ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
EMERGENCY MEDICAL SERVICES

2022-2023 (Update)
TRAUMA SYSTEM STATUS REPORT

March 2024

(All 2022-2023 Updates in Arial Black Bold Italic Font)

2022-2023 EMS PLAN: TRAUMA SYSTEM STATUS REPORT

TRAUMA PLAN SYSTEM SUMMARY

BACKGROUND

The Alameda County Trauma System Plan was approved by the State of California and implemented in January of 1987. The purpose of the trauma system, as written in 1985, was to assure optimum preparation, response, and definitive care for the people that incur critical traumatic injuries within Alameda County. The goal remains unchanged. The many changes influencing the health care delivery system in the Unites States over the years have affected the trauma system in the County Operational Area. Yet, the fundamental components of the trauma system design remain intact and continue to meet the needs of the residents and visitors to Alameda County.

In November of 1986, the Board of Supervisors provisionally designated UCSF Benioff Children's Hospital, Oakland, as the pediatric trauma center and Sutter Eden Medical Center and Alameda Health System Highland Hospital Oakland as the adult trauma centers. The trauma system operations began on January 15, 1987.

The EMS Agency is responsible for overall trauma system monitoring and quality improvement, and for administration of the trauma center designation contract. The trauma system quality improvement process established by Alameda County includes a joint Alameda-Contra Costa County Trauma Audit Committee (TAC), facilitation of the region's Regional Trauma Coordinating Committee, and a trauma registry maintained both by the Trauma Center and by the County EMS Agency. The EMS Medical Director - Karl Sporer MD, and the EMS Prehospital Care Coordinator – Michael Jacobs, Paramedic, primarily conducts trauma system oversight. The Trauma Audit Committee meets quarterly to review cases treated at the four trauma centers that serve Alameda and Contra Costa Counties. The Alameda/Contra Costa County EMS Medical Directors, Trauma Service Directors, Trauma Surgeons, or members of the Pre-Trauma Audit Committees submit cases to the Trauma Audit Committee for review. During 2009, a system was developed to allow trauma surgeons to review these cases electronically.

BRIEF OVERVIEW SUMMARY - TRAUMA CARE SYSTEM

Key elements of the current Trauma System Program include the following:

- Designation of one adult Level I trauma center, one adult Level II trauma center and one Level 1 pediatric trauma center that serve all of Alameda County. The Alameda County trauma centers serve the surrounding counties on a less frequent basis, with the exception of UCSF Benioff Children's Oakland that also routinely receives patients from other areas throughout Northern California.
- Trauma center designation is determined based on an open competitive process including use of an outside team of experts to evaluate trauma center applications.
- Maintenance of verification (April 2021-2024) from the American College of Surgeons Committee on Trauma: Level 2 Adult Trauma Center status for Sutter Eden Medical Center, Level 1 Adult Trauma Center status for Alameda Health System Highland Hospital and Level 1 Pediatric Trauma Center status for UCSF Benioff Children's Hospital Oakland.
- Recognition of the Level I pediatric trauma center designated by Alameda County as the appropriate facility to serve the needs of pediatric trauma patients.
- Full integration of the trauma system into the existing EMS system.
- Field triage of all major trauma patients to a designated trauma center when possible.
- Use of air ambulance transport (helicopter) services to reduce trauma transport times when appropriate.
- Maintenance of a trauma registry to track trauma system and trauma center performance on a case-by-case basis.
- A bi-county trauma audit (quality assurance and improvement) process to assure outside expert review of the trauma center and the trauma system on an ongoing basis.
- Full participation in regional and state trauma system activities.
- Full participation in CEMSIS Trauma and EMS data sharing.
- Implementation of a countywide pediatric and neonatal disaster / surge plan to support traumatic injury as the result of catastrophic earthquake or multi-casualty events involving traumatic injury. -

- Active injury prevention activities supporting preventable injuries in children in collaboration with Sutter Health Eden Medical Center, Alameda Health System Highland Hospital and UCSF Benioff Children's Hospital in Oakland.
- Development of an intra-facility transfer processes to support enhanced trauma patient destination workflow implemented via regional Trauma Re-Triage protocol in January 2013, last revised 2017.
- Implementation of Spinal Motion Restriction treatment protocols and equipment.
- Implementation of TXA administration (adult) adopted into EMS protocol 2018.

NUMBER AND DESIGNATION LEVEL OF TRAUMA CENTERS (2022)

TRAUMA CENTERS

- Alameda Health System (Highland) – Oakland – ACS Adult Level-1 – LEMSA Adult Level 2
- Sutter Health Eden Medical Center – Castro Valley – ACS Adult Level 2 – LEMSA Adult Level 2
- UCSF Benioff Children's Hospital Oakland – ACS Pediatric Level 1 – LEMSA Pediatric Level 1

CHANGES IN TRAUMA SYSTEM

PROGRESS TOWARD IMPLEMENTATION

RE-ORGANIZATIONS

- **Trauma Hospitals – Designations** - American College of Surgeons (ACS) Initial Verification was completed at all Alameda County Trauma Centers in April 2014: UCSF Benioff Children's Hospital Oakland (Level-1 Pediatric). Alameda County Medical Center (Highland) and Eden (Level 2 Adult). ACS Verification is now a requirement of the Alameda County Trauma Center MOU.

