



EMS POLICIES AND PROCEDURES

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EFFECT DATE: xx/xx/05
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***** DRAFT *** SUBJECT: TRIAGE OF TRAUMA PATIENTS *** DRAFT *****

APPROVED BY:

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I. PURPOSE

Trauma triage directs trauma patients to appropriate medical facilities for definitive care. The goal of triage is to identify critically injured patients who need rapid surgical intervention or the specialized services of the trauma center. Those who do not need trauma center services can be transported to the closest appropriate facility or the patients' hospital(s) of choice.

II. DEFINITIONS

Base Hospital: John Muir Medical Center is the designated base hospital for Contra Costa County.

Trauma Center: The appropriate trauma center for adults is John Muir Medical Center. The most appropriate trauma center for pediatric patients (0-14 years) is Children's Hospital, Oakland if transport can be made in less than 30 minutes.

High-Risk Criteria: Symptoms and mechanisms that correlate with a high risk of critical trauma injuries and merit direct transport to a trauma center after an early notification call.

Early Notification Call: For patients meeting criteria for direct transport to the trauma center (high-risk), notification in a brief manner at an early stage to allow the trauma center to prepare resources pending the patient's arrival. The call should be made as early as possible, preferably before leaving the scene.

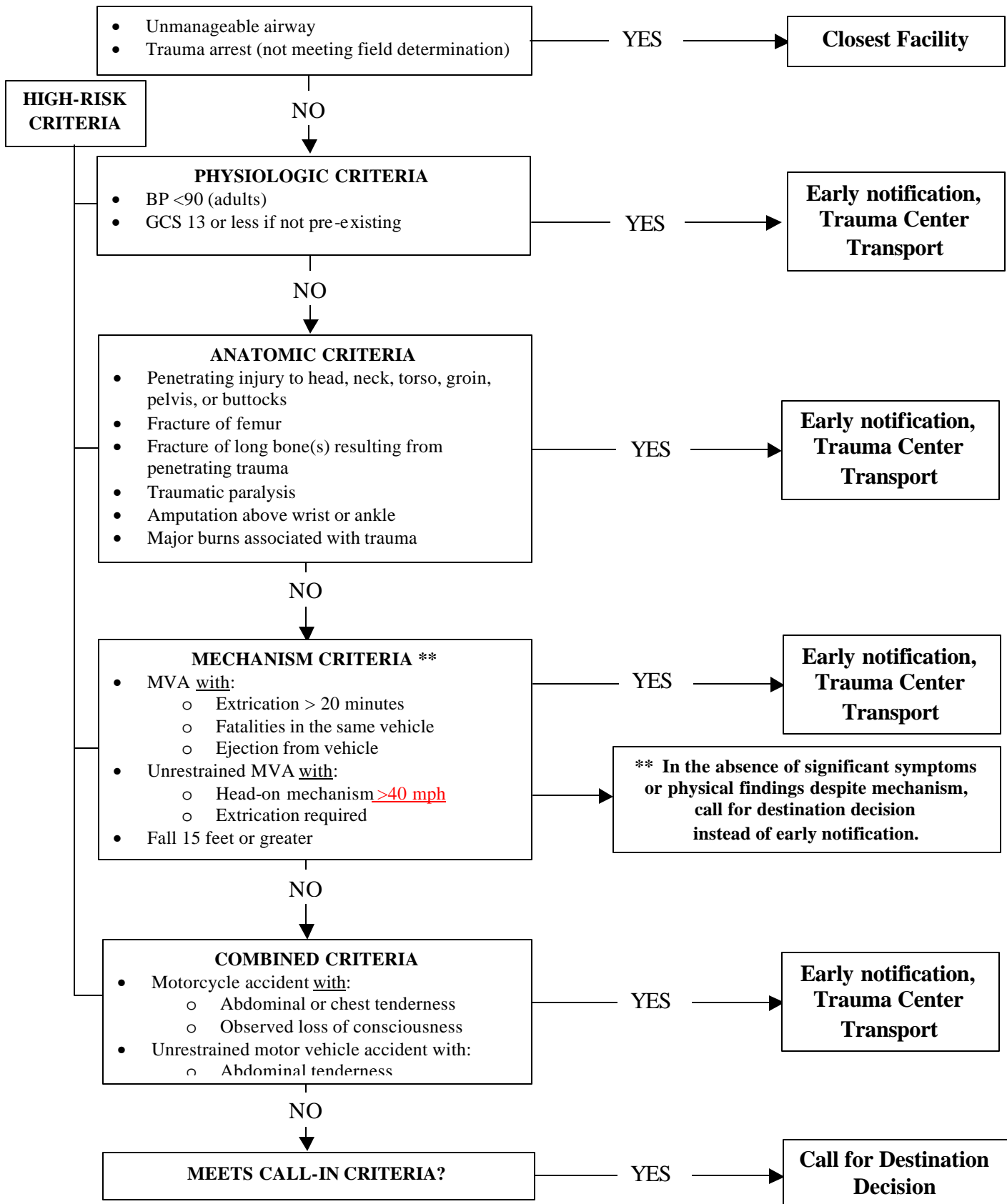
Call-In Criteria: For patients who do not have high-risk criteria, but have trauma mechanisms that could potentially cause severe trauma. These patients require a destination determination call to the base hospital.

