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|  |  | **Tactical Combat Casualty Care for Medical Personnel**  **03 June 2016**  **TCCC Scenarios** | We’ve talked about the basic TCCC trauma management plan.  Now let’s apply the guidelines to some selected scenarios. |
|  |  | **Tactical Casualty Scenarios**  •If the basic TCCC combat trauma management plan doesn’t work for the specific tactical situation, then for combat medics, corpsmen, and PJs – **it doesn’t work.**  •*There are no rigid guidelines for combat tactics* – THINK ON YOUR FEET.  •Scenario-based planning is critical for success in TCCC  •Examples to follow: | Read text |
|  |  | **SEAL Casualty - Afghanistan**  •August 2002  •Somewhere in Afghanistan  •SEAL element on direct action mission  •Story of the casualty as described by the first responder   – NOT a corpsman | This is a real story that dramatically illustrates the difficulty of trauma care on the battlefield.  This represents the state of prehospital trauma care early in the war in Afghanistan. |
|  |  | **SEAL Casualty - Afghanistan**  “There were four people in my team, two had been shot. Myself and the other uninjured teammate low crawled to the downed men. The man I came to was lying on his back, conscious, with his left leg pinned awkwardly beneath him. He was alert and oriented to person, place, time, and event. At that point I radioed C2 (mission control) to notify them of the downed man.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “Upon closer inspection, his knee was as big as a basketball and his femur had broken. The patient was in extreme pain and did not allow me to do a sweep of his injured leg. He would literally shove me or grab me whenever I touched his leg or wounds. I needed to find the entrance and exit wound and stop any possible arterial bleeding.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “But there was zero illumination and he was lying in a wet irrigation ditch. So I couldn’t see blood and I couldn’t feel for blood.” | Picture yourself in this situation. You’ve got a casualty who is badly hurt and you can’t see a thing. |
|  |  | **SEAL Casualty - Afghanistan**  “We were also in danger because our position was in an open field (where the firefight had been) and I had to provide security for him and myself. So, I couldn’t afford to turn on any kind of light to examine his wounds. I told him to point to where he felt the pain. He had to sort through his pains.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “He had extreme pain in his knee and where his femur had been shattered as well as a hematoma at the site of the entrance wound (interior and upper left thigh). Finally, he pointed to his exit wound (anterior and upper left thigh). Again, I had no way of telling how much blood he had lost. But I did know that he was nonambulatory.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “So I called C2 again. I gave him the disposition of the patient as well as a request for casevac, a Corpsman, and additional personnel to secure my position and assist in moving the patient to the helicopter. I thought about moving the two of us to some concealment 25 meters away, but we were both really low in a shallow irrigation ditch. I felt safer there than trying to drag or carry a screaming man to concealment.” | C2 = Command and Control |
|  |  | **SEAL Casualty - Afghanistan**  “Between providing security and spending a lot of time on the radio I didn’t get to treat the patient as much as I wanted to. I had given him a Kerlix bandage to hold against his exit wound. When he frantically told me that he was feeling a lot of blood, I went back to trying to treat him. I couldn’t elevate his leg. To move it would mean he’d scream in pain, which wasn’t tactical.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “There was just no way he would allow me to apply a pressure dressing to the exit wound even if I could locate it and pack it with Kerlix. So, I decided to put a tourniquet on him.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “His wounds were just low enough on his leg to get the tourniquet an inch or so above the site. I had a cravat and a wooden dowel with 550 cord (parachute cord) attached to it to use as a tourniquet. I told him to expect a lot of pain as I would be tightening the cravat down. “ | Note the makeshift tourniquet. When we first started the war in Afghanistan, most U.S. forces were not deploying with issued tourniquets. |
