

## An Ongoing Series

### Tactical Medicine Training for SEAL Mission Commanders

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The following article was originally published in *Military Medicine* in July 2001, before the attacks of 9/11 focused US military attention sharply on Afghanistan. The paper emphasizes a number of points that bear revisiting now that US involvement in the Middle Eastern conflicts have largely been concluded:

1. Although the TCCC Guidelines outline the principles of battlefield trauma care, they do not address the spectrum of tactical scenarios in which combat casualties may be encountered.
2. Different tactical scenarios may require significantly different small-unit casualty response plans for the same injuries.
3. Medics run the unit's medical care, but combat commanders run the mission. Thus, small-unit commanders must know not just how to perform lifesaving TCCC measures such as applying a tourniquet and opening a casualty's airway. They must also be trained in how to conceptualize the array of casualty scenarios that could occur on a given mission (What injuries? How many casualties? Impact of the mission environment? What phase of the mission?) and construct unit response plans for each of the casualty scenarios judged to be significant for that particular mission.

The "Tactical Medicine for SEAL Mission Commanders" course was implemented at the Naval Special Warfare Center in April 1998 with the support of then-CAPT Joe Maguire, the commander of the center at that time. Although that course was developed specifically for SEAL mission commanders, it has great applicability for leaders in other Special Operations units.

As the US military looks beyond Afghanistan and Iraq to plan for the next conflicts that our nation may face, the casualty scenarios that would be likely to occur in those conflicts should be considered not just by military physicians, physician assistants, corpsmen, medics, and pararescuemen but also by the combat leaders who will command them. This article provides some insights about how to approach that planning.

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#### ABSTRACT

The Tactical Combat Casualty Care (TCCC) project initiated by Naval Special Warfare and continued by the US Special Operations Command has developed a new set of combat trauma care guidelines that seek to combine good medical care with good small-unit tactics. The principles of care recommended in TCCC have gained increasing acceptance throughout the Department of Defense in the four years since their publication and increasing numbers of combat medical personnel and military physicians have been trained in this concept. Since casualty scenarios in small-unit operations typically present tactical as well as medical problems, however, it has become

apparent that a customized version of this course suitable for small-unit mission commanders is a necessary addition to the program. This paper describes the development of a course in Tactical Medicine for SEAL Mission Commanders and its transition into use in the Naval Special Warfare community.

#### INTRODUCTION

In the past, combat trauma training for Special Operations corpsmen, medics, and pararescuemen (PJs) was based on the principles taught in the Advanced Trauma Life Support (ATLS) Course.<sup>1</sup> In 1993, the Naval Special Warfare Command established a formal requirement to review the management

of combat trauma in the tactical Special Warfare environment and make recommendations for changes as appropriate. The research approach used was to do a preliminary literature review and establish an initial set of recommendations. The recommendations were then reviewed over a six-month period in meetings with Special Operations corpsmen, medics, and physicians, and consensus opinions were developed. Draft copies of the paper were then sent out to approximately 30 subject matter experts in the fields of emergency medicine, general and trauma surgery, critical care medicine, anesthesiology, and cardiothoracic surgery. The paper was again revised to incorporate changes recommended by these reviewers and subsequently published as a Supplement to Military Medicine.<sup>2</sup> The approach used was intended to ensure that the TCCC guidelines had as much input as possible from combat corpsmen and medics.

### TCCC TRANSITION

Preliminary concept approval was first obtained from the Commander of the Naval Special Warfare Command. The next step in the process was to take it to the Bureau of Medicine and Surgery (BUMED). Initial BUMED contact was with CAPT Bob Hufstader, then Deputy Chief of the Medical Corps, who proposed that the best way to approach BUMED evaluation was to determine specifically which courses TCCC should be taught in and to seek out the individuals responsible for teaching that course. This was accomplished and, in March 1996, TCCC training was incorporated into the Undersea Medical Officer (UMO) training course in Groton, Connecticut, which is responsible for training the UMOs who support SEAL units. After this action had been taken, final approval of this concept was approved from the Commander of the Naval Special Warfare Command. In his letter of 9 April 1997,<sup>3</sup> RADM Tom Richards directed that the TCCC guidelines as outlined in reference two be used as the standard of care for the tactical management of combat trauma in Naval Special Warfare.

