



Trauma System Overview

COMPOSITION

TRAUMA FIELD TRIAGE PROTOCOL DEVELOPMENT PROCESS (WHO, HOW, WHY, WHEN)

TRAUMA FIELD TRIAGE PROTOCOL HISTORY

Trauma System Composition

- ▶ Trauma Centers
- ▶ Non-trauma centers
- ▶ EMS
- ▶ Rehabilitation
- ▶ Education
- ▶ Injury prevention

Trauma System Composition

- ▶ Trauma Centers
 - ▶ UMC - Level I, Level II Pediatric
 - ▶ Sunrise – Level II
 - ▶ St. Rose Siena – Level III
- ▶ Levels (adult)
 - ▶ Level I per ACS *Optimal Care for the Injured Patient*
 - ▶ Regional resource trauma center that is central to the trauma system
 - ▶ Complex cases
 - ▶ Transfer acceptance
 - ▶ Education for the public, training, research

Trauma System Composition

- ▶ Levels (adult) continued
 - ▶ Level II per ACS *Optimal Care for the Injured Patient*
 - ▶ Expected to provide initial definitive trauma care regardless of the severity
 - ▶ Clinically equivalent to a level I except for some specialized cases (such as replant)
 - ▶ May participate in education, training and research
 - ▶ Level III per ACS *Optimal Care for the Injured Patient*
 - ▶ Provide prompt assessment, resuscitation, emergent surgery and stabilization
 - ▶ Transfer stabilized patients to a level I or II as needed
 - ▶ Per SNHD receive step 3 and 4 patients via EMS, higher acuity patients may be transported based on condition and transport capability

Trauma System Composition

- ▶ Non-Trauma Centers
 - ▶ Consists of other acute care hospitals in the county
 - ▶ Transfer agreements
- ▶ EMS might transport patients who meet TFTC based on patient condition and request
- ▶ Private vehicles may drop off trauma patients

Trauma System Composition

- ▶ EMS
 - ▶ Consists of SNHD permitted ambulance services
 - ▶ Follow TFTC (discussed in following slides)
 - ▶ Transports/transfers trauma patients

Trauma System Composition

- ▶ Rehabilitation
 - ▶ Minimal SNHD interaction
 - ▶ Trauma and Non-Trauma Centers establish transfer agreements

Trauma System Composition

- ▶ SNHD Trauma Field Triage Criteria (for use by EMS)
 - ▶ Step 1 (transport to Level I or II TC)
 - ▶ Physiological derangement
 - ▶ Level of consciousness
 - ▶ GCS less than 13
 - ▶ Systolic blood pressure less than 90 mmHg
 - ▶ Respiratory rate less than 10 or greater than 29 or needs ventilatory support

Trauma System Composition

- ▶ SNHD Trauma Field Triage Criteria (for use by EMS)
 - ▶ Step 2 (transport to Level I or II TC)
 - ▶ Anatomy of injury
 - ▶ Penetrating injury to the head, neck, torso, or extremities proximal to the elbow or knee
 - ▶ Chest wall instability
 - ▶ 2 or more proximal long bone fractures
 - ▶ Crushed, degloved, mangled, or pulseless extremity
 - ▶ Amputation proximal to the wrist or ankle
 - ▶ Pelvis fractures
 - ▶ Open or depressed skull fractures
 - ▶ paralysis

Trauma System Composition

- ▶ SNHD Trauma Field Triage Criteria (for use by EMS)
 - ▶ Step 3 (transport to Level I II or III TC)
 - ▶ Mechanism of Injury
 - ▶ Falls, adults greater than 20 feet, peds greater than 10 feet or 2 times the height of the child
 - ▶ Auto crash, speed of 40 mph or more, intrusion greater than 12 inches toward occupant site or 18 inches at any site, ejection, roll over with unrestrained occupants, death in same passenger compartment
 - ▶ MC crash 20 mph or more
 - ▶ Auto vs ped/bicyclist 20 mph or more

Trauma System Composition

- ▶ SNHD Trauma Field Triage Criteria (for use by EMS)
 - ▶ Step 4 (transport to Level I II or III TC)
 - ▶ Special considerations (in the presence of a trauma incident)
 - ▶ Age 55 or older (increased risk of death) 65 or older with systolic blood pressure less than 110 mmHg can be shock, low impact mechanism results in more severe injury
 - ▶ Injured children should be transported to a trauma center (physiological response is different)
 - ▶ Anticoagulants and head injury
 - ▶ Burns
 - ▶ Pregnancy greater than 20 weeks
 - ▶ EMS provider judgement

Trauma System Composition

- ▶ Injury Prevention
 - ▶ Coupled with education for the public
 - ▶ SNIPP
 - ▶ Analyze trends of injury and assist community partners with crafting prevention efforts

EMS Protocol Development

Trauma Protocols

- ▶ Who are the medical experts?
 - ▶ Medical Advisory Board (MAB) 11 MDs / DOs
 - ▶ 182 years combined experience in Nevada
 - ▶ Emergency Medicine Specialty
 - ▶ Regional Trauma Advisory Board (RTAB) 3 MDs
 - ▶ 52 years combined experience in Nevada
 - ▶ Surgical Specialty (Trauma, General and CC)
- ▶ Other members
 - ▶ MAB - operations managers for permitted ambulance services
 - ▶ RTAB - multidisciplinary composition based on ACS recommendation

EMS Protocol Development

Trauma Protocols

- ▶ How are protocols amended?
 - ▶ TFTC based on ACS and CDC guidance
 - ▶ Agendize (either MAB or RTAB)
 - ▶ Refer to Drug, Device and Protocol Committee (DDP)
 - ▶ Create
 - ▶ Approve

EMS Protocol Development

Trauma Protocols

- ▶ Why are protocols amended?
 - ▶ To provide guidance to the medical practice of EMS licensees
 - ▶ To get the right patient to the right place at the right time

EMS Protocol Development

Trauma Protocols

- ▶ When are protocols amended?
 - ▶ As science changes and new modalities are identified protocols may be amended.
 - ▶ Quality improvement initiatives by agencies, SNHD or both may drive protocol change.

TFTC Step 4 History

- ▶ Step 4 was added to the protocols in 2003.
 - ▶ More specific to disease processes present prior to trauma
 - ▶ CAD, COPD, DM
 - ▶ Did include blood thinners and pregnancy
 - ▶ RTAB was not formed in 2003
- ▶ Step 4 was removed at the request of RTAB in 2006
 - ▶ Meeting minutes were not descriptive as to the reason
- ▶ Step 4 added back in 2013 at the initial request of LVFR
 - ▶ QI review showed some trauma patients who met step 4 were transported to a non-trauma hospital and requiring transfer for occult injuries

TFTC History

- ▶ Step 4 was made a mandatory TC transport in August 2018
 - ▶ At the request of AMR after QI review showed the same issues identified by LVFR in 2013 were still present.
- ▶ ANY patient who is competent to make decisions may direct their transport.
 - ▶ Crews will recommend transport to a TC as it is the appropriate facility for trauma care
 - ▶ If the patient refuses to be seen at a TC the crew will complete an RMA form and transport the patient to a facility of their choice.

TFTC History

- ▶ Step 4 transports to TC has shown organic growth before the institution of the new criteria.
- ▶ This growth has been presented to this body before and is available in the trauma report.
- ▶ Step 4 patients are trauma patients as determined by the ACS and CDC. The special considerations are present as it has been determined by the ACS and CDC that those patients fare better in a trauma center.
- ▶ The trauma system has chosen to be more restrictive where step 4 patients are transported because it better serves the patient.

Questions

