Policy 4606A: MARIN COUNTY EMS EMERGENCY TRAUMA RE-TRIAGE PROCEDURE—**ADULT**

Step 1

Emergency Level Re-Triage:

These are patients whose needs are generally known immediately or soon after initial arrival, based on clinical findings. Communication should be between Emergency Department (ED) and ED to avoid delay. Avoid any unnecessary studies (e.g. CT scans or angiograms). Request ambulance for transport.

Emergency Criteria:

Blood pressure / perfusion:

- Systolic pressure < 90 or
- Need for high volume fluid resuscitation (>2 L NS) or immediate blood replacement

GCS / Neuro:

- GCS Less than 9
- GCS Deteriorating by 2 or more during observation
- Blown pupil
- Obvious open skull fracture

Anatomic criteria:

- Penetrating injuries to head, neck, chest, or abdomen
- Extremity injury with ischemia evident or loss of pulses

Provider judgment:

- Patient's who have a high likelihood of need for emergent life or limb-saving surgery or other intervention with in 2 hours

Step 2

Contact MarinHealth Medical Center at 415-925-7203

For ED to ED communication to confirm transfer

Step 3

Determine appropriate level of transport and arrange and transport

- If within Paramedic Scope of Practice and timely transfer needed - contact 9-1-1 to request *Emergency Interfacility Transfer*
- Transport should generally arrive within 10 minutes

If exceeds Paramedic Scope of Practice, contact appropriate transport agencies (CCT Transport) or arrange for nursing staff an/or MD to accompany paramedic or EMT ambulance

Step 4

Prepare patient, diagnostic imaging disk(s) and paperwork for transport

- Fax any additional paperwork that is not ready at the time of departure to

  MarinHealth ED FAX Number: 415-925-7219
- Do not delay transport

Policy 4605B

MARIN COUNTY EMERGENCY MEDICAL SERVICES TRAUMA RE-TRIAGE PROCEDURE—PEDIATRIC (BELOW AGE 14 YEARS)

STEP 1

Determine if injured patient meets Emergency Re-Triage Criteria—Pediatric:

Blood pressure / perfusion:

- Hypotension or tachycardia (based on age-appropriate chart below) or clinical signs of poor perfusion (see below)
- Need for more than two crystalloid boluses (20 ml/kg each) or need for immediate blood replacement (10 ml/kg)

GCS / Neurologic—Head injury with:

- GCS less than 12 (pediatric scale—see verbal scale below)
- GCS deteriorating by 2 or more during observation
- Cervical spine injury with neurologic deficit
- Blown pupil
- Obvious open skull fracture

Anatomic criteria: Proximal penetrating injuries to head, neck, chest, or abdomen

Respiratory criteria: Respiratory failure or intubation required

Provider judgment: Patients, who in the judgment of the evaluating emergency physician, are anticipated to have a high likelihood for emergent life– or limb-saving intervention within 2 hours

IMPORTANT PEDIATRIC RE-TRIAGE EXCEPTIONS:

- ***Pregnant patients*** *of any age should be transferred to an adult trauma center*
- ***Major burns*** *should be preferentially transferred to a burn center**may require modification***
- *Contact hospital first for* ***major extremity injuries with vascular compromise **may require modification*****

NORMAL VITAL SIGNS				
Age	**Weight**	**Hr**	**Systolic BP**	**Broselow Color**
Newborn	3-5 kg	80-190	65-104	Grey or Pink
1 Year	10 kg	80-160	70-112	Purple
3 Years	15 kg	80-140	75-116	White
5 Years	20 kg	75-130	75-116	Blue
8 Years	25 kg	70-120	80-122	Orange
10 Years	30 kg	65-115	85-126	Green

PEDIATRIC CLINICAL SIGNS OF POOR PERFUSION	PEDIATRIC GCS—VERBAL SCALE (2< YO)	
♦ Cool, mottled, pale or cyanotic skin	5	Coos and babbles
♦ Low urine output	4	Irritable
♦ Lethargic	3	Only cries to pain
♦ Prolonged capillary refill	2	Only moans to pain
	1	None

STEP 2

Contact either MarinHealth Medical Center or Children's Hospital Oakland (CHO) Trauma Center:

MarinHealth: 415-925-7203 Notify the Emergency Department that you have a "**Pediatric Trauma Re-Triage** " patient

CHO: 855-246-5437 Notify the Transfer Center at **CHO** that you have a "**Pediatric Trauma Re-Triage** " patient

They will connect the transferring physician with the appropriate accepting physician.