|  |  | **SEAL Casualty - Afghanistan**  “At this point he feared for his life so he agreed. Once I got it tightened I had trouble securing it. The 550 cord was hard to get underneath the tightened cravat.” | You need to be able to get a tourniquet on a wounded teammate with zero illumination. |
|  |  | **SEAL Casualty - Afghanistan**  “After over 5 minutes, the Corpsman arrived along with a CASEVAC bird and a security force. Moving the patient was very hard. Four of us struggled to move him and his gear 25 meters to the bird. The patient was over 200 pounds alone and we were moving over very uneven terrain.” | Read text |
|  |  | **SEAL Casualty - Afghanistan**  “We wanted to do a three-man carry with two men under his arms and one under his legs. But again, his leg was flopping around at the thigh and couldn’t be used to lift him.” | Experienced combat medical personnel say that moving the casualty is typically the biggest challenge in TCCC. |
|  |  | **SEAL Casualty - Afghanistan**  “The bird, (a Task Force 160 MH-60) had a 50-cal sniper rifle strapped down, which made it hard for us to get him in. It took us minutes to get him 25 meters into the bird. The Corpsman went with my patient as well as the other downed man in my team and I went back to the op.” | Was the tourniquet a good move?  Absolutely – probably saved the casualty’s life.  Would a pressure dressing have been a good idea if tolerated by the patient?  NO – won’t necessarily stop a big bleeder. |
|  |  | **Scenario Discussions – Suggested Format**  • Break up into groups of six  • Present the background for the scenario on the screen.  • The Instructor will lead the group’s discussion through to the end of the scenario.  • Instructor should have a printout of the speaker notes to lead the session.  • 10 minutes per scenario  • Stop after 10 minutes and present next scenario on screen | Here’s is a suggested format for the scenario discussions  Get the class talking and thinking on these! |
|  |  | **Urban Warfare Scenario** | Now let’s look at a scenario in urban warfare operations |
|  |  | **Real-World Scenario**   * High-threat urban environment * 16-man Ranger team * 70-foot fast rope insertion for building assault * One man misses rope and falls * Unconscious on the ground * Bleeding from mouth and ears * Unit taking sporadic fire from all directions from hostile crowds | Anybody recognize this casualty?  First Ranger casualty in Mogadishu  Has everyone here seen “Blackhawk Down?” |
|  |  | **The Battle of Mogadishu**  • Somalia – Oct 1993  • US casualties 18 dead, 73 wounded  • Estimated Somali casualties 350 dead, 500 wounded  • Battle 15 hours in length | At the time, it was the biggest battle involving U.S. forces since Vietnam |
|  |  | **Mogadishu Complicating Factors**  • Helo CASEVAC not possible because of crowds, narrow streets and RPGs  •Vehicle CASEVAC not possible initially because of ambushes, roadblocks, and RPGs  •Gunfire support problems    –Somali crowds included non-combatants    –Somalis able to take cover in buildings    –RPG threat to helo fire-support gunships | We talked about factors that make evacuation by helicopter hard.  Be sure that you add narrow streets and RPG fire to that list.  There were LOTS of U.S. helos over Mogadishu, but we were not able to evac the casualties with them for these reasons. |
|  |  | **Care Under Fire**  • Return fire?  • Move patient to cover right away or wait for long board?  • How should he be moved?  • Intubation?  • IV fluids?  • Urgency for evacuation? | Should the medic return fire or care for casualty?  Reasonable to have medic or corpsman to attend casualty in this scenario  Why?  Total suppression of hostile fire not possible  Large crowd – can’t kill everybody  Lots of other guns  Critically injured patient    Does that break our rule about shooting first and treating later?  Yes - but that’s OK – it’s the right answer for this particular situation.  What’s next?  Move patient to cover right away or wait for long board immobilization?  Is he at risk for a spinal cord injury if moved? Yes  Also very much at risk of getting shot  Probably DO want to get him to cover immediately – cover available at side of road  How do you want to move him?  Carefully!!  Cradle head with forearms to stabilize neck and drag  Does he need to be intubated?  No  Chin-lift/jaw-thrust and NP airway  Does he need IV fluids?  Only needs fluid resuscitation if internal bleeding and hypovolemic shock  Check radial pulse – give fluids if pulse weak  Urgency for evacuation?  Little that can be done at FST (forward surgical team) for the head injury  Possible ruptured spleen or other internal bleeding may be bigger issue acutely  Tactical commander in Mogadishu split force rather than wait 30 minutes  Does he need antibiotics or analgesia?  No – no open wound noted  Already unconscious  Outcome  Ranger survived his injuries.  End of scenario |
