specialists in the above-mentioned organs? A discipline with a large scope always competes for the label of quality with disciplines with smaller scopes. The ultimate consequence is that the evidence of the discipline with the larger scope is questioned. Hospitals do not need general surgeons anymore, they need gastrointestinal and hepatopancreatobiliary surgeons, laparoscopists, coloproctologists, or transplantation surgeons. The same is valid for traumatology: why should trauma surgeons do what we super-specialists do as well or even better, is the argument of the opponents? Thereby, they voluntarily forget that the patient actually comes with several urgent problems at the same time, mostly at a moment where the super-specialist has no time or interest to stop his scheduled activities or to subordinate his treatment plans under those of one or several other colleagues. Where is the coordinator?

Traumatology Is a Dynamic Field in Medicine

As in other disciplines, medical wisdom has also exploded in traumatology. Thanks to successful fundamental and clinical research on shock and organ failure, thanks to instrument and implant development, to new surgical techniques, thanks to great progression in the detailed visualization of anatomical regions by newest generation computed tomography (CT) scans and with magnetic resonance imaging (MRI), we understand more than ever before how lesions occur, how our balanced organ systems react to the first-hit phenomenon, and how defense systems fail. Treatment protocols significantly changed with these new insights: total-body CT-scan in the resuscitation phase, supra-selective embolization, damage control surgery, minimal invasive surgery, angle-stable plating, and computer-assisted surgery are diagnostic and therapeutic procedures, which reflect the integration of recent technical developments and new knowledge. Therefore, the question is allowed if the use of all these new technologies can be mastered by one person? Is it still possible, as in the time of the pioneers, that one surgeon performs thoracotomy for partial lung resection, laparotomy or laparoscopy for blunt abdominal trauma, endoscopic fusion of the ventral thoracolumbar spine, or open reduction and internal fixation of a complex pilon or calcaneal fracture on the highest quality level? How long does the training program of a surgical trainee need to be until he or she is excellent in these different fields? Only in musculoskeletal surgery, one person is hardly able to know all possible operations. In two decades, shoulder surgery has developed to a differentiated and complex entity of activity. The same can be said of spine, elbow, or foot surgery. Sub-specialization is clearly on its way. Look at how orthopedic surgeons organize themselves. Orthopedic surgeons are working together in associations; every single surgeon is responsible for one specific field, such as hip replacement, arthroscopy, and shoulder or hand surgery. Look at our international scientific journals. The Journal of Bone and Joint Surgery or the Journal of Trauma, which cover the whole spectrum of pathology, and journals such as Spine, Journal of Shoulder and Elbow Surgery, Journal of Pediatric Orthopaedics, or the Journal of Foot and Ankle Surgery have similar impact factors, which means that the parts receive more interest than the whole.