



# DAYTON MMRS RESCUE TASK FORCE (RTF): TECC INTRODUCTION

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# TACTICAL EMERGENCY CASUALTY CARE (TECC)

- Adapted from military Tactical Combat Casualty Care (TCCC)
- Transitions battlefield medical care to civilian environments
  - Includes civilian medical scope of practice
  - Provisions for pediatric, geriatric and other populations
  - Provisions for pre-existing conditions



# Care in High Threat Environment

- Stop exsanguinating hemorrhage
- Apply a basic airway
- Seal penetrating chest wounds
- Decompress tension Pneumothorax
- Evacuate wounded to safer location



# **PREVENTABLE Causes of Death on the Battlefield:**

- 1. Exsanguinating extremity wounds (60%)**
- 2. Tension pneumothorax (33%)**
- 3. Airway obstruction (6%)**



# TECC Phases of Care

- **Direct Threat Care (DTC): Hot Zone**
- **Indirect Threat Care (ITC): Warm Zone**
- **Evacuation (EVAC): Warm-Cold Zone**



# Direct Threat Care

- **Best Medicine is Fire Superiority**
- **IMMEDIATELY TAKE COVER and FOLLOW LEO DIRECTIONS**
- **Not the time to be taking notes, blood sugar or blood pressure and pulse ox**
- **TQ is only intervention to be considered**
- **Do Not forget “remote assessment methodologies”**
  - **Including verbal guidance on treatments!**
- **Direct casualty to administer Self Aid**



# Indirect Threat Care

- May require rapid life saving interventions
- Care rendered once immediate threats have been neutralized, isolated, or geographically separated
- Includes NPA, needle decompression, bleeding control, dressings, preparation for movement, etc
- Begin thinking evacuation options and needed resources
- Implement your medical contingency plans



# Indirect Threat Care

- **ITC May Be Prolonged**
  - **May apply to a hostage or barricade scenario**
  - **May require remote assessment and medical coaching**
  - **Assumes something is preventing evacuation**
  - **Starts to transition to more traditional EMS thinking and care**
  - **Scenario can always become dynamic so keep tactics in mind**





# Evacuation

- **Should have evacuation routes preplanned**
- **Have routes preprogrammed in vehicle GPS**
- **Have emergency numbers and contacts up on phones or with dispatchers**
- **Use of self evacuation/ambulance/target of opportunity**
- **Plan is Essential**
- **Build and include redundancy**



# TECC Summary

- **Situational Awareness is PARAMOUNT**
  - **If unexpected need arises, defend yourself by any manner necessary/available**
- **TECC is a different way of thinking about a common set of medical issues**
- **Keep an open mind**



**DAYTON MMRS RESCUE TASK FORCE (RTF)**

# **Exsanguinating Hemorrhage**



# Stop The Bleeding

- In any significant extremity wound (gunshot, stab, amputation) a tourniquet should be your **FIRST LINE** of bleeding control
- Pressure dressings and hemostatic agents may be attempted later