|  |  | **Mogadishu Scenario 2 Helo Hit by RPG Round** | Second real-world scenario from Mogadishu  Very different tactical situation |
|  |  | **Mogadishu Scenario 2 Helo Hit by RPG Round**  • Hostile and well-armed (AK-47s, RPG) crowds in an urban environment  • Building assault to capture members of a hostile clan  • Blackhawk helicopter trying to cover helo crash site  • Flying at 300 foot altitude | Read text |
|  |  | **Mogadishu Scenario 2 Helo Hit by RPG Round**  • 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 | Read text |
|  |  | **Mogadishu Scenario 2 Helo Hit by RPG Round**  • Windshields all blown out  • Smoke filling aircraft  • Right minigun not functioning  • Left minigun without a gunner and firing uncontrolled  • Pilot:    –Transiently unconscious - now becoming alert | Read text |
|  |  | **Mogadishu Scenario 2 Helo Hit by RPG Round**  • Co-pilot    – Unconscious - lying forward on helo’s controls  • Crew Member     – Leg blown off     – Lying in puddle of his own blood     – Femoral bleeding | Read text |
|  |  | **Mogadishu Scenario 2 Helo Hit by RPG Round**  •YOU are the person providing care in the helo.  •What do you do first? | What are your options for first actions?  Casualty with femoral bleeding  Unconscious co-pilot  Semi-conscious pilot  Stop the uncontrolled min-gun from firing    Who gets treated first?  Take care of the pilot first  Want to get him back flying the aircraft  Most important thing about medical care in an aircraft is to try to keep the aircraft in the air  Stimulate pilot by shaking  Smelling salts if available  What’s next?  Casualty with the femoral bleeder is next  Needs a tourniquet  He should be able to provide self-care if conscious  The individual in Mogadishu treated himself  Used an improvised tourniquet  Survived  What can you do for the unconscious co-pilot?  Get him off the controls  Supine position and establish airway with NPA  Check for external bleeding – none seen  Next action?  Check casualty with injured hand  Stop any severe bleeding  What else?  Radio for help  Prepare for impact if crash landing anticipated  After impact – security for weapons and ordnance  End of scenario |
|  |  | **Military Operations in Urban Terrain** | Now let’s look at a few scenarios that are representative of the kind that we are seeing in Afghanistan at present |
|  |  | **MOUT Scenario 1**  • A U.S. ground element is moving on a high-value target in an urban environment  • The first two men in an 8-man patrol are shot by an individual with an automatic weapon while moving down a hallway in a building  • The attacker follows this burst with a grenade | Read text |
|  |  | **MOUT Scenario 1**  •One casualty is shot in the abdomen but conscious.  •The second casualty is shot in the shoulder with severe external bleeding.  •The third person is unconscious from the grenade blast.  •The attacker withdraws around a corner. | Read text |

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|  |  | **MOUT Scenario 1**  •YOU are the person providing medical care.  •What do you do? | What are the tactical considerations here?  How many other hostiles in are in house?  All pursue hostile – leave casualties for later?  All withdraw to care for casualties?  Set security and treat casualties there?  Split force – have some pursue and others treat?  Split force most often chosen as the best option from previous groups.  Medical provider left with casualties  Proceed with care as per Tactical Field Care Guidelines  Who gets treated first?  Casualty with Shoulder Injury  Most important to treat immediately – could bleed to death quickly  Stop bleeding with Combat Gauze dressing  Apply with direct pressure for 3 minutes  OR  Can the wound be packed with XStat?  Deep, narrow tract?  Airway Management?  OK - conscious  IV?  No – not in shock if take care of bleeding without delay  Combat pill pack?  