The direct line into CHO's Emergency Department is 510-428-3240

STEP 3

Determine appropriate level of transport and arrange transport (can be done simultaneous to MarinHealth or CHO contact)

- If within Paramedic Scope of Practice and timely transfer needed—contact 9-1-1 to request ***Emergency Interfacility Transfer***
- Transport should generally arrive within 10 minutes

If exceeds Paramedic Scope of Practice, contact appropriate transport agencies (CCT-RN or Air Ambulance) or arrange for nursing staff and/or MD to accompany paramedic or EMT ambulance.

STEP 4

Prepare patient, diagnostic imaging disk(s), and paperwork for immediate transport

- Fax additional paperwork that is not ready at time of transport departure.
- Do not delay transport

TRAUMA TRIAGE AND DESTINATION

PURPOSE

To provide additional explanation and guidance for the Marin County Trauma Triage Criteria Tool to help identify trauma patients in the field and, based upon their injuries, direct their transport to an appropriate level of trauma care facility.

RELATED POLICIES

Service Area for Hospitals, #4603; Trauma Re-Triage, Adult and Pediatric, 4606A and 4606B; EMS Aircraft, #5100; Ambulance Diversion Policy, #5400; Destination Guidelines, GPC 4; Determination of Death, ATG 6; Multi-Casualty Incident, GPC 12

DEFINITIONS

A. ***Designated Trauma Center*** refers to an acute care facility holding designation as a Level I, Level II, Level III, or EDAT (Emergency Department Approved for Trauma). In Marin County, ~~Marin General~~ Hospital MarinHealth Medical Center is the designated Level III Trauma Center and Kaiser Permanente San Rafael Medical Center is the designated EDAT.

B. ***Provide Trauma Notification*** means that field personnel will advise the trauma center as soon as possible of their impending arrival by providing a Trauma Notification (see Trauma Triage Tool).

C. ***Time closest facility*** is that facility which can be reached in the shortest amount of time.

GENERAL POLICY

A. It is the overall goal of the Marin County Trauma System to provide treatment of injured patients at Marin County hospitals.

B. Whenever physician consultation is indicated within this policy, contact shall be made with ~~Marin General Hospital~~ MarinHealth Medical Center Level III Trauma Center.

C. The following policy statements pertain to use of the Trauma Triage Tool (see 4613a):

1. Patients shall be determined to meet criteria for transport to a designated trauma center if they meet the criteria listed in the Trauma Triage Tool.
2. Physician consultation is REQUIRED in the following circumstances:
    a. The paramedic is unable to transport the patient to the indicated facility in an expedient manner;
    b. The paramedic assesses the patient and scene conditions and believes transport to a different level of care is indicated;
    c. Patient requests a facility not indicated by the Trauma Triage Criteria Tool.
3. Physician consultation is RECOMMENDED whenever assistance in resolving treatment decisions or transport destinations is desired.
4. Unmanageable airway: Patients with airway compromise unmanageable by BLS or ALS adjuncts will be transported to the closest receiving facility.
5. Traumatic Arrest: Determination of death can be made prior to, or immediately after, initiating resuscitation if:
    a. a patient has sustained blunt, penetrating or profound multi-system trauma with asystole or PEA, *OR*
    b. In an MCI incident where (START) triage principles preclude initiation of CPR

D. Destination for Adult patients who meet Physiologic or Anatomic Criteria:

1. Transport to time closest trauma center.
2. If the estimated ground transport time to the closest trauma center exceeds 30 minutes, consider use of air ambulance.
    a. Estimated ground transport time is evaluated from the time the patient is packaged and ready for transport. Consider traffic conditions, weather, and other relevant factors.
    b. Estimated air transport time includes: minutes until arrival (if helicopter is not already on the ground); scene and load time of flight crew (typically 10 minutes); flight time to trauma center; and off-load time (typically 7-10 minutes). If helicopter is on the ground at the time the patient is ready for transport, then air transport time is evaluated as time to load, flight time to trauma center and time to off-load to the ED.

E. For adult patients meeting mechanism of injury or additional factors criteria, transport to MarinHealth Medical Center ~~Marin General Hospital~~.

F. Destination for Pediatric patients who meet Physiologic or Anatomic Criteria:

1. Transport directly to Children's Hospital Oakland (see Trauma Triage Tool).
2. If ETA (transport time) is anticipated to be >30 minutes, physician consultation should be obtained with the Level III trauma center to determine destination.

