ABSTRACT: During the recent United States Central Command (USCENTCOM) and Joint Trauma System (JTS) assessment of prehospital trauma care in Afghanistan, the deployed director of the Joint Theater Trauma System (JTTS), CAPT Donald R. Bennett, questioned why TCCC recommends treating a nonlethal injury (open pneumothorax) with an intervention (a nonvented chest seal) that could produce a lethal condition (tension pneumothorax). New research from the U.S. Army Institute of Surgical Research (USAISR) has found that, in a model of open pneumothorax treated with a chest seal in which increments of air were added to the pleural space to simulate an air leak from an injured lung, use of a vented chest seal prevented the subsequent development of a tension pneumothorax, whereas use of a nonvented chest seal did not. The updated TCCC Guideline for the battlefield management of open pneumothorax is: All open and/ or sucking chest wounds should be treated by immediately applying a vented chest seal to cover the defect. If a vented chest seal is not available, use a non-vented chest seal. Monitor the casualty for the potential development of a subsequent tension pneumothorax. If the casualty develops increasing hypoxia, respiratory distress, or hypotension and a tension pneumothorax is suspected, treat by burping or removing the dressing or by needle decompression. This recommendation was approved by the required two-thirds majority of the Committee on TCCC in June 2013.