A six-hour TCCC course for SEAL corpsmen was developed, approved by BUMED, and taught to all SEAL corpsmen beginning in April of 1997. This course was designed to supplement the extensive trauma training received by SEAL corpsmen at the Joint Special Operations Medical Training Center (JSOMTC). The JSOMTC has now added the TCCC course to its curriculum. The principles of TCCC as taught in this course have also been adopted at least in part by the USAF,<sup>4</sup> the US Army (personal communication, COL Richard Shipley, Commander of the US Army Academy of Health Sciences), the Israeli Defense Force,<sup>5</sup> the US Army Special Forces,<sup>6</sup> and the US Marine Corps. The TCCC course was taught at the Field Medical Service School at Camp Pendleton for the first time in February 2000.

One of the most important milestones in the transition process was the inclusion of the TCCC guidelines in the Pre-hospital Trauma Life Support Manual.<sup>7</sup> The fourth edition of this manual, published in 1999, contains for the first time a chapter on military medicine. Preparation of this chapter was coordinated by CAPT Greg Adkisson and COL Steve Yevich of the Defense Medical Readiness Training Institute in San Antonio, Texas. The recommendations contained in the PHTLS Manual carry the endorsement of the American College of Surgeons Committee on Trauma and the National Association of EMTs. *The TCCC guidelines are the only set of battlefield trauma guidelines ever to have received this dual endorsement*

Although the TCCC protocol is gaining increasing acceptance throughout the US Department of Defense and allied

military forces, this protocol by itself is not adequate training for the management of combat trauma in the tactical environment. Since casualty scenarios in small-unit operations entail tactical problems as well as medical ones, the appropriate management plan for a particular casualty must be developed with an appreciation for the entire tactical situation at hand.<sup>2</sup> This approach has been developed through a series of workshops carried out by SOF medical personnel in association with appropriate medical specialty groups such as the Undersea and Hyperbaric Medical Society, the Wilderness Medical Society, and the Special Operations Medical Association.<sup>8-10</sup>

The most recent of these workshops, which addressed the Tactical Management of Urban Warfare Casualties in Special Operations, noted that several of the casualty scenarios studied from the Mogadishu action in 1993 had very important tactical implications for the mission commanders.<sup>10,11</sup> The unconscious fast-rope fall victim in the first scenario resulted in a decision by the mission commander to split the forces in his ground convoy, detaching three of the twelve vehicles to take the casualty back to base immediately, leaving the remaining nine to extract the rest of the troops. The helicopter crash described in Scenario 2 resulted in the pilot's body being trapped in the wreck. As several discrete elements from the target building moved towards the crash site to assist, as described in Scenarios 5 and 6, they suffered multiple casualties. The casualties eventually outnumbered those who were able to maneuver, forcing the elements to remain stationary and preventing them from consolidating their forces. When a rescue convoy finally reached the embattled troops at the crash site, there was a delay of approximately three hours while the force worked feverishly to free the trapped body. Several hundred troops and over 25 vehicles were vulnerable to counterattack during this period. These scenarios made it obvious to members of the workshop panel that training only combat medics in tactical medicine is not enough. If tactical medicine involves complex decisions about both tactics and medicine, then we must train the tactical decisionmakers—the mission commanders—as well as combat medical personnel in this area.<sup>10</sup> This paper is a description of how that has been accomplished in the Naval Special Warfare community.