G. Incidents involving **three or more patients meeting Physiologic or Anatomic Criteria** will be handled in the following manner:

1. Use of air ambulance should be considered.
2. Prehospital providers shall consult with the Level III trauma center regarding destinations.
3. Patients that the Level III trauma center cannot accept should be transported to an out-of-county Level I or II trauma center in the most appropriate and expedient manner.
4. If an incident is a Multi-Casualty Incident (MCI), prehospital providers will utilize the Multiple Patient Management Plan for destination guidelines. The term "Immediate Trauma Patient" will be used to describe an MCI patient that may need the services of a trauma center. The coordinating hospital should consider the capacity at the local and regional trauma centers when making destination decisions.

H. The EDAT will be used for patients meeting mechanism of injury or additional factors trauma criteria that Level III trauma center is unable to accept.

MARIN COUNTY TRAUMA TRIAGE TOOL

Adult Patients (age 14 and older)

Uncontrolled Airway
Transport to closest Emergency Department

Assess for – Major Physiologic Factors

1. Glasgow Coma Scale ≤13 (attributed to traumatic head injury)
2. Systolic blood pressure (mmHg) <90 mm Hg
3. Respiratory rate <10 or >29 breaths per minute

YES / **NO**

Provide Trauma Notification & Transport to Time Closest Trauma Center: MarinHealth Medical Center ~~General Hospital~~ by ground, or Level II by air.

Assess Anatomic Factors

Assess for – Major Anatomic Factors

1. Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
2. Flail chest
3. Two or more proximal long-bone fractures
4. Crushed, degloved, mangled or amputated extremity proximal to wrist or ankle
5. Pelvic fractures
6. Open or depressed skull fracture
7. Paralysis (partial or complete)
8. Burns with anatomic factors

YES / **NO**

Provide Trauma Notification & Transport to Time Closest Trauma Center: MarinHealth Medical Center by ground, or Level II by air.

Assess Mechanism of Injury Factors

Assess for – Mechanism of Injury Factors

1. Falls
   - Adults >20 feet (one story is equal to 10 feet)
   - Children >10 feet or three times the height of the child
2. High-risk auto crash and
   - Passenger space intrusion >18" (>12" occupant site)
   - Ejection (partial or complete) from automobile
   - Death in same passenger compartment
3. Auto vs. pedestrian or auto vs. bicyclist: thrown, run over, or with >20 mph impact
4. Motorcycle or bicycle crash: thrown and > 20 mph impact
5. Burns with MOI factors

YES / **NO**

Provide Trauma Notification & transport to MarinHealth Medical Center Level III Trauma Center

Assess Additional Factors

Assess for – Additional Factors

Does assessment of additional factors (e.g. age > 65, anticoagulant use, antiplatelet use, bleeding disorders with head/torso injury, pregnancy >20 weeks, etc.) or other complaints or exam findings cause paramedic to be concerned about the patient?

YES / **NO**

Provide Trauma Notification & Transport to MarinHealth Medical Center Level III Trauma Center

Transport to closest ED or ED of patient's choice

Reviewed: April 2017

MARIN COUNTY TRAUMA TRIAGE TOOL

Pediatric Patients (age <14 yrs)

Uncontrolled Airway
Transport to closest Emergency Department

Assess for – Major Physiologic Factors

1. Glasgow Coma Scale ≤13 (attributed to traumatic head injury)
2. Systolic BP <80 mm Hg – age 7-14
3. Systolic BP <70 mm Hg – age < 7
4. RR < 20 in infants age less than one year, or requiring ventalatory support

Assess for – Major Anatomic Factors

1. Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
2. Flail chest
3. Two or more proximal long-bone fractures
4. Crushed, degloved, mangled or amputated extremity proximal to wrist or ankle
5. Pelvic fractures
6. Open or depressed skull fracture
7. Paralysis (partial or complete)
8. Burns with anatomic factors

YES

If positive A/P findings, Transport to Oakland Children's Hospital if ETA 30 min. or less, otherwise transport to MarinHealth Medical Center Level III Trauma Center and provide Trauma Notification

NO

Follow assessment for MOI and Additional Factors on page 1 for Adult Trauma Patients

SPECIAL CONSIDERATIONS

1. The clinical findings, including past medical history, are critical to identifying the trauma patient, especially when assessing Mechanism of Injury (MOI) and Additional factors (AF).
2. A thorough clinical assessment is especially important in:
   - Patients with persistent & unexplained respiratory difficulty, tachycardia, or peripheral vaso-constriction;
   - Any patient <5 yrs of age who has suffered major trauma but for whom it is not possible to fully determine physiologic status;
   - Inability to communicate (e.g., language barrier, substance or psychiatric impairment)
3. There are mechanisms of injury not identified in the Trauma Triage Tool that may be associated with trauma. Any fall or impact with significant velocity is likely to produce a candidate for trauma activation.