Destination Determination: For patients meeting call-in criteria, the base hospital physician will determine which patients warrant trauma center destination based on the report of the paramedic.

5-minute update: Notification from the field to the trauma center that the patient will be arriving in 5 minutes. This call initiates hospital activation of a trauma team.

Patients with Unmanageable Airway: Patients whose airways are unable to be adequately maintained with BLS or ALS maneuvers. Patients requiring needle cricothyrotomy should be considered to have an unmanageable airway.

III. TRAUMA TRIAGE ALGORITHM



IV. CALL-IN CRITERIA FOR BASE HOSPITAL DESTINATION DECISION

- A. Most trauma mechanisms are quite variable in terms of risk for significant injury. In order to maintain the highest accuracy in trauma triage, base hospital destination decision is required prior to transport of the following patients (who do not meet high-risk criteria otherwise):
 - 1. Evidence of high-energy dissipation or rapid deceleration which may include:
 - a. vehicle rollover with unrestrained occupant,
 - b. intrusion of passenger space by 1 foot or greater,
 - c. impact of 40 mph or greater,
 - d. persons requiring disentanglement from a vehicle,
 - 2. Adult hit by vehicle traveling faster than 15 mph.
 - 3. Child less than 14 years hit by a vehicle.
 - 4. Persons ejected from a moving object (motorcycle, horse etc.).
 - 5. Significant blunt injury to the head, neck, thorax (chest/back), abdomen or pelvis.
 - 6. Penetrating injury to extremities (above knee or elbow) without apparent fracture.
- B. If no significant symptoms or physical findings noted despite above mechanism(s), call-in not required and patient may be transported to hospital of choice or to closest facility.
- C. Base contact should be made if a patient meets call-in criteria [and it is believed trauma center services may be needed](#), even in the event that the trauma has occurred several hours prior to EMS response ~~and it is believed trauma center services may be needed~~.
- D. Patients 65 years of age and older may sustain significant injuries with less forceful mechanisms, and may merit call-in for less significant mechanisms (e.g. ground level fall with new alteration of mental status).