### THE TACTICAL MEDICINE FOR SEAL MISSION COMMANDERS COURSE

The concept of medical training for Special Operations combat Operators is not new, but in the past, this training has usually focused on skills rather than strategies. The Operators were trained to start IVs, apply field dressings, and so forth. This training is important, but needs to be supplemented by a strategies approach to combat medicine. A Tactical Medicine for SEAL Mission Commanders Course was developed to meet this need. The course is currently comprised of 5 main sections:

- a) A background of the Tactical Combat Casualty Care initiative;
- b) An explanation of the need to train mission commanders in this area;
- c) A description of how people die in ground combat;
- d) The TCCC guidelines for Care Under Fire and Tactical Field Care;
- e) An introduction to scenario-based training and planning.

The background of the TCCC concept is presented as described above. The remaining aspects of the course are outlined below.

## WHY TRAIN MISSION COMMANDERS IN TACTICAL MEDICINE?

The Tactical Medicine course as taught in Naval Special Warfare provides a rationale for why mission commanders need training in this area. While it is true that a corpsman usually takes care of the casualty, the mission commander runs the mission and *what is best for the casualty and what is best for the mission may be in direct conflict*. The question is often not just whether or not the mission can be completed successfully without the wounded individual(s); the issue may well be that continuing the mission may adversely affect the outcome for the casualty. If the mission is to be successfully accomplished, the mission commander may have to make some very difficult decisions about the care and movement of casualties. Additional reasons to train SEAL mission commanders in tactical medicine include: 1) the importance of having the commander know that the care provided in TCCC may be substantially different than the care provided for the same injury in a non-combat setting; 2) the unit may be employed in such a way that there is no corpsman, medic, or PJ immediately available to the injured individual; and 3) the corpsman, medic, or PJ may be the first team member shot.

## HOW PEOPLE DIE IN GROUND COMBAT

This portion of the course was adopted from a presentation given by COL Ron Bellamy to the Joint Health Services Support Vision 2010 working group.<sup>12</sup> It is critically important that mission commanders be aware that the individuals with the most severe wounds are not necessarily the ones who should be treated first. An understanding of which deaths are avoidable is enhanced by emphasizing COL Bellamy's important concept of focusing on the causes of preventable death on the battlefield. These are summarized in Figure 3. Air warfare, combat swimmer missions, shipboard warfare, and other types of combat would, of course, be expected to have different injury patterns.

## BASIC COMBAT TRAUMA MANAGEMENT PLAN

The three phases of care proposed in the TCCC paper<sup>2</sup> are shown in Figure 4. "Care Under Fire" is defined as the care rendered by the medic or corpsman at the scene of the injury, while he and the casualty are still under effective hostile fire. The available medical equipment is limited to that carried by the individual Operator or by the corpsman, PJ, or medic in his medical pack. "Tactical Field Care" is the care rendered by the corpsman, PJ, or medic once the unit is no longer under effective hostile fire. This term also applies to situations in which an injury has occurred on a mission, but there has been no hostile fire. The available medical equipment is still limited to that carried into the field by mission personnel. Time prior to evacuation to an MTF is very variable. "Combat Casualty Evacuation Care" or "CASEVAC" care is the care rendered once the casualty (and usually the rest of the mission personnel) have been picked up by an aircraft, vehicle, or boat. Personnel and medical equipment that may have been previously staged in these assets will now be available.

## CARE UNDER FIRE

Once these terms have been reviewed, the protocol outlined for the Care Under Fire phase as shown in Figure 5 is presented and discussed. The care in this phase is the same as outlined in reference two except for the important added recommendation that the casualty continue to return fire if able to do so effectively. This change from the original protocol was proposed by then-CDR Pat Toohey, Commanding

Officer of SEAL Team Four. It is very much in keeping with the philosophy noted in the original paper that *the best medicine on the battlefield is fire superiority*. The fact that control of hemorrhage is the top priority is emphasized by pointing out that exsanguination from extremity wounds is the number one cause of preventable death on the battlefield. Hemorrhage from extremity wounds was the cause of death in more than 2500 casualties in Vietnam who had no other injuries.<sup>13</sup>