# Advantage: Tourniquet

- Rapid application
- Effectively stops bleeding
- Simple to understand and use



# CAT Tourniquet: Upper and Lower Extremity Applications



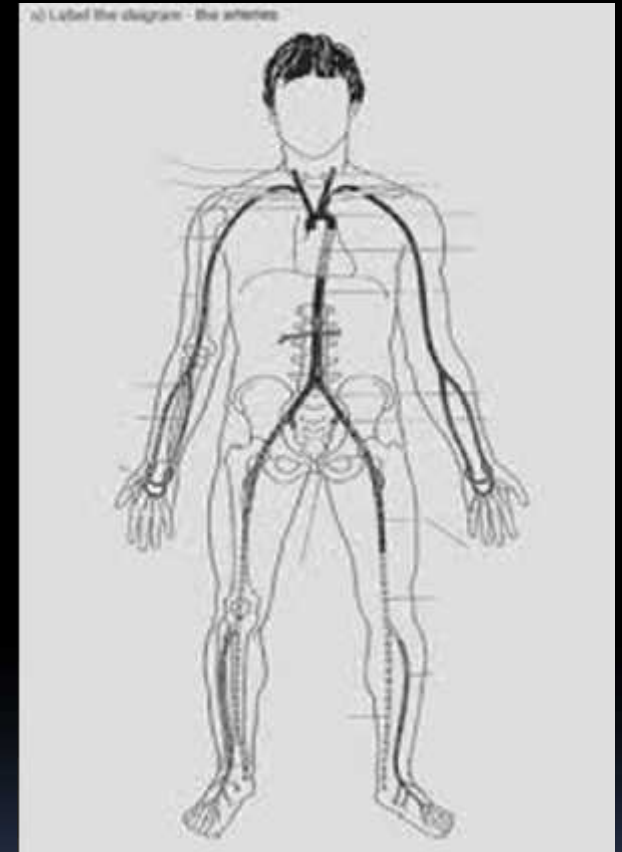
# Tourniquet Application

- Should be as HIGH on the extremity as possible and TIGHT enough to STOP the bleeding.
- \*\*\* Should NOT be able to locate a pulse if properly applied



# What If I Can't Apply a Tourniquet?

- Wounds to the neck, armpit, groin
- Pack with hemostatic gauze or any fabric as tightly as possible
- Provide direct pressure





# DAYTON MMRS RESCUE TASK FORCE (RTF)

## Airway Management



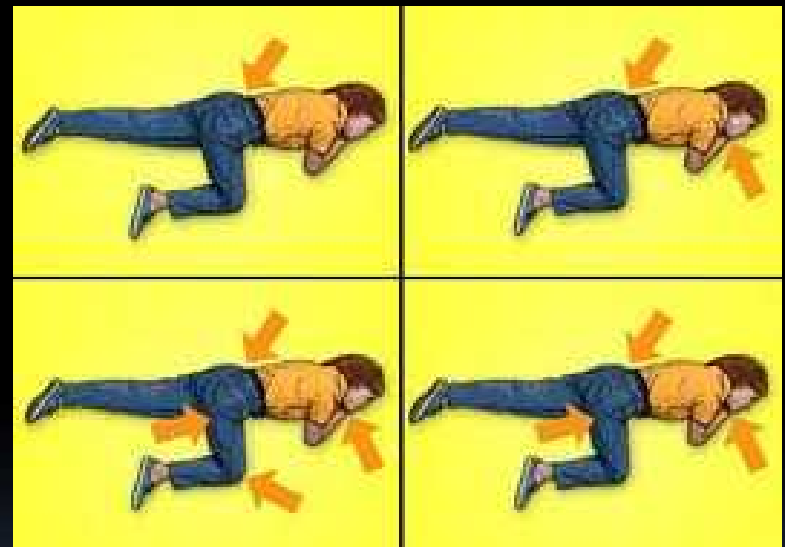
# Airway Management

- If casualty is talking, you have an airway
- If casualty is not talking, or displays any decline in mental status, insert nasal airway into nostril (right>left)



# Airway Management

- Roll onto side (recovery position) or position that allows airway patency
  - Roll onto left side
  - Right hand under face
  - Right hip & knee bent 90°



# DAYTON MMRS RESCUE TASK FORCE (RTF)

## Respiratory Management



# Chest Wounds

- Penetrating trauma to chest may create “sucking chest wound” and subsequent tension pneumothorax
- Any penetrating wound to chest (front or rear), especially if bubbling, should be sealed
- Untreated may lead to shock/death



# Chest Seal Application

- Wipe off blood/sweat
- Peel off adhesive backing
- Apply to wound with valve over middle of wound
- Secure with tape if available
- Monitor and prepare to treat for tension Pt<sub>x</sub>



