STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
GAVIN NEWSOM, *Governor*

EMERGENCY MEDICAL SERVICES AUTHORITY
10901 GOLD CENTER DR., SUITE 400
RANCHO CORDOVA, CA 95670
(916) 322-4336 FAX (916) 324-2875

March 22, 2019

Nancy Lapolla
EMS Director
San Mateo County EMS Agency
801 Gateway Blvd 2nd Floor
South San Francisco, CA 94080

Dear Ms. Lapolla:

The EMS Authority (EMSA) has approved San Mateo EMS Agency's 2018 Trauma System Status Report. Thank you for providing the report in compliance with EMSA's Annual Trauma System Status Report Guidelines. San Mateo County EMS Agency's trauma system information provided in the report and subsequent correspondence is in compliance with California Code of Regulations, Title 22 Trauma Care Systems.

In accordance with the regulations, Section 100253, the local EMS agency shall submit to the EMS Authority an annual trauma system status report. Upon review of the report, the EMS Authority has the following required actions/recommendations/comments:

Trauma System Summary
☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

Changes in Trauma System
☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

Number and Designation Level of Trauma Centers
☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

Trauma System Goals and Objectives
☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

Changes to Implementation Schedule
☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

System Performance Improvement
☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

Progress on Addressing EMS Authority Trauma System Plan/Status Report Action Items

☒ **Accepted as Written** ☐ **Required Action** ☐ **Recommendation** ☐ **Comment**

Once again, thank you for submitting a report on San Mateo County EMS Agency's 2018 Trauma System. Your next Trauma System Status Report will be due by February 28, 2020 (see attached format). If you have any questions, please contact Elizabeth Winward at (916) 431-3649 or elizabeth.winward@emsa.ca.gov.

Sincerely,

Tom McGinnis, EMT-P
Chief, EMS Systems Division
Attachment

Emergency Medical Services Authority

Trauma System Plan Revision & Annual Trauma System Status Report Guidelines

Gavin Newsom
Governor
State of California

Diana S. Dooley
Secretary
Health and Human Services Agency

Howard Backer, MD, MPH, FACEP
Director
Emergency Medical Services Authority

Updated, January 2019

This document is intended to provide Emergency Medical Services (EMS) Agencies with instructions and minimum guidelines for preparing Trauma System Plan Revisions and Annual Trauma System Status Reports.

TRAUMA SYSTEM PLAN

California statute, Health and Safety Code Section 1798.162, allows local emergency medical services (EMS) agencies to implement a trauma system if the system meets the minimum standards set forth in the regulations. For preparation of the Trauma System Plan, refer to EMSA #151 - Trauma Plan Development Guidelines, January 2000. The guideline is available on the EMS Authority website: www.emsa.ca.gov/emsdivision/trauma_plan_cover.asp.

TRAUMA SYSTEM PLAN SIGNIFICANT CHANGES

If significant changes to the trauma system occur after the Trauma System Plan has been approved, the Trauma System Plan must be revised and submitted to the EMS Authority for review and approval prior to the implementation of the changes. The California Code of Regulations outlines the requirements for significant changes to a Trauma System Plan.

- **Section 100253 (i):** After approval of a trauma system plan, the local EMS agency shall submit to the EMS Authority for approval any significant changes to that trauma system plan prior to the implementation of the changes. In those instances where a delay in approval would adversely impact the current level of trauma care, the local EMS agency may institute the changes and then submit the changes to the EMS Authority for approval within thirty (30) days of their implementation.

Significant changes would include designation or de-designation of trauma care facilities, changes in use of outside trauma care systems, change of trauma care system design, or major policy changes. Two copies of the revised Trauma System Plan should be submitted to the EMS Authority with a cover letter that clearly outlines the major changes.

Generally, significant changes will require the entire Trauma System Plan to be revised. However, specific section changes will be accepted only if they clearly fit within the old plan (i.e., page numbering remains the same, new sections are complete). A letter clearly outlining the changes must accompany two copies of

the section changes. Please contact the EMS Authority Trauma Coordinator to determine if section changes would be appropriate at (916) 322-4336.

