



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Protective Equipment

Assessment of Soldier Protection System (SPS) Protective Undergarment (PUG) and Protective Overgarment (POG) Performance from Underfoot Blast Testing

This testing and analysis quantifies the effectiveness of various material solutions designed to protect the urogenital region from damage mechanisms produced from underfoot blasts. ARL designed and developed a customized pelvic protection manikin that is used to specifically evaluate PUG/POG systems. It was developed to evaluate ballistic protection to the area of coverage of PUG/POG systems and examine protection to dismounted Service Members from buried mines or IEDs. The pelvis component of the manikin is a bio-simulant to capture penetrating debris effects. Its composition agrees with the penetration mechanics of muscular-skeletal tissue. The design of this pelvis component allows for post-event injury analysis of the manikin. The report is being used by PEO Soldier to determine which protective solution to purchase. The methodology developed will be used for future acquisition decisions.