

Combat Lifesaver (D2P/CLS): A Lifesaving Tutor for Battlefield Injuries

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Guidelines introduced by Tactical Combat Casualty Care (TCCC)¹ suggest Combat Lifesavers should understand a number of skills to prevent deaths on the battlefield. These skills include both the identification and the treatment of specific injuries in combat situations. Importantly, these skills cover a variety of injuries and procedures necessary for combat scenarios.

D2P/CLS can tutor Marines before they go to a Combat Lifesaver course (and the tutor may be useful after the course and for continuing education). In D2P/CLS the tutee will practice applying the knowledge of a Combat Lifesaver through identifying the correct procedures in TCCC. The tutor provides background information on the situation, presents an injury, and presents the tutee with a visualization of the injury. The student then has the opportunity to treat the injury. After the student has attempted to treat the injury, feedback is provided to the student to allow the student to realize any mistakes that could have been made when treating the injury.

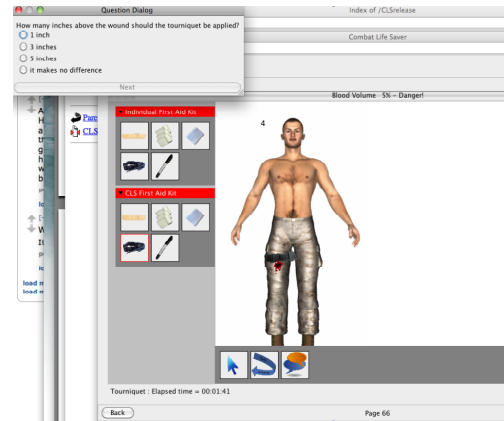


Figure 1. D2P/CLS interface. Selectable tools are shown on the left; pop-up query to the student on the top left; simulation run by D2P shown.

The tutor provides the tutee with a variety of situations. The tutor first introduces basic injuries to the tutee and requires the tutee to identify and perform a single, simple action on the injured individual. As tutee progresses the situations become more difficult and introduce sessions where an individual has multiple and more complex injuries. Because the order of treating injuries is important in a combat situation, the tutee will have to use the skills they learned at the start of the tutor to treat an individual with many injuries. Additionally, the many injury sessions provided by the tutor will reinforce previous learned material from the introductory sessions of the tutor, which allows the tutee to continue to use the skills the tutor taught early in the tutoring sessions. A screen shot of the interface where the tutee is interacting with a simulation is shown in Fig 1.

The D2P/CLS tutor reuses the D2P² tutoring language developed for the Moving Target Tutor³, and represent the knowledge used in Herbal.

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¹ NAEMT. (2010). *PHTLS: Prehospital trauma life support, military edition* (Vol. 7 edition). St. Louis, MO: Mosby/JEMS.

² Ritter, F. E., Yeh, K.-C., Cohen, M. A., Weyhrauch, P., Kim, J. W., & Hobbs, J. N. (2013). Declarative to Procedural tutors: A family of cognitive architecture-based tutors. In *Proceedings of the 22nd Conference on Behavior Representation in Modeling and Simulation*, BRIMS2013-2127. 2108-2113. BRIMS Society: Centerville, OH.

³ Ritter, F. E., Morgan, J. H., Hiam, J. W., & Kim, J. W. (2011). The Moving Target Tutor (MTT)—Teaching the declarative knowledge to shoot moving targets (pp. 1 page handout).