The need for immediate access to a tourniquet in such situations makes it clear that *all SOF Operators on combat missions should have a suitable tourniquet readily available at a standard location on their battle gear and be trained in its use*.<sup>2,3</sup> Mission commanders are reminded that since this is an equipment item for every man in the unit, it is the mission commander's responsibility to ensure that a tourniquet is part of the routine pre-mission equipment check. As a final point of emphasis, the story of the death of General Albert Sidney Johnston at Shiloh on 7 April 1862 is presented.<sup>14</sup> General Johnston was one of the senior commanders in General Robert E. Lee's army. His command surgeon, Dr. David Yandell, had directed that tourniquets be issued to the troops prior to the battle. During the battle, General Johnston sustained a fatal hemorrhage from a popliteal artery injury that presumably could have been controlled by a tourniquet. The General forgot that he had one available and bled to death with his tourniquet in his pocket.

Since some of the mission commanders may have had some basic medical training, a few other major points of departure from civilian care are emphasized. Does the cervical spine not need to be immobilized before moving a trauma patient with a head or neck injury? The findings of Arishita et al.,<sup>15</sup> answer this question convincingly. They reviewed the issue of cervical spine immobilization (CSI) in penetrating neck injuries in Vietnam and found that in only 1.4% of patients with penetrating neck injuries would CSI have been of possible benefit. Time to accomplish CSI was found to be 5.5 minutes, even with experienced EMTs. Their conclusion was that potential hazards to both patient and provider in a combat environment outweighed the potential benefit of CSI for penetrating neck injuries. The distinction between penetrating trauma and blunt trauma is reviewed, since parachuting injuries, fast-roping injuries, falls, and other types of trauma resulting in neck pain or unconsciousness should be treated with CSI unless the danger of hostile fire constitutes a greater risk in the judgement of the treating corpsman, PJ, or medic.

## TACTICAL FIELD CARE

The outline of Tactical Field Care as shown in Figure 6 is presented. The Mission Commanders course omits much of the medical literature discussion contained in the longer (6-hour) BUMED-approved course taught to SEAL corpsmen.

The second major change from the protocol presented in reference two deals with the fluid resuscitation of patients with penetrating trauma of the chest or abdomen who are losing consciousness. Several such casualties were discussed at the workshop on urban warfare casualties workshop.<sup>10</sup> There was a clear consensus in the expert panel that should a casualty with uncontrolled hemorrhage have mental status changes or become unconscious (blood pressure of 50 systolic or below), he should be given either an empiric bolus of 1000cc of Hespan or enough fluid to resuscitate him to an end point of improved mentation (systolic blood pressure of 70 or above.)

A Tactical Field Care battlefield triage plan has been proposed for mission commanders and is shown in Figure 7.

## CASEVAC CARE

The term “CASEVAC” is used to describe this phase instead of the commonly used term “MEDEVAC” because the evacuation may require that the aircraft or other evacuating asset enter an area where the danger of hostile fire is imminent. Some aircraft will do this and some won’t. The need for the mission commander to be sure that the evacuating asset will enter a hostile fire zone is illustrated dramatically by Moore and Galloway in their book “We Were Soldiers Once and Young.”<sup>16</sup> During the battle of the Ia Drang Valley, the first large US ground action in Vietnam, the 11th Air Assault Division made contact and had taken numerous casualties. The request for helicopter evacuation was made to the designated MEDEVAC unit, but upon learning that there was a firefight in progress, this unit declined to perform the evacuation. The casualties were not evacuated until the 229th Assault Helicopter Battalion, a combat air cavalry helicopter unit, was contacted, resulting in a significant delay to definitive care.

## INTRODUCTION TO SCENARIO-BASED PLANNING

Despite the large amount of Special Operations time and effort that has gone into developing a combat-appropriate trauma management plan, the bottom line remains that no single plan is optimal for all situations. This realization led to the concept of scenario-based management plans.<sup>2</sup>

Some representative scenarios are presented in Figures 8 to 15. The medical and tactical issues to be addressed in most of these scenarios have been addressed previously.<sup>8-10</sup> Figures 8 and 9 are from the Battle of Mogadishu on 3 October 1993. This engagement resulted in the most US casualties in a single firefight since Vietnam (18 dead, 73 wounded). In addition, there was a delay of 15 hours before the first wounded were evacuated to a Combat Support Hospital. Starting with scenarios that have already occurred helps to raise the level of interest in the discussions that ensue.