TRAUMA NOTIFICATION

Field personnel will advise the trauma center a minimum of 10 minutes prior to arrival (or as soon as possible if transport is < 10 minutes) by providing a Trauma Notification. This information will be used to activate the trauma team. Communication with the hospital via MERA is preferred. The notification must include at a minimum the following information:

1. Medic Unit and Transport Code
2. Trauma Notification
3. Age / Gender
4. **M** - Mechansim of Injury (e.g., MVA, fall, stab wound, gunshot wound)
5. **I** - Injury and/or complaints; significant injuries and findings
6. **V** - Vital Signs; blood pressure, pulse, respiratory rate, GCS
7. **T** – Treatment / interventions
8. ETA

Trauma Center consultation is recommended for questions about destinations for injured patients.

HOSPITAL REPORT/CONSULT

PURPOSE

To provide guidelines for contact between prehospital care personnel and receiving facilties

RELATED POLICIES

Trauma Triage and Destination Guidelines, #4613; Communication Failure, #7002; EMS Communication System, #7004; BLS Treatment Guidelines; Multiple Patient Management Plan (MPMP); STEMI C9; CVA/Stroke N4; Sepsis M6

DEFINITIONS

A. Report Only - a notification to the receiving facility that a patient is enroute

B. Notification – a communication meant to alert hospital staff that a specialty care patient is enroute. Notifications include:

1. Trauma Notification
2. Stroke Notification
3. STEMI Notification
4. Sepsis Notification

C. Physician Consult - a consultative discussion between field personnel and an ED physician.

POLICY

A. Report Only

1. Shall occur anytime a prehospital unit transports a patient.
2. May be performed by any prehospital personnel.
3. Reports shall include the following:
    a. Transport unit identification
    b. Level of care being provided (ALS or BLS)
    c. Estimated time of arrival to receiving facility
    d. Level of transport (code 2 or 3)
    e. General category of patient (type of illness or injury) or treatment guideline being used for an ALS patient.
    f. Condition of patient (stable, improving or worsening)

B. Notification (Trauma/Stroke/STEMI/Sepsis)

1. Field personnel will advise the receiving center a minimum of ten minutes prior to arrival (or as soon as possible if transport is less than ten minutes).
2. Is required when patient meets notification criteria.
3. Notifications shall include the following:
    a. Unit and transport code
    b. Notification type (e.g.,Trauma, Stroke, STEMI, Sepsis)
    c. Age/Gender

d. Pertinent findings for the specific notification (see related protocol)

e. ETA

C. Physician Consult

1. Shall occur when specified in an ALS or BLS Treatment Protocols.
2. Trauma Center consultation is recommended for questions about the destinations for injured patients. Consult shall be made with MarinHealth Medical Center Level III Trauma Center.
3. Physician Consult communication shall include the following:
   a. The need for physician consultation.
   b. Patient assessment information as appropriate.
   c. Policy or procedure being followed which mandates physician consult or order.

D. If attempts to contact for any of the reasons above and unable to contact the intended receiving facility, personnel may contact another in-county hospital. If no facility can be contacted**,** the following should occur:

1. Treatment should be administered according to the appropriate ALS or BLS treatment protocol.
2. Medications or treatments listed as "physician consult required**"** may not be administered or performed.
3. Documentation of the communications failure should be completed as detailed in policy #7002, Communication Failure.

E. In the event of a declared multiple patient incident, paramedics may operate according to the MPMP omitting contact or hospital consultation.