The EMS Authority should be notified immediately upon **any** changes to the number of trauma centers. If a trauma center is added, a letter should be sent to the EMS Authority that includes the name of the trauma center, the street address, whether the trauma center is a public or private facility, the phone number for the hospital and the trauma office, the trauma center designation level, and the date it was designated.

The local EMS Agency should immediately contact the EMS Authority to alert them as to any possible de-designation or reduction in designation level of a trauma center and update the Authority as additional information becomes available. If the trauma center is ultimately de-designated or the designation level is reduced, a letter should be sent to the EMS Authority indicating the name, address and the level of the trauma center, and the date of de-designation or designation level reduction. The trauma plan should also be updated to indicate the addition or deletion of the trauma center and show how trauma patients will be cared for.

ANNUAL TRAUMA SYSTEM PLAN STATUS REPORT

Local EMS Agencies are required to include a trauma system status report as part of the annual EMS Plan update according to the California Code of Regulations.

- **Section 100253 (j):** The local EMS agency shall submit a trauma system status report as part of its annual EMS Plan update. The report shall address, at a minimum, the status of trauma plan goals and objectives.

The report is to be a separate chapter of the EMS Plan and is due one year from the approval of the most current EMS Plan. The report should include a summary of the trauma system, a description of any changes to the trauma system, the number and designation level of the trauma centers, an update of the status of the Trauma System Plan's goals and objectives and any modifications, progress toward or changes to the implementation schedule, and progress toward addressing any comments made in the EMS Authority's review of the Trauma System Plan. Any changes and/or additions to the Trauma System Plan should also be enclosed with the status report and clearly marked for incorporation into the trauma plan. A general format for the trauma system status report follows.

EMS Plan: TRAUMA SYSTEM STATUS REPORT

Trauma System Summary – Brief summary of trauma care system.

Changes in Trauma System – Describe any changes in the trauma care system and/or progress toward implementation.

Number and Designation Level of Trauma Centers – List the designated trauma centers and indicate any potential problems or possible changes in designation.

Trauma System Goals and Objectives – Provide update on progress toward meeting goals and objectives listed in the Trauma System Plan. Modify goals and objectives as appropriate.

Changes to Implementation Schedule – Indicate completion of activities and modify schedule as appropriate.

System Performance Improvement – Provide a description of trauma system review processes accomplished during the reporting year.

Pregress on Addressing EMS Authority Trauma system Plan Components – Trauma System Plan approval letters may include issues to be addressed or commented upon by the local EMS Agency. The status report should include an update of progress toward completion of these items along with any required changes accomplished as required in the approval letter. Changes should be accompanied by a cover letter which clearly indicates where the changes should be added to the Trauma System Plan.

Other Issues – Local EMS Agencies may include any other relevant issues as deemed appropriate.

San Mateo County Health
Emergency Medical Services
2017/2018 Trauma System Status Report
Submitted February 2019

Trauma System Summary

San Mateo County EMS (SMCEMS) system has a stable trauma system that is supported by two designated and American College of Surgeons (ACS) verified Level 1 trauma centers: Zuckerberg San Francisco General Hospital (ZSFGH) and Stanford Health Care (SHC) and one ACS verified Level 1 pediatric trauma center, also at Stanford Health Care. These trauma centers are not located within the physical boundaries of San Mateo County but are within proximity to the northern and southern borders of the county to ensure time sensitive transport of trauma patients. Pre-determined trauma center catchment areas were identified at the inception of San Mateo County trauma system. These areas were based on the average driving time to a trauma center and are reviewed periodically to ensure they continue to meet optimal trauma patient transport destination response time requirements.

Number and Designation of Level of Trauma Centers

As the designated trauma centers/programs serving San Mateo County are located within neighboring counties (San Francisco and Santa Clara), it is necessary for San Mateo County EMS to have established policies recognizing the designation processes established by each trauma centers respective LEMSAs. Written agreements are in place with SHC, ZSFGH, as well as, the City and County of San Francisco. In lieu of a formal agreement with the County of Santa Clara, EMSA approved a letter dated 7/9/12 from Santa Clara County's EMS administration recognizing San Mateo County's use of Stanford Health Care Trauma Center.

