We endeavor to describe a transportable central-perfused cadaver model suitable for training in the battlefield environment. Goals of design were to create a simple, easily reproducible, and realistic model to simulate procedures in field and austere conditions.”Redman and Ross (2018).

Abstract:

BACKGROUND: Cadaver training for prehospital surgical procedures is a valid training model. The limitation to date has been that perfused cadavers have only been used in wet laboratories in hospitals or university centers. We endeavor to describe a transportable central-perfused cadaver model suitable for training in the battlefield environment. Goals of design were to create a simple, easily reproducible, and realistic model to simulate procedures in field and austere conditions.

METHODS: We conducted a review of the published literature on cadaver models, conducted virtual-reality simulator training, performed interviews with subject matter experts, and visited the laboratories at the Centre for Emergency Health Sciences in Spring Branch, TX, the Basic Endovascular Skills in Trauma laboratory in Baltimore, MD, and the Fresh Tissue Dissection Laboratory at Los Angeles County and University of Southern California, Keck School of Medicine, Los Angeles, CA.
PROCEDURE: This article will describe a five-step procedure that utilizes extremity tourniquets, right common carotid intra-arterial and distal femur intraosseous (IO) access for perfusion, and oropharynx preparation for airway procedures. The model will then be ready for all tactical combat casualty care procedures, including nasopharyngeal airway, endotracheal intubation, cricothyroidotomy, central-line access, needle decompression, finger and tube thoracostomy, resuscitative endovascular balloon occlusion of the aorta, junctional tourniquets, IO lines, and field amputations.

CONCLUSIONS: This model has been used in the laboratory, field, ground ambulance, and military air ambulance (UH-60) settings with good results. The model described can be used in the field setting with minimal resources and accurately simulates the critical skills for all combat trauma procedures.

Reference:


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