

Construct Validity of the Burn Prehospital Provider (BP2) Program: Interim Analysis of a Military–Civilian Educational Initiative

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Disclosures

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- **Carter**: Consultant for Avita, Polynovo (ended); stock options for Spectral AI

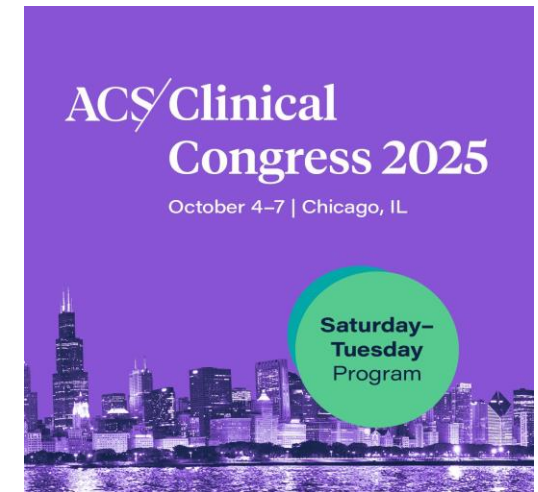
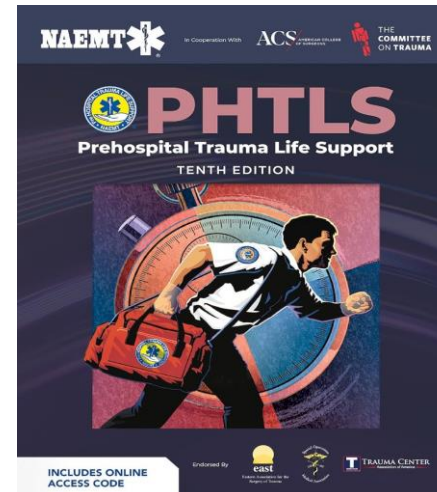
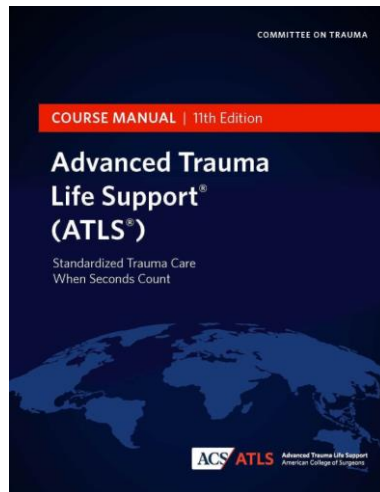
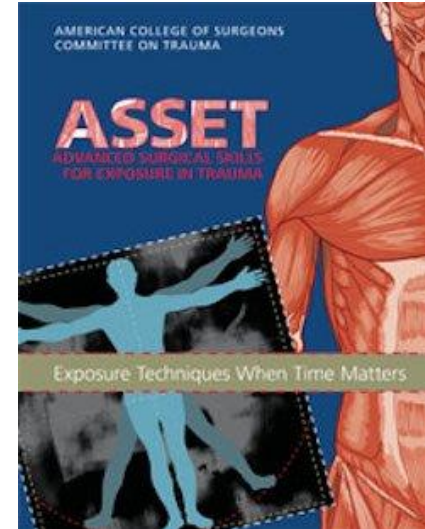
Background & Objective

- Gaps in prehospital provider preparedness persist despite advances in burn surgical care
- The Burn Prehospital Provider (BP2) program addresses these deficits through:
 - Integrated asynchronous curriculum
 - Skills-based curriculum
- Assessing **construct validity** is how we determine whether BP2 assessments correctly distinguish levels of burn care expertise



Background

- U.S. trauma education:



Background

- U.S. burn education:



- Burns represent a low-frequency but high-acuity injury
 - In cases of concomitant trauma, burn injuries increase mortality drastically
- Burn education requires a product with relatability to real life events and proof of skill acquisition

ORIGINAL ARTICLE

Received: June 12, 2024; Revised: October 4, 2024; Accepted: November 14, 2024

Needs Assessment for a New Military Burn Care Educational Curriculum Focused on Prolonged Field Care: The Burns for Providers Program (BP2)

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ORIGINAL ARTICLE

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An Analysis of Face Validity for the Mobile App Scenario and Biomimetic Simulator in the Burns for Providers Program

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Methods

- Interim construct validity analysis
 - Tabletop simulators only
- Prospective, simulation-based study
- Patient Stratification:
 - Military/Civilian Subject Matter Experts (SMEs)
 - Military/Civilian Non-SMEs