All trauma centers are required to undergo re-verification reviews by the American College of Surgeons (ACS) every three years as a component of their LEMSA's re-designation processes. In 2016, SHC and ZSFG were successfully re-verified by ACS and re-designated by their respective LEMSAs as Level 1 trauma centers and SCH was also re-verified by ACS and designated as a Level 1 pediatric trauma center by Santa Clara County EMS. All trauma centers are schedule for re-designation in 2019. San Mateo County EMS has requested to be included in the ACS reverification site review process at each trauma center.

Trauma registry data indicates that there were 1840 trauma patients from San Mateo County during the reporting period. This represents an 12.5% increase since our last trauma system status report was submitted.

Pediatric Patients - Change implemented

Both trauma centers continue to receive pediatric trauma patients; however, in September 2017, SMCEMS changed its trauma triage and destination policy (Attachment 1) regarding pediatric patients less than 6 years of age. All pediatric patients falling into this age category and triaged as major trauma patients are to be transported to SHC's Level 1 Pediatric Trauma Center regardless of the pre-determined catchment area. This action has long been discussed as ZSFG lacks a pediatric intensive care unit and other specialized support services available at a pediatric trauma center. There is national evidence that supports treatment at verified pediatric trauma centers may improve mortality and outcomes. Based on previous SMC data, it was estimated that this new triage and transport policy would affect approximately 12 or less pediatric transports annually. This decision was approved by our Medical Advisory Committee and is being monitored by SMCEMS.

Older pediatric trauma patients (> 6 yrs of age) continue to be transported to ZSFG Trauma Center. ZSFG has an agreement with UCSF Benioff Children's Hospital Oakland (Alameda County EMS designated Level 1 pediatric trauma center) for the transfer of critically injured pediatric patients given they do not have a pediatric intensive care unit and comprehensive pediatric critical care services available. This agreement also provides for a pediatric intensivist from UCSF's Benioff Children's Hospital San Francisco to be included in the case management all children admitted to the adult ICU at ZSFG. The Trauma Program's quality improvement process closely monitors all pediatric cases and includes the hospital's Pediatric Program participation in all trauma quality improvement activities and committees. Monthly reviews of pediatric admissions take place at the Trauma Program's Performance Improvement Committee, which SMCEMS attends.

Any pediatric trauma patient requiring aeromedical transport is also flown to the Level 1 Pediatric Trauma Center at Stanford Health Care since ZSFG campus does not support direct aeromedical transports.

Prehospital Data – Change implemented

All prehospital data collection is accomplished through the AMR MEDS system. The Fire MEDS program is now utilized by all fire departments including South San Francisco Fire Department. Trauma Scene times are measured and report as part of EMSA's Core Measure Project. The average trauma scene time for this reporting period was 24:08 minutes. A reduction of 05:43 minutes has been achieved from the previously reported average of 29:51 and may be attributed to system-wide trauma educational effort that occurred. The current methodology for calculating trauma scene times includes all trauma and does not isolated those categorized as major trauma requiring trauma center transport.

The number of trauma patients re-triaged from a San Mateo County receiving facility to a trauma center was reported to be 87. In our last system update, we did not have data from Stanford Health Care, so a system wide comparison cannot be made at this time.

All trauma centers utilize the approved trauma registries required by their respective LEMSAs and submit San Mateo County data to the CEMSIS Trauma Data Base.

Quality Improvement Activities - Change implemented

SMC EMS Trauma Triage and Transport and ED Patient Interfacility Transfers (Attachment 2) policies were reviewed and revised in September 2017. Changes to the Trauma Triage and Transport policy have already been discussed in the Pediatric Section of this report. The ED Patient Interfacility Transfer policy includes interfacility trauma transfer procedures and criteria guidelines for emergency (red box) and urgent (blue box) transfers. This red box/blue box criteria are based on guidance developed by the Bay Area Regional Trauma Committee (RTCC) to assist non-trauma center with recognition of trauma patients required trauma center interventions and a means to facilitate coordinated interfacility transfers. Trauma Field Treatment Protocols are schedule to be revised in 2019.

The EMS trauma program coordinator actively participates with each designating LEMSA's trauma QI processes. Both counties include San Mateo County patients in their internal quality improvement activities and there is excellent on-going communication with SMCEMS to identify issues. Annually, the trauma programs provide a comprehensive report and presentation to the EMS Agency's Medical Advisory Committee. The 2018 trauma reports and presentations are scheduled for March 20, 2019.

