Hemorrhage Control

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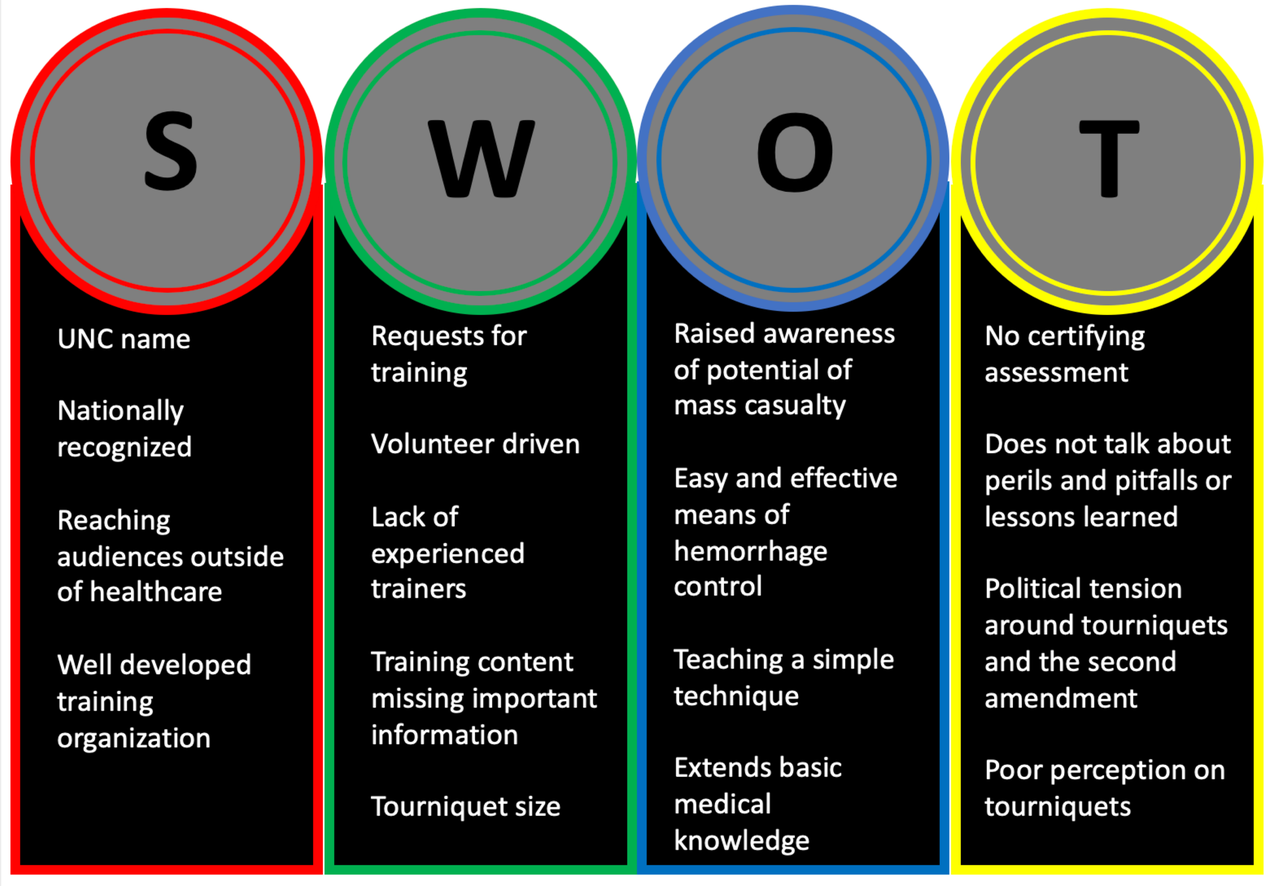
Introduction

- Hemorrhage control is a lifesaving intervention that can be performed at the most basic level.
- Hemorrhage control is being incorporated into emergency field care.
- Stop the Bleed provides training to the most likely first responders and bystanders.
- These Programs promote tourniquets use in controlling life threatening hemorrhage.

- A Strength, Weakness, Opportunities, Threat (SWOT) analysis was performed on the Stop the Bleed program to determine if those most likely to become the first line of defense in a crisis or mass casualty situation could be taught to task, condition, and standard a tourniquet given a two-hour block of instruction.

- The goals outlined in the Hartford Consensus were used as a benchmark against which to measure accomplishments of the program.
- Stop the Bleeds program content and process for certifying instructors were examined.
- Numerous interviews were conducted with subject matter experts within and outside of the medical field.
- Multiple different tourniquets and methods for hemorrhage control were reviewed.
- Military training programs were used as a source for comparison.

- Tactical Combat Casualty Care (TCCC)
- National Association of Emergency Medical Technicians (NAEMT) collaborative effort



Discussion & Conclusion

Strengths

- UNC Trauma Team is widely recognized with 10 hospitals serving 100 different counties.
- National recognition backed by Assistant Secretary for Preparedness and Response, Combat Casualty Care Research Program, Department of Homeland Security, Federal Bureau of Investigation, and Federal Emergency Management Agency, among others.
- Extend reach into community, training anyone with interest at no cost to participants or organizations.
- Material covers all pertinent topics with a logical progression.

Weaknesses

- Training requests.
- Volunteers: high turnover, less dependable, and cannot be increased easily to meet demand.
- Experience harder to come by with demand, limits rigor of training that can be set up for instructor certification.
- Promotes certification to instructor level with little to no discretion.
- Content does not include:
    - Undoing tourniquet from redirect buckle
    - Expected number of rotations for proper application of a CAT
    - Placement of tourniquet high on extremity
    - Marking patient and informing EMS provider of tourniquet placement

Discussion & Conclusion, cont.

Weaknesses, cont.

- Common mistakes not discussed:
    - Not pulling slack out of tourniquet before tightening
    - Using a tourniquet for minimal bleeding
    - Applying too proximal when wound is in sight
    - Must stop bleeding AND eliminate distal pulse
    - Continually reassessing the casualty
- Program not using pediatric suited tourniquets.

Opportunities

- Increased public awareness to mass casualty situations.
- Tourniquets are an easy and effective means of massive hemorrhage control.
- Program has lifesaving potential and can be taught to almost any age or ability.
- Extends basic medical knowledge to potential bystanders.

Threat

- No formalized process for assessing and certifying participants.
- Participants may have false sense of confidence.
- Perceived political tension around tourniquets and the second amendment.
- Poor public perception of tourniquets.

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3. Kragh JF, O'Neill ML, Walters TJ, et al. The military emergency tourniquet program's lessons learned with devices and designs. *Mil Med* 2011;176(10):1144-1152.
4. Fitzgibbons PG, Digiovanni C, Hares S, Akelman E. Safe tourniquet use: a review of the evidence. *J Am Acad Orthop Surg* 2012;20(5):310-319. doi:10.5435/JAAOS-20-05-310.
5. Kragh JF, Walters TJ, Baer DG, et al. Practical use of emergency tourniquets to stop bleeding in major limb trauma. *J Trauma* 2008;64(2 Suppl):S38-49; discussion S49. doi:10.1097/TA.0b013e31816086b1.