Yes  Fentanyl?  Careful - may go into shock later from shoulder wound  **Ketamine may be a better choice here.**  What next?  Unconscious Casualty with Blast Injury  Airway Management?  Chin-lift/jaw thrust  NP airway  Check for other injuries  Find major bleeding in back of thigh from shrapnel wound  Apply tourniquet  IV fluids?  Check radial pulse – strong – not unconscious from hemorrhage  No need for fluids – may make blast lung worse  Unconscious from blast  Pulse ox monitoring  Must prevent hypoxia in TBI casualties  Combat pill pack?  No – needs IV antibiotics – unconscious – medical personnel administer when feasible  Needs oxygen in CASEVAC phase  Next?  Abdominal Wound Casualty  Airway Management?  OK - conscious  IV fluids?  No, not at present – not in shock  Saline lock a good idea when time permits  May go into shock later  Administer 1 gm TXA  Combat pill pack?  Yes – casualty can self-administer  Abdominal wound should have IV antibiotics – but not the first priority at this point  End of scenario |
|  |  | **MOUT Scenario 2** |  |
|  |  | **MOUT Scenario 2**  **SCENARIO HISTORY:** While on patrol in the city of Tal Afar your platoon receives effective direct small arms fire. A 22-year-old unit member falls to the ground and begins screaming, holding his right leg. The platoon, including you, reacts to the ongoing contact by returning fire. | Read text |
|  |  | **MOUT Scenario 2**  • You can see that the casualty is bleeding heavily from his leg wound.  • YOU are the person providing medical care for the unit.  • What do you do? | What phase are you in?  Care Under Fire  What should you do for the casualty?  Yell at him to get under cover if he can.  Tell him to put a tourniquet on his wounded leg.  May have to help him.  Consider movement plan/suppression fire, etc. if you do.    Should he take his Combat Pill Pack meds now?  No. Still in Care Under Fire phase  Priorities are to get to cover and return fire if possible  Scenario continues. Casualty has moved behind a vehicle. All hostiles are eliminated or have retreated. The platoon establishes a secure perimeter. Platoon leader tells you that you have only one casualty, and that you have a few minutes to work on him before the platoon will have to move.  What phase are you in now?  Tactical Field Care  Your casualty is alert, still in severe pain, and clutching his right leg. There is blood all over his leg and hands, and a tourniquet is in place on his right thigh.  What is your first concern?  Control of life-threatening bleeding.  What next?  Expose the wound  Apply another tourniquet 2-3 inches above the bleeding site and tighten  Ensure that bleeding has stopped and distal pulse has been eliminated  Loosen the original tourniquet and slide it down to just proximal to the second tourniquet  Reassess bleeding and distal pulse elimination  Tighten second tourniquet if needed to control bleeding or eliminate distal pulse  You search quickly for any other life-threatening bleeding, and find none.  Should you disarm the casualty?  No. He is alert and wants to stay in the fight.  Next concern?  Airway is patent.  Casualty is conscious and talking – airway is OK.  Next?  Breathing.  Breathing is rapid from pain and the situation, but not labored.  What next?  Check for shock.  Mental status is normal. Radial pulse is strong.  Next?  Assess for other wounds.  You discover a large bruise on his chest and RUQ overlying the liver. You check his body armor and find corresponding damage compatible with a bullet strike.  Should you start a saline lock?  Only if you think he is in significant danger of going into shock later.  Does the casualty need IV fluids at this point?  No – not in shock.  Conserve limited IV fluids until they are really needed.  Next?  Prevent hypothermia.  Ready Heat Blanket  Heat Reflective Shell  Platoon leader tells you the unit will move in 10 minutes to a CASEVAC location. No enemy contact is expected. CASEVAC should take about 45-60 minutes.  Should you try to remove the tourniquet and replace with Combat Gauze?  No – less than two hours tourniquet time anticipated. Leave it on.  Casualty has taken his own Combat Pill Pack. He is in significant pain. Should you give him further analgesia?  Mobic and Tylenol were taken 15 minutes ago.  **Casualty is not in shock – a fentanyl lozenge is an acceptable choice at this point as long as you are sure the bleeding is controlled and there is little chance the casualty will go into shock later. Otherwise, intramuscular or intranasal ketamine is probably a better option.**  May withhold further analgesia if there is a chance of more hostile contact and casualty wants to stay in the fight.  What else?  Reassure  Document care  You have now moved to the CASEVAC site. The platoon establishes security. You check the patient and notice that he is confused and breathing rapidly. You check his thigh wound and find that his tourniquet has become loose and the dressing is soaked with blood.  What next?  Re-tighten first tourniquet. Tighten second CAT if needed.  Bleeding is now controlled.  Casualty becomes unconscious from shock. What next?  Establish IV access if not done before.  Administer 1 gm TXA in 100cc NS slow IV push over 10 minutes (SOF units only)(<3 hr. after injury)  Infuse 500cc bolus of Hextend because this is what you are carrying.  What next?  Nasopharyngeal airway - casualty is unconscious.  Recovery position  Transport ASAP  End of scenario |
|  |  | **Questions?** |  |
|  |  | **MOUT Scenario 3** |  |
|  |  | **MOUT Scenario 3**  **SCENARIO HISTORY:** While on patrol in the city of Mosul, an infantry platoon comes under small arms fire. The point man is hit and falls to the ground. The platoon reacts to the contact, rapidly eliminating the ambushing hostiles. There are no other casualties. The platoon leader tells you take care of the casualty while the others establish a secure perimeter. | Read text |
|  |  | **MOUT Scenario 3**  • You move to the casualty, and quickly assess for life-threatening conditions:  – GSW  • Entrance at right upper back  • Exit in right armpit    – Heavy, pulsatile bleeding from the exit wound  • Breathing OK, though a little fast    – No other wounds  • YOU are the person providing medical care.  • What do you do? | It has been about 4 minutes since the casualty was wounded. What is your immediate concern?  Life threatening hemorrhage from the wound in the armpit (axilla)  What phase of care are you in?  TFC  As the first responder caring for this casualty, what do you do next?  Expose the wound.  Pack the wound with XStat.  Hold direct pressure for a minimum of 3 minutes.  What do you do while holding pressure?  Talk to the casualty  Checks both airway and mental status  External bleeding appears controlled but casualty is drowsy.  What next?  Apply a pressure dressing over the Combat Gauze  Check for other sources of bleeding  None found  Check left radial pulse.  It is not palpable.  What next?  Check breathing  Slightly fast but not obviously labored  Should you treat for a tension pneumothorax here?  Yes – have a chest wound, rapid breathing, and shock  Needle decompression of right chest done  **Either 2nd intercostal space at the midclavicular line or the 4th or 5th intercostal space at the anterior axillary line**  No hiss of escaping air.  No improvement  What next?  Start an IV.  In shock:  TXA 1gm slow IV push over 10 minutes  One unit of dried plasma started. (Because this is the only blood component you have been trained to infuse and are authorized to carry.)  Ten minutes pass. Plasma is going in.  External bleeding is controlled by the Combat Gauze.  Casualty is now unconscious and does not respond to deep pain.  There is no reading for O2 sat displayed on the pulse ox  Carotid pulse is not palpable.  His breathing has stopped.  Arrival of MEDEVAC helicopter is anticipated to take at least an hour.  What next?  Consider bilateral needle decompression of possible tension pneumo  Done  No improvement  Airway is rechecked and opened  Second person confirms no pulse or breathing  What next?  CPR?  No  Why not?  It won’t help. Individuals in cardiac arrest have little chance of surviving more than 10 minutes without advanced medical care, even in the absence of trauma. Inform platoon leader that the casualty has died. Cause of death likely to have been internal hemorrhage from the GSW. Decision now is how and when to transport your teammate’s body off the battlefield.  Document the injuries and the care rendered.  End of scenario |
|  |  | **Questions?** |  |
|  |  | **MOUT Scenario 4** |  |