Injury Prevention

Falls consistently is reported by the two trauma centers as one of the leading causes of injury and hospital admission of older adults. San Mateo County EMS actively participates in the injury prevention efforts of the Fall Prevention Coalition of San Mateo County and provides the committee with system-wide data to assist in their annual strategic planning.

Recently, ZSFG has requested SMCEMS' assistance with a project to capture and track injuries involving newer vehicle types and methods of transportation access (vehicle sharing programs, app-accessed rides) to inform future injury prevention measures. This project is being looked at by the Bay Area Regional Trauma Care Committee (RTCC) for regional implementation. San Mateo County EMS continues to be active in the Bay Area Regional Trauma Care Committee (RTCC) and has representation at the scheduled bi-monthly meetings.

Agreements – No Changes

Written agreements are in place with ZSFGH and SHC and have recently been reviewed by SMCEMS and Health System administration.

Changes in the Trauma System

As previously reported, a change in the triage and transport of pediatric trauma patients under 6 years of age was implemented. This revision in the system, recognizes that pediatric trauma patients in this age group could benefit from the specialized pediatric services offered at a Level

1 Pediatric Trauma Center. The current trauma system catchment areas were established at the inception of the trauma system in San Mateo County and prior to the development and designation of
a pediatric trauma program at Stanford Health Care.

Goals and Objectives

The goal of the San Mateo County Trauma System is to facilitate excellent trauma care for all San Mateo County residents and visitors. SMCEMS continues to strive to meet this goal throughout on-going system evaluations and implementation of improvements as needed. Three objectives for the SMCEMS trauma system/program were identified as priorities for 2017/2018.

Objectives and Summary of Accomplishments

1. Continue to implement a comprehensive Trauma QI Plan.

   Trauma QI activities during the reporting period included:
   - On-going monitoring of trauma on-scene times resulting in decrease of >5 minutes.
   - Review of pediatric trauma patient transports resulting in a revision of trauma triage and transport policy to transport younger pediatric patients outside of the pre-designated catchment area to the Level 1 Pediatric Trauma Center.
   - On-going monitor of patients under-triaged to non-trauma centers and patients self-presenting to non-trauma centers requiring interfacility transfers resulting in policy revision (Objective 3).

2. Review and update all trauma-related written agreements.

   - EMS administration has reviewed all trauma-related written agreements in anticipation of upcoming reviews and designation processes which will occur in 2019.

3. Implement trauma re-triage guidelines for San Mateo County receiving facilities.

   - Prehospital under-triage of trauma patients continues to be monitored. Eighty-seven (87) patients required re-triage to a Trauma Center as reported by the trauma centers. It should be noted that not all patients were initially transported to a non-trauma receiving facility by a 911 ALS ambulance – many self- presented to these receiving facilities. The revised ED Patient Interfacility Transfer policy has facilitated the recognition of patients requiring trauma center services and the ease of interfacility transfers to a trauma center through the utilization of 911 ALS ambulances.

4. Revised the Trauma Triage and Destination Policy.

- Includes current recommendations for field triage of injured patients as well as new pediatric trauma center destination criteria

FY2018/2019 Proposed Objectives

1. Revise adult and pediatric trauma field treatment guidelines
    a. Enlist input/review by all trauma centers
    b. Monitor/audit required prehospital trauma education
2. Participate in the ACS reverification site reviews of the three trauma centers
3. Renew contracts with the trauma centers pending re-designations by their respective LEMSAs
4. Monitor the proposed Ritchie Fund activities of the Level 1 Pediatric Trauma Center at Stanford Health Care

COUNTY OF SAN MATEO
EMERGENCY MEDICAL SERVICES

POLICY NO:	OPS -22
DATE ISSUED:	1/2012
DATE REVISED:	9/2017
REVIEW DATE	9/2019

TRAUMA TRIAGE AND TRANSPORT

Purpose: To provide standard criteria for the identification and transport of major trauma patients

Authority: Division 2.5 Health and Safety Code. Article 2.5 Regional Trauma Systems. 1798.163

