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**Bill Sacco, Ph.D**

On-site triage of mass casualties is another critical homeland security issue for medical personnel. Two innovations of compelling value were discussed at the conference. The Sacco Triage Method ([www.sharpthinkers.com](http://www.sharpthinkers.com)) and resource management system, (patent pending processes of ThinkSharp, Inc.) based on data from over 100,000 injuries over a multi-year period in Pennsylvania, uses the patient's respiratory rate, pulse, and motor response to predict survival and therefore assign triage urgency. The author, mathematician Dr. Bill Sacco, has been recognized for his many trauma triage innovations as an honorary fellow by the American Association for the Surgery of

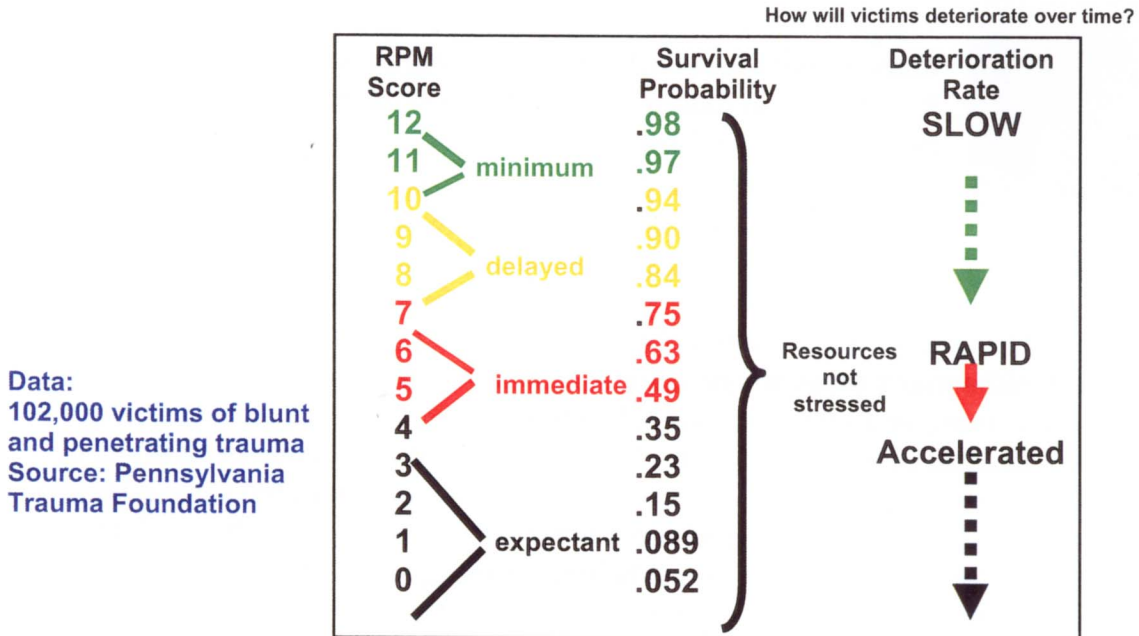
Trauma. His system is a 12-tiered scale, with higher predicted survival for higher scores. Unlike many other triage systems, the Sacco system is evidence-based, outcome-driven, and scientific, not subjective. It is scalable – expandable to casualty streams of any size or complexity – and is reproducible in all types of casualty-producing disasters. Dr. Sacco's system is implemented from a laptop computer and on-site PDA's, and considers type of trauma, number and age of victims, evidence-based survival probability, timing and availability of transport and treatment resources, and type of treatment facilities. It is also dynamic, adjusting its triage decisions to the evolving conditions of the disaster. Reducing the subjectivity and anecdotal nature of triage from a mass casualty scenario could have a huge effect on maximizing the number of survivors.

- Use the RPM score of each victim
  - similar in concept to Revised Trauma Score
  - funded by DOD in 80s; used by Navy SEALs and marines
  - respiratory rate (RR), pulse rate (PR), motor response (MR)
  - is practical -- victims scored at scene in 40 seconds, on avg
  - easy transition -- RPM used (not scored) by START
  - highly correlates to survivability
- RPM = Sum of the coded values of RR, PR, MR
 

– Coded Value:	0	1	2	3	4
• RR	0	1-9	35+	25-35	10-24
• PR	0	1-40	41-60	120+	61-120
• MR	0	EXT/FLEX	Withdraws from pain	Localizes pain	Obeys Commands

This is the APGAR equivalent for trauma, simple and easily remembered.

The Probability of Survival and rate of Deterioration drive triage decisions



This trauma system beautifully coordinates injury severity, survival and deterioration rates so that all resources can be optimized for survival.

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A second innovation for on-site triage is a non-contact vital signs device, utilizing micro-impulse radar to assess pulse and respirations through as much as 20 feet of concrete. Advantaca, Inc., of Livermore, California, offers a remote patient monitor ([www.advantaca.com](http://www.advantaca.com)) The value of such a device in finding building collapse survivors, even if they are unconscious, is immeasurable. It would be of equally impressive value at a mass casualty triage site, where pulse and respirations are key indicators of where medical personnel need to direct their attention. If a casualty is on the opposite side of a site hazard, assessing the viability of the patient without risking the health of the medical personnel could be very important. The remote patient monitor was used at the World Trade Center site after the terrorist attack there in 2001.