V. TRiage AND REPORTING PROCEDURES

- A. Determine whether the patient meets high-risk criteria for direct transport or meets call-in criteria.
- B. Contact the Base Hospital as soon as possible for either early notification or destination decision as indicated in the Trauma Triage Algorithm.
 - 1. **Early Notification Report** – This report should be brief (approx 1 minute)
 - a. Agency name and unit number
 - b. Advise as Early Notification Report
 - c. ETA at trauma center
 - d. Patient age and sex
 - e. Brief description of mechanism of injury and scene
 - f. Brief description of known significant abnormalities in primary and secondary surveys
 - 2. **Destination Decision Report** – This report needs to contain sufficient detail to aid in decision-making by base physician
 - a. Agency name and unit number
 - b. Advise as Destination Decision Report
 - c. ETA to trauma center
 - d. Patient age and sex
 - e. Mechanism of injury (brief description)
 - f. Basic scene information (e.g. protective gear, extrication, estimated MPH)
 - g. Primary Survey (can be reported as ABCD normal except....)
 - h. Secondary Survey (report abnormal findings only)
 - i. Prehospital treatments and response
 - j. Paramedic concerns

- C. The *five-minute update call* should be made when five minutes from the trauma center and should include expanded patient information, including significant changes in vital signs, mental status, physical findings or symptoms en route.
- D. Receiving hospitals shall be contacted by field personnel prior to arrival.
- E. On Trauma Center arrival, use MIVT format at transfer of patient care. (30-second report)
 - 1. Report should be made to Trauma physician or ED physician
 - 2. MIVT format
 - a. Mechanism of injury
 - b. Injuries Sustained and Level of Consciousness (AVPU format)
 - c. Vital signs – include ECG rhythm if abnormal, pulse oximetry if known
 - d. Treatment and patient's response to treatment
 - e. More detailed information can be provided when requested

VI. SPECIAL CIRCUMSTANCES

- A. All patients with unmanageable airway should be transported to the closest Basic ED.
- B. Patients who do not qualify for field pronouncement of death, but have or develop cardiopulmonary arrest should be transported to the closest Basic ED.
- C. Contra Costa County Trauma Center Bypass:
 - 1. Transport patients with high-risk criteria or patients directed to a trauma center by base hospital destination decision via ground or air transport, as indicated, to the closest appropriate and available designated out-of-county trauma center.
 - 2. If an out-of-county trauma center is not available:
 - a. Transport via ground to the nearest Basic ED, which may include John Muir Medical Center.
 - b. If helicopter transport is utilized, transport to John Muir Medical Center.
- D. Out-of-County Destinations:
 - 1. Aside from trauma center bypass situations, an out-of-county destination may be the appropriate destination if there is significant time saving.
 - 2. The base shall be contacted to assist with destination determination of patients who require transport to out-of-county destinations, including pediatric patients with prolonged transport times (> 30 minutes) and patients redirected because of trauma center bypass.
 - 3. The base will be responsible for notification of other trauma centers to alert them of the patient's pending arrival.
- E. Disrupted Communications with Base:
 - 1. Patients who normally require base hospital destination determination should be transported to the most appropriate and available receiving facility per the paramedic's judgment.
 - 2. Alternate mechanisms of communication (e.g., via dispatch) should be used to determine trauma center availability if out-of-county destinations are being considered.



EMS POLICIES AND PROCEDURES

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SUBJECT: **EMS AIRCRAFT – PATIENT TRANSPORT CRITERIA AND FIELD OPERATIONS**

APPROVED BY:

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I. PURPOSE

To specify criteria for patient transport by air ambulance (medical helicopter) and to provide for coordinated field operations at incidents involving air ambulance response.

II. AUTHORITY

Division 2.5, California Health and Safety Code; Title 22. Division 9 and Chapter 8, California Code of Regulations.

III. EMS AIRCRAFT UTILIZATION CRITERIA

Only when the following clinical AND time criteria are met shall a patient be transported by an air ambulance (medical helicopter). When these criteria are not met, the helicopter should be cancelled ~~even if it is already on the ground and the helicopter crew has made patient contact.~~

The senior medical person on scene shall be responsible for assessing helicopter use criteria and shall advise the IC or designee to cancel the helicopter when indicated. ~~Helicopter crew has the authority and responsibility to turn over patient care to ground ambulance if patient does not meet criteria.~~

A. Clinical Criteria

~~1. Patient meets physiologic criteria (CRAMS 7 or less) or has anatomic injuries which categorizes the patient as a Critical Trauma Patient according to EMS trauma policy~~

1. Patients with an anticipated need for emergent trauma center intervention. Criteria for air ambulance transport include patients with high-risk trauma criteria who have:

a. Unstable vital signs, or;

b. Multi-system trauma (e.g. high-velocity blunt trauma), or;

c. Penetrating trauma (other than extremity injuries), or;

d. Head injury patients with airway management issues or profound alteration of level of consciousness.