Figures 10 to 12 deal with a parachute insertion and subsequent land warfare phase with injuries of several different magnitudes imposed on landing. The medical care of these casualties is relatively straightforward, but they require some difficult tactical decisions by the mission commander which are discussed.

Figures 13 to 15 deal with casualty scenarios that occur during diving operations. This is a very important aspect of the training for SEAL mission commanders because the underwater environment has such a large impact on the management plan and because this area is virtually unaddressed in the civilian medical literature.

As the group discusses the various scenarios, it becomes apparent that the appropriate care for a casualty may vary based on the criticality of the mission, the anticipated time to evacuation, and the environment in which the casualty occurs. Any management plan for a combat casualty discussed in the planning phase should be considered advisory rather than directive in nature, since only infrequently will an actual tactical situation unfold exactly as planned.

These scenarios illustrate that the importance of the role of the mission commander in dealing with casualties is often just as important as that of the corpsman, since the unit’s emergency action must address both the medical and the tactical problems at the same time. It is obviously not possible to plan for every casualty scenario that might be encountered, but review of several casualty scenarios most appropriate for an impending operation is a valuable addition to the planning process.

## TRANSITION

The concept for the Tactical Medicine for Mission Commanders course was first presented to the line leadership at the Naval Special Warfare Center, which is responsible for teaching the SEAL Junior Officer Training Course to all officer graduates from Basic Underwater Demolition/SEAL training (BUD/S). The concept was approved, and with the help of the medical staff at the NSWC, the course has been taught to all officers graduating from BUD/S since April of 1998. It is being taught to SEAL operational units at present. Two recent innovations have been recommended by SEAL line officers and are in the process of being implemented. The Director of Training at the Naval Special Warfare Center stressed the need to provide course attendees with material at the course that they could use to help implement this training at the unit level. A Tactical Medicine for Mission Commanders CD has been approved and is in production at the time that this article is being written.

It is now anticipated that training in Tactical Medicine for Mission Commanders will be added to the SEAL Tactical Training Course taught to all new SEALs after graduation from Basic Underwater Demolition/SEAL training. Although this course has been developed within the SEAL community, it has great applicability to the other components of SOF (Rangers, Special Forces, and Air Force Combat Control Teams) as well as to the Marine Corps and to other conventional forces that conduct small unit operations. Efforts are ongoing to coordinate with other potential users of this course to demonstrate the course to them and make course materials available if desired.

## THE SEAL TACTICAL SIMULATOR

A parallel concept could be used to help develop responses to tactical problems of a non-medical nature in SEAL operations. The aviation community makes extensive use of flight simulators to sharpen pilots’ responses to both aircraft emergencies and tactical problems. The SEAL community likewise makes extensive use of the SEAL Delivery Vehicle (SDV) simulator to train new SDV pilots and navigators. There is, however, no simulation tool currently available for non-SDV SEAL operations. The same scenarios used for casualty discussion can be modified to present tactical problems. Figure 16 describes a ship attack in which there is an underwater explosion, but the divers have apparently suffered only middle ear barotrauma and can both continue with the mission. A number of tactical options may be considered by the senior member of the swim pair: 1) ignore the possibility of additional charges and continue with the planned operation; 2) abort the operation and swim away; 3) swim away from the ship and observe for possible periodicity of the charges; 4) surface and shoot the individual dropping the charges; 5) descend to the bottom of the harbor in an attempt to avoid the effects of subsequent blasts; or 6) swim 180 degrees around to the other side of the target ship to try to gain shielding from the effects of subsequent blasts. Several of these options may be reasonable; others would be dramatically ill-advised.

