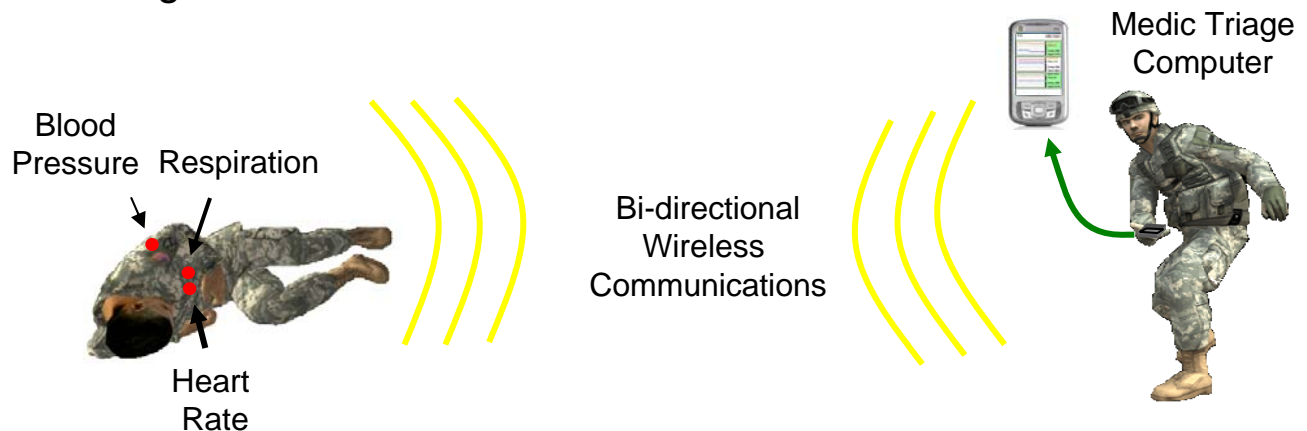


Dynamic Injury Severity Estimation

Problem: Emergency medical treatment is imperative when time and distance limit quick casualty evacuation. The “golden hour,” the first 60 minutes following a traumatic injury, has long been recognized by medical personnel as vital to saving lives. Since hemorrhagic shock remains a leading cause of death resulting from traumatic injury, it is critical to provide real time monitoring of patients with traumatic injuries to first level responders and medics.

Solution: PERL Research has developed an automated decision support algorithm for detecting hemorrhaging and determining injury severity based on a person’s vitals signs. Dynamic Injury Severity Estimation (DISE) is based on a configurable model of an autonomous nervous system that is automatically configured to a given user during initial measurements, and used to track deterioration of user’s state in multidimensional feature space during physiological compensation to hemorrhage.



Benefit: The system provides the capability to non-invasively determine if a patient bleeding internally and if so to what degree. This allows for the establishment triage categories, evacuation priority, and required interventions thereby significantly increasing survivability. The system can also be used for post-operation surgery in a hospital environment to detect internal hemorrhaging.