



US DEPARTMENT OF DEFENSE

# BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

## Injury Models

### Human Injury and Treatment (HIT)

NHRC is evaluating the injury prediction capabilities of the ONR's Future Naval Capabilities FY10–FY15 HIT model. The HIT project was designed to support PEO Ship's LFT&E reporting requirements of the PMS-500's (DDG-1000) Damage Scenario Based Engineering Analysis, Littoral Combat Ship's Total Ship Survivability Tests. NHRC has developed a casualty modeling solution, independent of HIT's extant injury generating models. NHRC's medical response models account for abbreviated care, the effects of damage to shipboard medical capabilities, and multi-mechanistic anatomic injuries. This solution allows HIT to satisfy federally mandated testing and evaluation requirements, verify availability of adequately trained medical personnel, and ensure that an effective program is in place to facilitate medical response requirements. NHRC is currently conducting a discovery study to assess the spectrum of injuries output by HIT's extant injury generating models for various ship-weapon pairings and to identify solutions to rectify the injury gap. Improving HIT's capability to simulate realistic casualty streams for various ship-weapon type scenarios is critical to accurately assessing the residual crew capacity (ability to "fight the ship") and medical resource requirements for future US naval combat engagements. Improved injury generating models will pave the way for HIT's verification, validation, and accreditation process.