Definitions

1. Major Trauma Victim (MTV) is an injured patient(s) who meets one or more physiologic, anatomic or mechanism of injury criteria as defined in this policy.
2. Pediatric Major Trauma Victim is an injured child <15 years of age, who meets one or more physiologic, anatomic or mechanism of injury criteria as defined in this policy. Those Pediatric Major Trauma Victims <6 years of age shall be transported to Stanford Health Care.
3. Trauma Center is a licensed hospital, accredited by the Joint Commission, which has been designated as a Level I, II, III, or IV trauma center and/or Level I or II pediatric trauma center by the local EMS agency (LEMSA) and American College Surgeons (ACS).

San Mateo County Recognized Trauma Centers

Per the approved San Mateo County Trauma Plan, San Mateo County trauma system utilizes designated trauma centers in bordering counties: Zuckerberg San Francisco General Hospital and Stanford Health Care. Stanford Health Care is also recognized as the designated Pediatric Trauma Center.

Trauma Center Catchment Areas

1. Zuckerberg San Francisco General Trauma Center
   Persons injured in any area north of Devils Slide; on the north side or to the north of Trousdale Avenue, from Highway 280 to El Camino Real; on the north side or to the north of Millbrae Avenue, from El Camino Real to the San Francisco Bay.
2. Stanford Health Care Trauma Center/Pediatric Trauma Center

APPROVED:

Nancy A. Lapolla, MPH, EMS Director

Gregory H. Gilbert, MD, EMS Medical Director

Persons injured in any area south of and including Devils Slide; on the south side to the south of Trousdale Avenue, from Highway 280 to El Camino Real, on the south side or to the south of Millbrae Avenue, from El Camino Real to the San Francisco Bay.

3. Eden Trauma Center
   Persons injured east bound on the San Mateo Bridge or Dumbarton Bridge may be transported to Eden Medical Center in Alameda County.

Triage Criteria

1. Patients identified, as MTVs should be transported to a Trauma Center
   a. Transportation to a non-trauma center should only occur if a patient has an unmanageable airway.
2. Pediatric patients <6 years of age identified as MTVs shall be transported to Stanford Health Care Trauma Center
3. If there is any question as to the trauma status of the patient, consult shall be made with the Trauma Center as early as possible in the patient's evaluation.
4. The following categories are to be used to define a MTV: physiologic, anatomic, or mechanism of injury. If a patient meets one or more of any of the following criteria, they are considered to be a MTV and shall be transported to a Trauma Center.

Physiologic Criteria

	Adult	Pediatric
Systolic B/P	<90 mmHg	<6 yrs = <60 mmHg >6 yrs = <90 mmHg
Respiratory Rate	<10 or >29/min	<10 or >29/min <20 /min (< 1 yr) Requires ventilatory support
Glasgow Coma Scale	≤13	≤13

Anatomic Criteria

1. Penetrating injuries to head, neck, chest, back, abdomen, groin or extremities proximal to elbow or knee
2. Chest wall instability or deformity (e.g., flail chest)
3. Trauma with associated burns
4. Two or more proximal long bone fractures
5. Pelvic fractures
6. Open or depressed skull fracture
7. Traumatic paralysis or paresthesia
8. All gunshot wounds
9. Amputation proximal to ankle or wrist

10. Crushed, de-gloved, mangled, or pulseless extremity

Mechanism of Injury

1. Falls (one story = 10 ft.)
   a. Adult = > 20 ft.
   b. Pediatric = > 10 ft. or 2 times the height of the child; whichever is less.
2. High risk auto crash
   a. Death of a victim in the same passenger compartment of a vehicle
   b. Ejection (partial or complete) from the vehicle
   c. Extrication time > 20 minutes
   d. Vehicle telemetry data consistent with high risk injury
   e. Intrusion into interior compartment, including roof: >12 inches occupant site; >18 inches at any site
3. Auto-pedestrian/auto-bicycle, motorcycle
   a. Complaint of pain
   b. Obvious injury
   c. Thrown, run over, or separation from cycle
4. Significant blunt force trauma to head or torso from large animal (e.g. fall or kick from horse)