2. Critically ill or injured patients whose conditions may be aggravated or endangered by ground transport (e.g., limited access via ground ambulance or unsafe roadway)

3. Unusual circumstances such as ambulance not available, multicasualty incidents, or patients with specialized needs available only at a remote facility such as burn victims or potential critical pediatric patients distant from the specialty services.

B. Time Criteria

EMS Aircraft transport should be used only when it will provide benefit in terms of transport time to the receiving facility when compared to time for ground transport. *Ground ambulance personnel should be consulted if there is a question as to whether a time benefit exists.* When considering air transport times, it is important to consider immediate availability, load time, driving/flight time, unloading and delivery of the patient into the hospital. If ground ambulances

will be necessary to move the patient to a helicopter or to move the patient from the helicopter to the hospital, this may add a significant amount of time to the overall transport.

IV. GROUND AMBULANCE ISSUES

- A. The ambulance unit responding to, or at the scene, shall not be canceled until:
 - 1. The helicopter has left the scene with the patient aboard, or
 - 2. The senior medical person on-scene has determined that patient transport is not required.
- B. A ground unit paramedic, who accompanies a patient in a rescue aircraft must assure the presence of appropriate medical equipment and must obtain orientation to the aircraft and to medical air transport procedures prior to transport.
- C. Ground ambulance units should make trauma base contact for patient destination determination prior to releasing the patient to the helicopter crew.

V. INCIDENT SCENE MANAGEMENT

- A. The IC shall evaluate the scene to determine if there is an appropriate location for a helicopter to land. Final responsibility for determining if a safe landing can be made, however, rests with the pilot.
- B. A public safety agency must be on-scene if the landing site is not an approved helipad or airfield landing site to:
 - 1. Establish a safe landing site following the public safety agency's policies/procedures, and
 - 2. Assist the helicopter in landing.

VI. HELICOPTER RENDEZVOUS

When patient condition and transport time considerations indicate that helicopter transport meets criteria, but a safe site in proximity to the patient is not available, the following apply:

- A. At Incident
 - 1. If the helicopter is unable to land at the scene, the IC or his/her designee, should consider arranging for an ambulance/helicopter rendezvous at an appropriate location. Ground ambulance crew input should be considered when available.
 - 2. The IC or his/her designee will select the rendezvous site. If the rendezvous site is not an approved helipad or airfield landing site, a request for helicopter rendezvous shall be handled in the same manner as a request for a helicopter to the scene and a public safety agency must be on the scene at the rendezvous site.
- B. Following Initiation of Ambulance Transport
 - 1. Once the ground ambulance begins patient transport, the ambulance crew should consider initiating a helicopter rendezvous when:
 - a. Patient condition deteriorates,
 - b. Traffic conditions are impassable,
 - c. Unit develops mechanical failure, or
 - d. Factors exist that will cause a delay or a potentially negative outcome in patient transport.
 - 2. Rendezvous at an approved helipad or airfield landing site does not require presence of law enforcement or fire personnel.

3. If the ambulance is unable to reach an approved helipad or airfield landing site, ambulance personnel should assure a Public Safety Agency is available to secure the selected site for helicopter landing.

C. In all instances, consideration should be given to possible ground transport to a closer facility.

VII. MULTICASUALTY RESPONSES

A. Upon notification that the Multicasualty Incident Plan (MCI) has been implemented, air transport providers are to stage at Buchanan Field, or at a staging site designated by the IC, until it can be determined if air transport service will be required.

B. Helicopters responding to multicasualty incidents shall follow guidelines specified in the County MCI Plan.