Use of scenario-based casualty planning has led to a number of medical research projects designed to address unanswered questions or shortcomings in medical technology. The same thing might occur using tactical scenarios. For example, if the prisoner in Figure 17 is released, he might compromise the mission and endanger the lives of mission personnel. If he is restrained at the location of the contact, there would be no way to release him after the mission is complete without

returning to that location before extraction. One reasonable option might be to develop a pair of time-release handcuffs that will allow the prisoner to be restrained and left at the contact site but released after a preset time.

Use of real-world events would add a valuable measure of realism to the training obtained with the SEAL Tactical Simulator (STS). Figure 18 describes a real-world Special Operation – the rescue of the Air France Flight 139 hostages at the Entebbe airport by Israeli commandos in 1976.<sup>17</sup> All of the details of the scenario are historically correct up to the final line, which describes the first door entered as being booby-trapped and asks how the leaders of the second and third elements should change their tactics as a result. If they choose to enter through their doors as planned, there is a very reasonable expectation that these doors will be booby-trapped as well, more commandos will be killed, and all the hostages executed. Looking for roof entrances or other similar maneuvers would take too much time. The best choice might be for the second and third elements to enter the terminal through the first door since that booby trap has already been tripped. Another good choice might be a window entry if there are suitable windows present. The chilling account of the rescue attempt at the town of Ma'alot on 15 May 1974 emphasizes the importance of speed in hostage rescue.<sup>17</sup> Terrorists had taken a school and were holding the children and teachers hostage. When the assault commenced, the terrorists began killing the hostages; 22 children and teachers were killed and another 56 wounded. The point that will be made to the individual studying the scenario is that in this type of operation, the difference between a dramatic success and a disaster may be measured in just a few seconds.

As a research effort, the STS would progress from collection of suitable scenarios to development of tactical responses to determining the relative merits of each option. Advanced development might consist of adding combat video footage and a suitable computer interface. As with medical casualty scenarios, plans developed in this type of an exercise would often need to be modified in the field as a tactical situation unfolds somewhat differently from the ones contained in the STS. Use of the SEAL tactical simulator to train for tactical problems that emerge during a Special Operations mission, however, is consistent with the guidance provided by General Peter Schoomaker, commander-in-chief of the US Special Operations Command, in his vision statement: “We must also have the intellectual agility to conceptualize creative, useful solutions to ambiguous problems. . . . This means training and educating people *HOW to think, not just WHAT to think.*” This project has been proposed as a candidate for funding through the USSOCOM Small Business Initiative Research Program and is currently competing for funding in FY01.

#### ACKNOWLEDGMENTS

Special thanks to the many Special Operations physicians, corpsmen, PJs, and medics who have assisted with this project. Thanks also to the SEAL line officers who have contributed their time and support to the Tactical Medicine for Mission Commanders project.

#### Figure 1 Tactical Combat Casualty Care Objectives

1. Treat the casualty
2. Prevent additional casualties
3. Complete the mission

#### Figure 2 How People Die in Ground Combat

- KIA: 31% Penetrating Head Trauma
- KIA: 25% Surgically Uncorrectable Torso Trauma
- KIA: 10% Potentially Correctable Surgical Trauma
- KIA: 9% Exsanguination from Extremity Wounds
- KIA: 7% Mutilating Blast Trauma
- KIA: 5% Tension Pneumothorax
- KIA: 1% Airway Problems
- DOW: 12% (Mostly infections and complications of shock)

#### Figure 3 Preventable Causes of Death on the Battlefield

1. Bleeding to death from extremity wounds (60%)
2. Tension pneumothorax (33%)
3. Airway obstruction (maxillofacial trauma) (6%)

#### Figure 4 Phases of Care

- Care Under Fire
- Tactical Field Care
- Combat Casualty Evacuation (CASEVAC) Care

#### Figure 5 Care Under Fire

1. Return fire as directed or appropriate
2. The casualty(s) should also continue to return fire if able.
3. Try to keep yourself from getting shot
4. Try to keep the casualty from sustaining additional wounds
5. Stop any life-threatening hemorrhage with a tourniquet
6. Take the casualty with you when you leave

