Diagnostics

Injury Treatment (Detection): Infrascanner

With sponsorship from Marine Corps Systems Command (MCSC) and ONR through SBIR, InfraScan Inc. has developed a hand-held screening device that uses near-infrared (NIR) technology to screen patients for intracranial bleeding. Three clinical studies were conducted to evaluate the performance of the NIR-based device. In the first clinical study, the device detected 90% of extra-axial, 88.9% of intra-axial and 93.3% of non-surgical hematomas (less than 25 milliliters [mL]). The NIR device correctly identified 88% of all participants in the second clinical study who had a clinically significant brain hematoma, and 90.7% of all participants who did not. In the third clinical study, the Infrascanner correctly identified 93% of children who did not have intracranial hemorrhage, and of all the negative identifications for clinically important TBI, none were false. These findings indicate that a NIR-based portable device can reliably screen for intracranial hematomas that are superficial and of a size likely to be of clinical importance. The NIR device cannot replace CT scanning in the diagnosis of TBI, but the device might be useful to supplement clinical information used to triage TBI patients, and in situations in which CT scanning is not readily available. MCSC is currently fielding the Infrascanner to the fleet.