RADIO COMMUNICATION POLICY

PURPOSE

To provide guidance for the use of the MERA radio system

RELATED POLICIES

Communications Failure, #7002; Marin Emergency Radio Authority (MERA) Mutual Aid and Communications Policy

POLICY

A. Available Communications Resources

1. **MERA Policy:** Users should refer to the MERA Communications Policy for general directions for the use of the MERA system.
2. **Templates:** Users should refer to their Agency Templates or Fleetmap for the locations of specific talkgroups on their console, back-up control stations, mobile and portable radios. The Templates also contain the correct name (alias) for that talkgroup.
3. **Permissions:** Users shall only use talkgroups that have been assigned for their use. Users may use talkgroups that are assigned for temporary use by a Marin communications center or incident commander "I.C.". Before users can use any talkgroup (other than those stated above) provided by another agency they must have a written agreement with that agency.
4. **MERA Radio System:** Field units can communicate directly to the hospital using the designated talkgroups on their mobile or portable MERA radio. On all EMS/ Fire radios, Zone A contains the EMS talkgroups; "mode" channels contain the following aliases or talkgroup names:
    a. **EMS** is to communicate with the County EMS Dispatcher
    b. **HOSP** is the MERA "All Hospital" talkgroup for large-scale incidents
    c. **MGH 1** is for MarinHealth Medical Center "MARIN REPORT"
    d. **MGH 2** is for MarinHealth Medical Center "MARIN CONSULT"
    e. **KSR 1** is for Kaiser San Rafael Hospital "KAISER REPORT"
    f. **KSR 2** is for Kaiser San Rafael Hospital "KAISER CONSULT"
    g. **NCH 1** is for Novato Community Hospital "NOVATO REPORT"
    h. **NCH 2** is for Novato Community Hospital "NOVATO CONSULT"
    i. **EMS 10** is for EMS tactical operations and shall be assigned by the IC or Comm. Center
    j. **LG CLL** is for hailing a local government agency or units. Once contact is made, then go to LG TLK
    k. **LG TLK** is for conversations with local government agencies
    l. **PD CLL** is for hailing law enforcement units. Once contact is made go to PD TLK
    m. **PD TLK** is for conversations with law enforcement
    n. **911** is for emergency communications with a communications center

6. **Paging**: The field units will be responsible to set the Page function on their radio for initial contact with the hospitals. Other units may be using the channel at the same time, please listen for broadcast traffic before beginning your transmission. A page may not be needed if the receiving hospital radio is staffed due to other broadcast traffic.
7. **Initiating Communications**: When making initial contact with a communications center, unit or hospital you should state the name of the entity you are calling first, then your identifier followed by the "alias" of the talkgroup you are on, i.e. "Marin Comm., Medic-1 on EMS Dispatch" or "MarinHealth Medical Center, Medic-1 on ~~MGH~~ Consult."
8. **Consult**: "Consult" talkgroups shall be used for physician consults and policy required consultations.
9. **Report**: "Report" talkgroups shall be used for routine hospital reports.
10. **Hosp**: The "All Hospital" talkgroup shall be used for hospital communications during large scale incidents or other urgent communications that may require multiple hospitals to share information simultaneously and during failures of normal communications systems.
11. **Emergency Button Activations**: Emergency Button Activations are authorized when an EMS Field Unit needs urgent or emergency assistance. It is not to be used for routine assistance requests. Field Units should expect an emergency response from other public safety units following an Emergency Button Activation. Please see the MERA Communications Policy for further information. Due to the system configuration the Emergency Buttons are not active for private EMS providers or hospitals.
12. **Hospital Systems**: Marin County hospitals are equipped with three radios. Console set 1 is for hospital reports and is labeled with the initials of the hospital -1, i.e. MGH 1. Console set 2 is for hospital consults and is labeled with the initials of the hospital -2, i.e. MGH 2. Console set 3 is for the all hospital talkgroup and is labeled HOSP this consol should be left on this talkgroup at all times. Console 3 is also able to receive and transmit on other talkgroups; hospitals should review their Templates and Trouble Shooting Guide for use of other talkgroups if urgent communications are required, i.e. using the 911 channel to request law enforcement during an emergency and no other forms of communication are available.
13. **ALS / BLS Use**: ALS and BLS users should both use the system in the same manner for hospital consultations, reports and multiple casualty incident activities.
14. **Cellular telephone service:** Field units can use the cellular telephone to communicate directly with the hospital emergency department. Cell phones should be a second choice during MCI operations due to the loss of information to other units involved in the incident.
15. **Contact an alternative hospital:** If contact cannot be made with the receiving hospital field units may contact an alternative hospital via the listed methods and request the information be relayed to the appropriate hospital by telephone.
16. **If contact cannot be established:** If contact cannot be established with any hospital emergency department, the Paramedic shall rely on the EMS Policy "Communication Failure #7002".
17. Any major system failure should be reported to the Marin Communications Center and the Marin County Radio Shop. Hospitals should consult their Trouble Shooting Guide before calling for outside assistance; requests for repairs should be made by an authorized employee of the hospital or agency.