#### Figure 6 Tactical Field Care

1. CPR should not be attempted on the battlefield for victims of blast or penetrating trauma who have no pulse, respirations, or other signs of life.
2. The nasopharyngeal (tube in the nose) airway is the airway of first choice for unconscious patients until the CASEVAC phase. Patients who are shot in the face may require a surgical airway.
3. Progressive, severe respiratory distress in the setting of unilateral blunt or penetrating chest trauma on the battlefield should result in a presumed diagnosis of tension pneumothorax and that side of the chest should be decompressed with a needle.
4. Casualties who have controlled bleeding without shock do not need emergent IV fluid resuscitation.
5. Casualties who have had bleeding that is now controlled but who are in shock should receive 1000cc of Hespan.
6. Casualties who have uncontrolled hemorrhage from penetrating wounds of the chest or abdomen should receive no IV fluid in the field.
7. An exception to rule number 6 above is that casualties who have uncontrolled hemorrhage from penetrating wounds of the chest or abdomen and develop decreased mental status should either receive 1000cc of Hespan or be fluid resuscitated to an end point of improved mentation.
8. Saline locks (plastic IV catheters without fluids attached) may be used instead of IVs if fluid resuscitation is not required (for IV antibiotics and morphine, if required).
9. Morphine is to be used IV (5 mg) instead of IM.
10. IV antibiotics should be used as soon as possible for patients with penetrating abdominal trauma, grossly contaminated wounds, massive soft tissue trauma, open fractures, or any patient in whom a long delay until definitive treatment is expected.

11. Casualties should not be completely undressed for a secondary survey in the field. Removal of clothing should be limited to that necessary to expose known or suspected wounds.

- Open facial fractures with blood and teeth in the oropharynx
- Bilateral ankle fractures
- Open angulated fracture of the left femur

#### **Figure 7 Battlefield Triage**

1. Control life-threatening bleeding
2. Disarm casualties as required
3. Establish airways (unconscious or respiratory distress)
4. Treat tension pneumothorax
5. Treat shock
6. Pain control
7. IV antibiotics

#### **Figure 8 Urban Warfare Scenario 1 – Fast Rope Casualty**

- 16 man Ranger team – security element for building assault
- 70 foot fast rope insertion for building assault
  - o One man misses rope and falls
  - o Unconscious
  - o Bleeding from mouth and ears
  - o Taking fire from all directions from hostile crowds
  - o Anticipated extraction by ground convoy in 30 minutes

#### **Figure 9 Urban Warfare Scenario 7 – Helo Hit by RPG Round**

- Hostile and well-armed (AK-47s, RPG) urban environment
- Building assault to capture members of a hostile clan
- In Blackhawk helicopter trying to cover helo crash site
- Flying at 300 foot altitude
- Left door gunner with 6 barrel M-134 minigun (4000 rpm)
- Hit in hand by ground fire
- Another crew member takes over mini-gun
- RPG round impacts under right door gunner
- Windshields all blown out
- Smoke filling aircraft
- Right minigun not functioning
- Left minigun without a gunner and firing uncontrolled
- Pilot
  - o Transiently unconscious –now becoming alert
- Co-pilot
  - o Unconscious – lying forward on helo’s controls
- Crew Member
  - o Leg blown off
  - o Lying in puddle of his own blood
  - o Femoral bleeding

#### **Figure 10 Tib/Fib Fracture on Parachute Insertion**

- Twelve man SF team
- Interdiction operation for weapons convoy
- Night parachute jump from a C-130
- 4-mile patrol over rocky terrain to the objective
- Planned helicopter extract near target
- One jumper sustains an open fracture of his left tibia and fibula on landing

#### **Figure 11 Multiple Trauma from Parachute Collapse**

- 16 man SEAL patrol
- Interdiction operation on a weapons convoy
- Night static line jump from C-130
- 4 mile patrol over rocky terrain to objective
- Planned helicopter extraction near target
- One jumper has canopy collapse 40 feet above the drop zone