Special Considerations

1. Older Adults
   a. Risk of injury/death increases after age 55
   b. Systolic B/P <110 mmHg might represent shock after age 65 years
   c. Low impact mechanisms (e.g. ground level falls) might result in severe injury
2. Children
   a. Under 6 years of age shall be transported to Stanford Health Care Trauma Center
3. Co-morbid factors:
   a. Hx anticoagulation therapy or with bleeding disorder
   b. Hx cardiac, respiratory, diabetes and other metabolic diseases
   c. Hx end-stage renal disease requiring dialysis
   d. Pregnancy > 20 weeks
   e. Burns
      - Without trauma mechanism: triage to a burn facility
   f. Time sensitive extremity injury
      - Open fracture
      - Fracture with vascular compromise
   g. CNS changes witnessed by prehospital personnel that include the following:
      - Post traumatic seizure
      - Transitory or prolonged LOC (>1 minute)
      - Repetitive questioning

h. Patients, who in the best professional judgment of the paramedic, need to be categorized as major trauma victims.

Trauma Center Transportation

1. MTVs will be transported to the appropriate Trauma Center based on the defined Trauma Center catchment areas.
2. The decision to use Code 3 transportation to the Trauma Center will be determined by the transporting paramedic.
3. The paramedic will notify the TRAUMA CENTER as soon as possible.

COUNTY OF SAN MATEO
EMERGENCY MEDICAL SERVICES

POLICY NO:	FAC-4
DATE ISSUED:	5/2005
LAST REVIEW:	9/2017
NEXT REVIEW:	9/2020

ED PATIENT INTERFACILITY TRANSFERS

Purpose: To provide guidance for emergency departments on ground ambulance transport of patients that require interfacility transfer at the Basic (EMT), Advanced Life Support (ALS) (Paramedic), or Critical Care Transport (CCT) levels.

Compliance with law

1) All transfers shall comply with mandates contained in Federal and State law.
2) The sending ED physician determines the appropriate level of transportation required. Each ambulance service dispatch center should have call screening mechanisms assisting callers in selecting the most appropriate unit. The dispatch center will identify ALS calls and immediately transfer the call to Public Safety Communications (PSC) for a paramedic response.
3) The sending physician or designee should provide verbal report and transfer documents to arriving crews. These transfer documents must include the name of the sending and receiving physician. Once this has occurred, care for the patient is transferred to the ambulance crew until arrival at the destination and care has been transferred to the staff of the receiving facility.
4) The sending ED physician makes arrangements for the receipt of the patient by another physician at the receiving facility.

Description of Transport Options

CCT-RN Units

1) Type of patient:
   a) Unstable patient or a stable patient that requires care outside of the paramedic scope of practice
   b) Service can be scheduled or unscheduled and can be from any hospital department.
2) Staffing, equipment and authorization for care:
   a) The CCT unit is staffed with at least one (1) Registered Nurse and one (1) additional crew member at no less than the EMT level.

APPROVED:

Nancy A. Lapolla, MPH, EMS Director

Gregory H. Gilbert, MD, EMS Medical Director

b) The transferring physician, receiving physician, or CCT provider agency may suggest additional staff.
c) If specialized equipment is needed details should be discussed at the time the service is requested.
d) Care is provided by the registered nurse under standing orders and standardized procedures authorized by the provider's medical director. Additional orders are provided by the transferring physician.

3) Patient destination is determined by the transferring physician based on patient need.
4) Requesting a CCT Ambulance:
   a) Request CCT Ambulance through private ambulance provider.
   b) Urgent service can be requested if needed.
   c) Do not request a CCT through PSC.

BLS Ambulance

1) Type of patient:
   a) Stable patient unless the BLS ambulance staffing is supplemented by additional health care providers (MD, RN, RT)
2) Staffing:
   a) Basic Life Support ambulances are usually staffed with two (2) Emergency Medical Technicians.
   b) Additional staff may accompany the BLS unit from the transferring hospital if needed and approved by the BLS provider.
   c) Specialized units staffed by EMT providers may accompany teams for critical care transfer of specialized patients.
3) Care During Transports/Scope of Practice:
   a) The EMT will follow standard orders provided by the ambulance provider that are within the state scope of practice (see scope of practice table below).
   b) The transferring facility may provide additional instructions within this scope of practice
   c) If the patient's condition deteriorates during transport requiring treatment not included by the physician orders and EMT scope of practice, ambulance personnel will divert to the closest receiving hospital and notify the receiving hospital prior to arrival. The transferring physician will be notified as soon as possible.
4) Requesting a BLS ambulance:
   a) Service may be scheduled or unscheduled.
   b) Urgent service can be requested if needed.
   c) Do not request a BLS ambulance through PSC.