|  |  | **MOUT Scenario 4**  **SCENARIO HISTORY**: You are riding with a squad in the back of a cargo Humvee. When you stop at an intersection, a lone attacker fires an RPG at your vehicle. It is poorly aimed, and strikes the ground beside the Humvee. The vehicle sustains moderate damage and is not able to move. Everyone scrambles out of the vehicle. The last person out is complaining of chest pain and shortness of breath. You and the others are uninjured. | Read text |
|  |  | **MOUT Scenario 4**  • Security is set  • No further hostile fire  • YOU are the person providing medical care.  • What do you do? | What phase are you in?  Tactical Field Care  You examine the casualty and find:  She is alert, but in great pain  Shrapnel wound in her right lateral chest - no exit wound  Entrance wound is a sucking chest wound  Her right thumb is missing and the wound is oozing a little blood.  No major external bleeding  What next?  Cover the chest wound with a vented chest seal.  Apply the dressing at end-expiration.  Have her breathe all the way out and put it on before she breathes in again.  This makes the casualty a little more comfortable.  What next?  Thumb wound.  What do you do for the thumb wound?  Bleeding only minimally – just dress it.  You are worried about internal bleeding from the chest wound. What are you going to do about it?  Monitor for changes in radial pulse strength and mental status  Casualty is alert and now breathing OK  Radial pulse is strong.  O2 sat is 95% (this is slightly low, but still OK)  Should you start a saline lock?  Good idea – at risk for going into shock  Would you give IV fluids now?  No. IV fluids are not needed right now. Not in shock.  What next?  Look for other wounds.  You find none.  What next?  Hypothermia prevention.    Casualty says that her pain is very severe. What else do you want to do for the casualty? Can you give her a fentanyl lozenge?  **She’s alert with good O2 sat and breathing well. She’s not in shock at this point, BUT – she has a chest injury and probably has internal bleeding. IN or IM ketamine is probably a better choice than fentanyl since internal bleeding may cause shock later. Unlike fentanyl and morphine, ketamine may help improve cardiac output, and is not a respiratory depressant if the speed of administration is controlled. You could go with the fentanyl lozenge, but with great caution.** Know where your Narcan is if you give fentanyl.  Monitor oxygen saturation and breathing carefully  What’s next?  Antibiotics.  Have her take her Combat Pill Pack with moxifloxacin  Casualty is stable. What steps do you take now?  Communicate status to squad leader.  Begin TACEVAC preparations.  Document care on TCCC Casualty Card  You are 8 miles from a CSH. Helicopter will not be available for an hour. By ground vehicle, the trip will take 35 minutes. A mounted patrol is dispatched to take your casualty to the CSH. It has now been about 40 minutes since the RPG attack. You are enroute to the CSH.  The casualty tells you she’s having increasing trouble breathing. What do you do?  Assess her airway. It is clear.  Breathing is rapid and labored.  The dressing on the chest wound is secure.  Her O2 sat has dropped to 80%  What next?  Diagnosis? Presumed tension pneumothorax.  What are you going to do about it?  Lift one side of the occlusive dressing for a few seconds.  There is a rush of air from the wound confirming the  tension pneumothorax.  The casualty’s respiratory distress is relieved.  O2 sat goes up to 94%  Good job!  Consider leaving the chest seal off, since the  vent apparently failed to do it’s job.  Continue to monitor.  End of scenario |
|  |  | **Questions?** |  |
|  |  | **Tactical Combat Casualty Care**  • Casualty scenarios on the battlefield usually entail both medical and tactical problems.  • Emergency actions must address both.  • Medical personnel should be involved in mission planning. | Summary:  Good tactical medicine HAS to be a combination of good tactics and good medicine.  Bring your leadership into the medical plan.  Combat leaders must understand combat medicine. |
|  |  | **Scenario-Based Planning**  • The TCCC guidelines for combat trauma scenarios are advisory rather than directive in nature.  • Rarely does an actual tactical situation exactly reflect the conditions described in planning scenarios.  • Unit medics/corpsmen/PJs will typically need to modify the medical care plan to optimize it for the real scenario. | Read text |
|  |  | **The 3 Objectives of TCCC**  • Treat the casualty  • Prevent additional casualties  • Complete the mission | Once more….. |
|  |  | **The End** |  |