# Needle Decompression

- Paramedic or Advanced-EMT skill
- Following GMVEMSC protocols, use the steps below to perform a chest decompression:
  - 1. Ensure patient is oxygenated if possible
  - 2. Select proper site
    - a. Affected side at the second intercostal space and along the mid-clavicular line
    - b. Draw imaginary line from the nipple to clavicle
      - Needle should not be closer to middle of chest than this line
  - 3. Clean site with alcohol or povidone solution if practical
  - 4. Prepare needle
    - Should be AT LEAST 14 gauge 3.25 inch angiocath



- 5. Insert needle into 2nd intercostal space at 90 degree angle to the chest, just over third rib

Blood vessels and nerves run along bottom of ribs.  
Place needle Over Top of rib, preventing damage to vessels

- 6. Listen for air exiting from the needle (if practical)
- 7. Remove needle and leave catheter in place, properly disposing of the needle (if practical)
- 8. Secure catheter in place with tape
- 9. Ensure tension has been relieved and casualty's condition improves
  - If no improvement, may need to repeat procedure
- 10. Monitor and reassess the casualty as conditions permit





# MEDKITS – 4 per CACHE

- Blackhawk Rapid Flex Medical Litter 1
- Triage Ribbon Kit 1
- Nalgene Bottle 1
- HeadLamp and 3-AAA batteries (Spare) 1
- Duct Tape Folded Strips (flat rolls) 2
- Sharpie Pen 1
- Grease Marker 1
- CAT Tourniquets 4
- Red Light Sticks 2
- Blue Light Sticks 2
- Green Light Sticks 2



# MEDKITS (continued)

▪ LG Nitrile Gloves	10 pair
▪ Alcohol Preps	30
▪ Nasopharyngeal Airways 20FR	2
▪ Nasopharyngeal Airways 36FR	2
▪ 4X5 Elastic Wraps	6
▪ 4.5" Sterile Kerlix Dressings	12
▪ HyFin Vented Chest Seals	4
▪ Abd Pads 8X10	4
▪ ARS Decompression Needles	4
▪ LA Police Gear Bail Out Bag	1
▪ Trauma Shears on Vest with Retractor	1



# LAW ENFORCEMENT OFFICERS ASSIGNED TO RTF

- Initial role of LEOs assigned to an RTF are security and coordination of team movement only
- LEOs assigned to RTFs will not assist in lifting, carrying, or treatment of any casualty
- Once the incident commander confirms all perpetrators have been contained, LEOs may aid in treatment/evacuation



# MEDICAL TREATMENT PROTOCOL

- RTFs in WARM Zone will only provide stabilizing treatment, following TECC and SALT LSIs
  - Change from what EMS can do to what we must do
  - Standard of care specific to indirect threat care environment
  - Restrictions due to equipment, time, personnel, and other limitations
  - Benefits vs. risk



# MEDICAL TREATMENT PROTOCOL

- **Airway control not first priority**
- **Exsanguinating extremity wounds more common in ASIs**
  - **Can cause death in 2-3 minutes**
  - **Life-threatening bleeding addressed first**
  - **Followed by airway control**
  - **Open chest wounds and tension pneumo addressed third**
  - **Follows CAB sequence**



# MEDICAL TREATMENT PROTOCOL

- Tourniquets (TQs) emphasized
  - CAT TQs included in RTF MedKits
- For non-exsanguinating hemorrhage or wounds not amenable to TQs, use mechanical pressure dressings with wound packing
  - e.g., femoral triangle or neck
- Triage casualties using SALT and apply triage ribbons
  - Including ribbons for deceased to prevent time-wasted on re-triage



# SCAB-E MEDICAL TREATMENT PROTOCOL

- S – Situational Awareness
- C – Circulation
- A – Airway
- B – Breathing
  - Includes open chest wounds & t pneumo
- E – Evaluate and Evacuate