EMS/911 System Paramedic Ambulance/ALS Ambulance

1) Type of patient:
   a) Unstable or potentially unstable patients from the emergency department transferred to another hospital for specialized or higher level of care. (Examples include: patients identified as major trauma victims by anatomic or physiologic criteria, patients with 3rd trimester obstetrical complications and patients in need of immediate surgical intervention for life threatening events. 911 ambulances may also transfer patients for acute STEMI or stroke care as defined by San Mateo County policy and protocols.)
2) Staffing:
   a) The 911 ambulance is staffed by two health care providers. At least one is a paramedic. The second staff member may be an EMT or paramedic.
3) Care During Transport/Scope of Practice:
   a) The paramedic will follow San Mateo County Emergency Medical Services Policies, Protocols, and Procedures. Any modification must be by a Base Hospital physician and must be within the San Mateo County Scope of Practice (see Scope of Practice chart below)
   b) Patient destination is determined by the sending physician but must comply with San Mateo County policy and protocol.
4) Requesting a 911 system/paramedic ambulance:
   a) Contact San Mateo County PSC by Microwave phone (344) or landline telephone at 650-364-1313.
   b) PSC will ask five screening questions to determine patient condition
   c) The patient should be ready for transfer within 15 minutes of the request to PSC. The ambulance will usually arrive at the hospital within 13 minutes of the request.

Special Considerations

Major Trauma Patient Transfer/Consult (see Trauma Transfer algorithm, next page):

TRAUMA TRANSFER PROCEDURE

STEP 1	Determine appropriate level of transfer using chart below. Contact receiving Trauma Center and confirm acceptance of the patient **Stanford Trauma Center** • **1-650-724-2243 (Emergency)** • **1-650-723-4696 (Urgent – Adult)** • **1-650-723-7342 (Urgent – Pediatric)** **Zuckerberg S.F. General Trauma Center:** • **1-628-206-8111** ****Request to speak to Attending in Charge (AIC) about Trauma Re-Triage Patient****
STEP 2	**As soon as need for transfer is recognized,** request **CODE 3 TRAUMA TRANSFER** using ED to County Communication microwave direct line (#344)
STEP 3	Prepare patient and paperwork for immediate transport before ambulance arrives.
STEP 4	For trauma consults on patients not meeting red or blue box criteria, contact the trauma center and request to speak to the Trauma Attending-In-Charge about Trauma Re-Triage Patient • Stanford Trauma Center: 1-650-723-4696 (Adult) or 1-650-723-7342 (Pediatric) • Zuckerberg SF General Trauma Center: 1-628-206-8111

TRAUMA TRANSPORTATION SELECTION CRITERIA

EMERGENCY TRANSFER PATIENTS: Call Trauma Center PRIOR to Transfer and state RED BOX TRAUMA TRANSFER

Stanford Trauma Center:
- **1-650-724-2243**

Zuckerberg S.F. General Trauma Center:
- **1-628-206-8111**

****Request to speak to Attending in Charge (AIC) about Trauma Re-Triage Patient****

ED physician determines patient requires immediate evaluation/resuscitation by a trauma center

Some indicators:

Blood Pressure
- B/P of <90 or
- Decrease in B/P by 30mmHg following 2 liters of IV crystalloid

Head Injury with Blown Pupil

Penetrating Thoracic or Abdominal Trauma

URGENT TRANSFER PATIENTS: Call Trauma Center PRIOR to Transfer

Stanford Trauma Center:
- **1-650-723-4696 (Adult)**
- **1-650-723-7342 (Pediatric)**

Zuckerberg S.F. General Trauma Center:
- **1-628-206-8111**

****Request to speak to Attending in Charge (AIC) about Trauma Re-Triage Patient****

ED physician determines that the patient requires urgent evaluation by a trauma center based on the following indicators:

Anatomic area	**Related Injuries**
Central Nervous System	• GCS <14 with abnormal CT Scan • Spinal Cord or major vertebral injury
Chest	• Major chest wall injury with >3 rib fractures and/or pulmonary contusion • Cardiac Injury
Pelvis/Abdomen	• Pelvic ring disruption • Solid organ injury confirmed by CT Scan or ultrasound demonstrating abdominal fluid
Major extremity injuries	• Fracture/dislocation with loss of distal pulses and/or ischemia • Open long bone fractures • Two or more long bone fractures • Amputations that require reimplantation
Co-morbid factors	• Adults > 65 y/o • **Pediatric < 6 y/o Transfer to Stanford (Pediatric Trauma Center)** • Pregnancy - >22 weeks gestation • Insulin dependent diabetes • Morbid obesity • Cardiac or Respiratory disease • Immunosuppression • Antiplatelet or anticoagulation agents
Multiple-System Injury	• Trauma with associated burns **Transfer to closest Trauma Center** • Major injury to more than two body regions • Signs of hypoperfusion – Lactate >4 or Base Deficit >4

TRAUMA LEVEL OF TRANSPORTATION

CATEGORY	TYPE/STAFF	DESCRIPTION	CAPABILITIES	TYPICAL ETA	PROVIDERS
Emergent ALS	Advanced Life Support	Standard Paramedic transport	Consider for cases meeting **emergency** and **urgent** criteria above, paramedic scope of practice	Approx. 10 min	9-1-1 System
CCT-RN	Critical Care Transport Ground: 1 RN	Critical Care RN Transport	Mechanical ventilation and most medications	60-120 min ETA can be extended	Facility Choice
Air Ambulance	Critical Care Transport Air: 2 RNs	Critical Care RN Transport	Advanced practice RN / expanded scope of practice	ETA can be extended	CALSTAR/REACH; LifeFlight

1) Pediatric Critical Care Center Transfer:
   a) San Mateo County recognizes three Pediatric Critical Care Centers (PCCC).
   b) To contact these centers call their 24 hour consultation line to make transfer and transportation arrangements:
      i) Stanford Health Care Lucile Packard Children's Hospital Dispatch 650-723-7342
      ii) California Pacific Medical Center 888-637-2762 (Transfer Center) or 415-600-0720 (PICU)
      iii) UCSF Benioff Children's Hospital– 877-822-4453 (Transfer Center) or 415-353-1352 (PICU)
   c) If the intended PCCC cannot immediately accept the patient, that PCCC will take responsibility for:
      i) locating an alternate PCCC able to immediately accept the patient, and
      ii) keeping the sending hospital informed as to the success or failure of securing a PCCC able to immediately accept the patient.
      iii) Inform EMS Agency, if PCCC did not assist in finding an alternate PCCC.
2) Scope of Practice Chart – (CCT-RN Scope of Practice is determined by provider's medical director):

Skills/Medication/Procedure	**BLS**	**911 – Paramedic**
Vital signs stable	X	X
Unstable vital signs		X
Oxygen by mask or cannula	X	X
Level of consciousness-stable	X	X
Level of consciousness-unstable		X
Peripheral IV established (no additives) 5 or 10% Dextrose, Saline, Ringer's Lactate or combined solutions	X	X
Peripheral IV established with Lidocaine, Dopamine, or potassium chloride (20 mEq/mL)		X
Mechanical respiratory assistance (patient's vent accompanied by a trained attendant who will do suctioning)	X	X
Intubated patient with BVM ventilation		X
NG, gastric tubes, Foley catheter	X	X
Saline lock, indwelling vascular access device (not infusing fluids or medication)	X	X
Central IV line in place (non-infusing)	X	X
Cardiac monitor		X
Temporary pacemaker in place		X

Standby or anticipated transcutaneous pacing		X
Medication administration in progress or anticipated. IV drips cannot be maintained on a mechanical pump and are only approved as noted. Adenosine Albuterol Atropine Calcium Chloride Dopamine-IV Drip Dextrose Diphenhydramine Midazolam Morphine Sulfate Narcan Nitroglycerine spray or paste Ondansetron Sodium Bicarbonate		X