SUMMARY

Injury is the fifth leading cause of death worldwide and will become the second leading cause by 2020. It is already the leading cause of death in individuals aged 5 to 45 years. Vehicular injury, self-inflicted injury, interpersonal violence (including war), work-related injury, falls, burns, and environmental disasters all contribute their share **(Sauaia et al., 1995).**

Primary prevention is the most effective way to limit injury. The importance of education, engineering controls, and the rule of law in prevention of injury cannot be overemphasized. Almost as many individuals die of vehicular injury in Egypt as in the U.S., but Egypt has one-quarter the population and one-tenth the number of vehicles. Nevertheless, the majority of injuries in both countries are preventable **(WHO, 2000)**.

Secondary prevention, the application of acute care to prevent death and disability following injury, is also highly effective. The cost of trauma care is low per quality adjusted life year saved compared with treatments in other common disease categories such as cardiovascular illness, stroke, or cancer interventional therapy. This care is best provided in regional centers. The largest Level 1 trauma centers typically see more than 5000 direct admissions each year and are staffed around the clock with trauma surgeons, neurosurgeons, orthopedists, anesthesiologists, and a complete array of support staff. The work of these centers in patient care, medical education, and developing new knowledge is driving an international revolution in the quality of injury care **(John R, 2007)**.

Trauma-associated coagulopathy is common in severely injured patients. It is associated with high mortality, which is partly preventable. The coagulopathic syndrome can be recognized from simple clinical measures available in the initial minutes of evaluation in a trauma center. Optimal treatment

probably avoids initial large-volume crystalloid resuscitation and goes straight to resuscitation with RBCs and plasma. Platelets often need to be added early as well. In some communities, trauma surgeons are changing practice based on these new insights and placing new demands on the blood supply. Better understanding of the coagulopathy of trauma, better tools for hemorrhage control, better evidence of optimal treatment, a better blood supply, and better blood products are all parts of a desired future **(John R, 2007)**.

Recombinant activated factor VII has been used to control life-threatening traumatic bleeding that has been uncorrected by other means. rFVIIa acts to amplify coagulation at the local site of injury where tissue factor and phospholipids are exposed, accelerating the tissue factor-dependent pathway and generating a thrombin burst along with platelet surface interactions **(Martinowitz et al., 2001; Levy, 2003)**.

No specific method is currently available to indicate the need for rFVIIa or to monitor its efficacy. Monitoring of rFVIIa efficacy should therefore be performed visually to assess the level of bleeding after rFVIIa administration, and by an assessment of the transfusion requirements after dosing **(Toschi V et al., 1997).**

rFVIIa should not be administered to patients who are unsalvageable according to the clinical evaluation of the medical team treating the patient. The risk: benefit ratio should be assessed in patients with coronary artery syndrome and in those with a presence or history of thromboembolic events. Unstable coronary plaques present TF on their surface **(Toschi V et al., 1997).** Treatment with rFVIIa may promote coagulation on these plaques, leading to acute complete coronary artery occlusion or myocardial infarction **(Ardissino et al., 1997; Badimon et al., 1999).**

Our immediate future on this planet involves more people, more vehicles, and more weapons. Good trauma care will demand the best access to medicine, including transfusion. A better understanding of the physiologic bases and consequences of hemorrhage, transfusion, and coagulopathy are critical to the development of better ways to cope with all three. New tools and methods must also demonstrate efficacy and safety. In addition, across the spectrum of advanced trauma care, the care givers must communicate effectively **(John R, 2007).**