# SCAB-E - S: MAINTAIN SITUATIONAL AWARENESS

- **Be aware of surroundings**
  - Consider IEDs and other threats
  - Maintain open routes for rapid egress
- **Consider potential for multiple attackers**
- **Consider possibility attacker may circle around...**
  - ...turning warm zone into hot zone





# SCAB-E - S: MAINTAIN SITUATIONAL AWARENESS

- **Direct ambulatory casualties to evac**
  - Have them proceed down corridors RTF used for ingress
  - Be certain personnel outside know to expect them
- **Medically stabilize non-ambulatory casualties**
  - Either evac or place in proper position while waiting



# SCAB-E - S: MAINTAIN SITUATIONAL AWARENESS

- Know difference between cover and concealment
  - And benefits of each
- Consider tactical positioning in case team comes under fire
- Consider need for forcible entry equipment
  - Get from on-scene apparatus if needed
- Consider possibility of chemical or IED threat at scene
  - And related scenes, e.g., perpetrator's home



# SCAB-E – C: CIRCULATION

- **Assess for and treat life-threatening extremity bleeding**
  - **Apply pressure on proximal brachial or femoral artery by kneeling on artery with body weight**
    - **Keeps both hands free for interventions**
    - **Consider use of an assistant**
  - **Place TQs immediately on significant extremity wounds , including:**
    - **Total/near-total amputations**
    - **Large vessel arterial bleeding**
    - **Massive vessel venous bleeding**
    - **Any wound with bleeding not adequately controlled with pressure dressing**



## SCAB-E – C: CIRCULATION

- Apply mechanical pressure dressings for anatomically amenable extremity wounds
- Pack deep wounds with gauze to transmit pressure deep into wound to site of bleeding



# SCAB-E – A: AIRWAY

- A – Airway
  - Place NPA in any casualty with occluded airway or altered mental status
    - Two sizes NPAs included in RTF MedKits
  - Place casualty in position that best protects the airway
    - Including seated



# SCAB-E – A: BREATHING

- B – Breathing
  - Assess for open or sucking chest wounds
    - Place occlusive chest seal on any trunk wound (anterior or posterior) from umbilicus to trapezius muscles
    - HyFin Vented Seals in RTF MedKits
  - Assess for and treat tension pneumothorax
    - ARS Decompression Needles included in RTF MedKits



# SCAB-E – E: EVALUATE & EVACUATE

- E – Evaluate and Evacuate
  - Assess effectiveness of interventions and initiate evac
  - Check TQs and pressure dressings
  - Assess for unrecognized hemorrhage
  - Reassess for respiratory distress and proactively treat
  - Roll casualty and examine posterior
  - Place conscious casualty in position of comfort
  - Place unconscious casualty in recovery position



# SCAB-E – E: EVALUATE & EVACUATE

- RTF should continue into building toward untreated casualties as long as adequate supplies remain in MedKits
  - Remaining in Warm Zone at all times
- If out of supplies or all casualties treated, initiate evac to a CCP
  - According to triage categories
  - Using appropriate casualty movement techniques
  - Communicate with CCPs or Triage
  - Within same triage category, public safety personnel should receive priority assessment and evac
    - They may not fully comprehend extent of their injuries
- Four members of RTF remain together during egress





# RTF PROCEDURES: PHYSICIANS

- Numerous SWAT-trained/equipped physicians in region
- Roles for such physicians at ASIs may include entry with RTF



# RTF PROCEDURES: PHYSICIANS

- Within an RTF during indirect threat/direct threat situations (i.e., Warm Zone or Hot Zone), EMS personnel are not to defer to the physician
  - While functioning as an RTF, TECC procedures apply to all RTF personnel (within scope of practice)



# RTF PROCEDURES: PHYSICIANS

- **Other uses for physicians at MCIs include:**
  - **Performing procedures outside EMS scope of practice, especially field amputations**
  - **Provide medical direction in Treatment Areas/Casualty Collection Points**
  - **Assist Transport with casualty/hospital allocation decisions**