#### **Figure 12 Fatality from Parachute Malfunction**

- 16 man SEAL patrol
- Interdiction operation on a weapons convoy
- Night static line jump from C-130
- 4 mile patrol over rocky terrain to objective
- Planned helicopter extraction near target
- One jumper has streamer
- Obviously dead on DZ

#### **Figure 13 Underwater Explosion on Ship Attack**

- Ship attack
- Launch from PC 12 miles out
- One hour transit in two Zodiacs
- Seven swim pairs
- Zodiacs get in to a mile from the harbor
- Turtleback half mile, then purge and go on bag
- Charge dropped in water at target ship
- Swim buddy unconscious

#### **Figure 14 CNS Oxygen Toxicity during Ship Attack**

- Ship attack
- Launch from PC 12 miles out
- One hour transit in two Zodiacs
- Seven swim pairs
- Zodiacs get in to a mile from the harbor
- 78 degree water – wet suits
- Turtleback half-mile, then go on bag
- Very clear, still night – transit depth 25 feet
- Diver notes that buddy is disoriented and confused with arm twitching

#### **Figure 15 Gunshot Wound prior to SEAL Delivery Vehicle Extraction**

- 2 SEAL Delivery Vehicle operation
- Insertion from Dry Deck Shelter with a two hour transit to beach
- Target is a heavily defended harbor in a bay
- 43 degree water – divers wearing dry suits
- Air temperature 35 degrees
- Boats bottomed for across-the-beach radio beacon placement
- One man shot in chest at the objective
- Hostile forces in pursuit

#### **Figure 16 Underwater Explosion on Ship Attack (2)**

- Ship attack
- Launch from PC 12 miles out
- One hour transit in two Zodiacs
- Seven swim pairs
- Zodiacs get in to a mile from the harbor
- Turtleback half mile, then purge and go on bag
- Swim pair approaching target ship
- Underwater explosion
- Both swimmers experience ear pain without other symptoms

#### **Figure 17 Chance Contact on Parachute Insertion**

- Twelve man SF team
- Interdiction operation for weapons convoy
- Night parachute jump from a C-130

- 4-mile patrol over rocky terrain to the objective
- Planned helicopter extract near target
- Chance contact with three hostiles at the drop zone
- Contact results in two KIA and one prisoner
- Prisoner is a 15 year-old boy who was not armed

#### Figure 18 Entebbe Raid – Tactical Problem Scenario

- 27 June 1976
- Air France Flight 139 hijacked by 4 terrorists
- Flown to Entebbe (Uganda)
- 106 hostages held in Old Terminal at airport
- 7 terrorists guarding hostages
- 100 Ugandan troops perimeter security
- Sayeret Matkal rescue 4 July 1986
- Exit from C-130 in Mercedes and 2 Land Rovers
- Assault team dressed as Ugandan soldiers
- Shot Ugandan sentry when challenged
- Planned assaulted terminal through 3 doors
- First door reached booby trapped – multiple casualties
- What should second and third element leaders do?



CAPT Frank Butler, MC, USN

CAPT Butler graduated from Basic Underwater Demolition/SEAL training in 1972 as a member of Class 64 and subsequently served as a platoon commander in both Underwater Demolition Team Twelve and SEAL Team One. After attending medical school at the Medical College of Georgia, he did his internship in Family Practice at Naval Hospital Jacksonville. CAPT Butler spent 5 years as a Diving Medical Research officer at the Navy Experimental Diving Unit in Panama City, where he helped to develop many of the diving techniques and procedures used by the Navy SEAL teams today. He then did a residency in Ophthalmology at the National Naval Medical Center in Bethesda, where he was the Chief Resident in 1989. CAPT Butler was then assigned to the Naval Hospital Pensacola where he was Chief of Ophthalmology from 1990 to 1994. He assumed his current duties as Director of Biomedical Research for the Naval Special Warfare Command in 1990 as well.

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