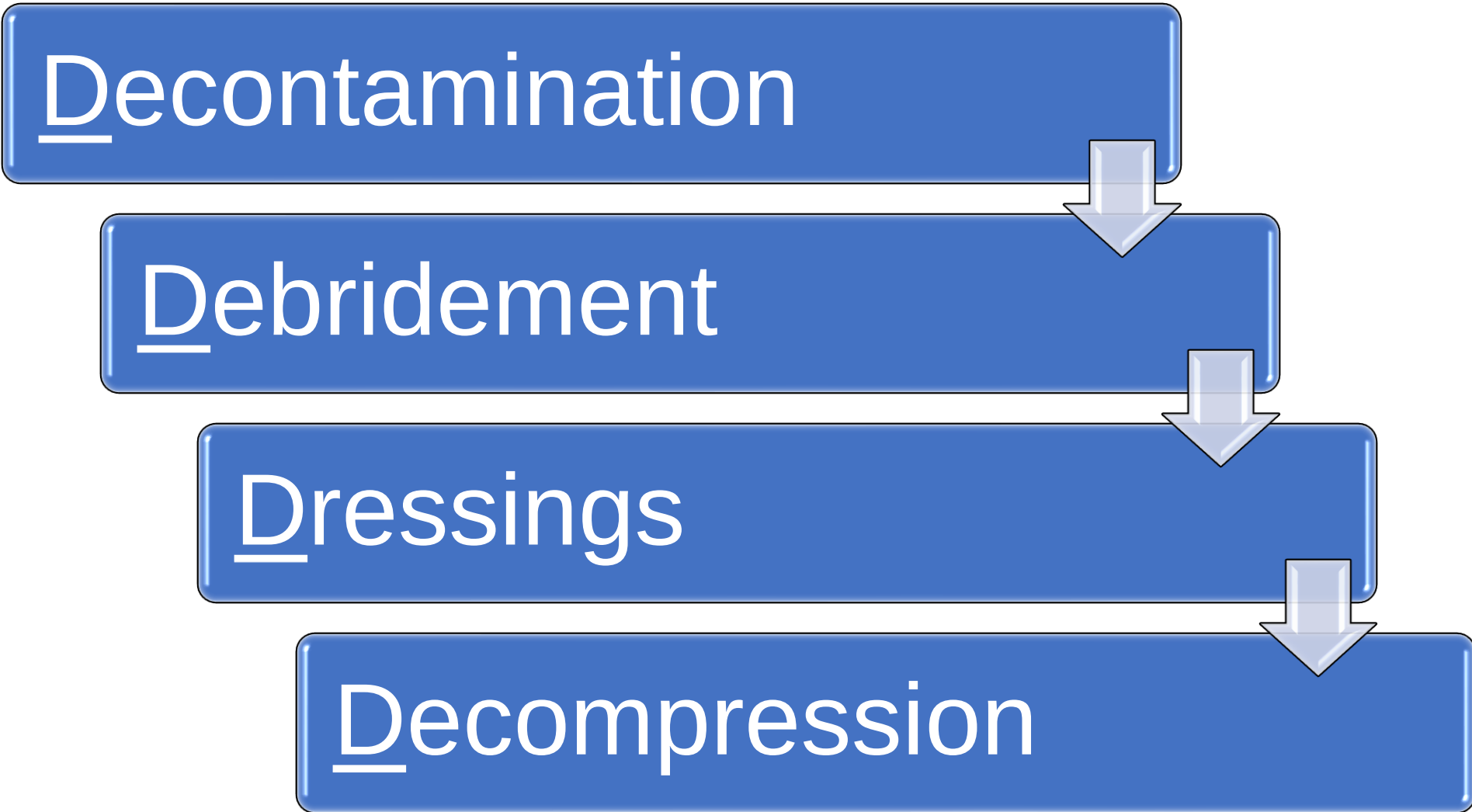
BP2 Software

BP2 SOFTWARE APPLICATIONS



Skills Based Assessment

Decontamination



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graph TD; A[Decontamination] --> B[Debridement]; B --> C[Dressings]; C --> D[Decompression];
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Debridement

Dressings

Decompression

Tabletop Simulators

Tabletop simulators for Procedure Skills



Results

Civilian SMEs *consistently outperformed* both military and civilian non-expert groups across composite and domain-specific scores.

The assessment framework demonstrates *reliability and accuracy* for discriminating between levels of expertise.

Statistical analysis revealed a *highly significant difference* between expert and non-expert performance ($p < 0.000001$).

Conclusions



- This interim analysis signifies the construct validity of the BP2 program's skills-based assessment tools.
- Continued enrollment will support evaluating the asynchronous learning platform and identify performance gaps.
- Validation of novel burn education methodologies is essential to implementation across training environments.

Next Steps

- Construct Validity: Enrollment complete; final analyses underway.
- Content Validity: Enrollment beginning soon; evaluating whether BP2 participants outperform non-BP2 participants following the educational intervention.
- Learning Degradation: Protocol in development; assessing long-term knowledge retention.
- Final Product: A validated burn education program for military and civilian providers.

The background of the slide is a histological micrograph of tissue, likely stained with hematoxylin and eosin (H&E). It shows a complex network of pink-stained connective tissue fibers and purple-stained cellular nuclei. A prominent, darker purple, elongated structure is visible in the upper center, possibly representing a blood vessel or a cluster of cells. The overall texture is fibrous and intricate.

Questions

Thank You!



UMCNO Burn Center Burn Survivor Reunion, 2026.