NEW CONTRACTS, AMENDMENTS, & REQUIREMENT UPDATES - *2022-2023*

- **ALAMEDA COUNTY BASE HOSPITAL SUBSIDY**
  - Alameda Health System (Highland) - Oakland – Amendments 2021
- **TRAUMA CENTERS** – Current Master Contract Amendments executed July 1, 2021, termed through June 30, 2024
  1. Alameda Health System (Highland) – Oakland
  2. Sutter Health Eden Medical Center – Castro Valley
  3. UCSF Benioff Children's Hospital Oakland

  - Contract / MOUs - Master Contract amendments for the 3 Trauma Centers approved for July 2021-2024.
  - ACS Verification is now a requirement of the Alameda County EMS Trauma Center MOU.
  - All trauma centers successfully completed ACS re-verification in April 2021: Alameda Health System Highland Hospital-Level 1 Adult**,** Sutter Eden Medical Center-Level 2 Adult and UCSF Benioff Children's Hospital Oakland-Level 1 Pediatric.
  - All trauma centers are scheduled for ACS re-verification in April 2024.

TRAUMA SYSTEM GOALS AND OBJECTIVES

INCLUDES PROGRESS TOWARD IMPLEMENTATION

TRAUMA PLANNING

- Objective: The purpose of the trauma plan is to monitor the delivery of services, improve trauma care through use of best practices in reducing death and disability, and identify areas where improvement can be made.
  - Short-Range Plan: Maintain ACS Verification as a requirement of the MOUs with ALCO trauma centers. ***Establish and complete a pre-designation assessment/evaluation for Washington Hospital prior to them receiving EMS trauma patients. ALCO EMS to provisionally designate Washington Hospital as a Level 2 Adult Trauma Receiving Center by July 1st, 2024.***
  - Long-Range Plan – Designate one new ACS Adult Level 2 verified Trauma Center by 2027: ***Washington Hospital***

- Short Range Plan: Improve the functionality of our Trauma Audit Committee by adding a pre-TAC component. Improve our analysis of existing trauma TQIP data.

- Progress to Date: ACS verification is now a requirement in current Trauma Center contracts that were executed in 2021 expire in 2024. (Renewal July 1, 2024-June 30, 2027)
  - ALCO EMS and its county trauma centers continue to participate in RTCC x4 annually.
  - ALCO EMS and its county trauma centers continue to participate in TAC x4 annually.
  - ALCO EMS recently completed (5/2022) a yearlong assessment/evaluation of its three-decade mature trauma system. This assessment was prompted by the inquiry of two community hospitals located in Alameda County, regarding interest in becoming designated adult trauma centers. The assessment/evaluation was outsourced to a nationally recognized and reputable trauma consulting group with over thirty years of exclusive trauma content expertise.

    The intent of the assessment was to evaluate the performance and operational stability of the current trauma system in Alameda County. As well, the consultants were tasked to investigate the potential need for additional trauma centers, immediate and or future, to meet the need of population growth in Alameda County over the next two decades.

    At the conclusion of the assessment/evaluation, the findings/recommendation were that the current trauma system in Alameda County is stable and high performing. But considering the projected population growth over the next twenty years, the trauma system could benefit from one additional trauma center in the next five years and possibly a second in the next ten to twenty years. The data analysis from the assessment suggested that the next trauma center to be designated within the next five years by ALCO EMS should be Washington Hospital Healthcare System (WHHS) located in Fremont, southern Alameda County. ALCO EMS will be working closely in collaboration with WHHS for them to achieve ACS Adult Level 2 verification by 2027.

COMPLIANCE WITH POLICIES - TRAUMA

- Objective: Data
  - Leverage HL7 compliant software systems currently in place to get EMS data into hospital data systems, and get outcome data out of hospital systems
  - Long Range Plan. Continue Monitoring via site visits to monitor and evaluate system components; Continue 24/7 On-Call and response capabilities for unusual occurrences, MCIs, and other immediate system needs; and MCI after action reports and improvement plans
- Progress to Date:
  - ***Implementation of 2022 ACS National Guidelines for Field Trauma Triage of Injured Patients January 2024. (Exhibit A)***
  - ***Implementation of revised ALCO EMS notification template for Base Hospital/Physician contact, and specific receiving center ringdowns regarding specialty care patients, including trauma, January 2024 (Exhibit B)***
  - ***Implementation of NEMSIS 3.5 October 2023.***
  - ***Establish bidirectional Healthcare Data Exchange (HDE) with all ALCO hospitals, currently 6/13 and 2/3 TCs.***
  - Alameda County EMS plans to implement the CEMSIS data elements (“primary impression” and other elements) in 2016.
  - Ensuring overarching Monitoring Mechanism: QI Committee and Plan; Policy Review; Unusual Occurrences; Trauma Audit; Training Program and CE Provider; and System Audits – Cardiac Arrest; intubation
  - On-going Evaluation & Improvement Plans - MCI “Real Event”: Train Derailment Incident March 7, 2016 – Evaluated MCI, ReddiNet, and HAvBED Policy

QA/QI - TRAUMA

- Objectives:
  - Short Range Plan: Continue pre-hospital data analysis and reporting from EMS and providers utilizing Tableau analytic tool
  - Long-Range Plan - Integration of data with hospitals via HDE and/or other methods
    Participate in the ACS Trauma Quality Improvement Program (TQIP) for EMS system performance
  - QI Plan includes trauma on Website, update QI plan in 2023

- Improve QI communication to field from LEMSA
- Progress to Date:
  - Alameda County EMS ensures QI System-Wide Procedures and Plan
  - Alameda County Trauma Centers participate in the ACS Trauma Quality Improvement Program
  - Provider based QI Plans
  - EMS QI Plan approved by state EMSA
  - CA EMSA Core Measures
  - One ePCR data collection and reporting system for all 911 providers
  - Data analysis and trend identification
  - Training based on trends
  - Policy Review
  - QI committee groups: EMSA Core Measures; Quality Council, ePCR; Equipment, Trauma Audit, and Receiving Hospital
  - EMS representation at hospital Trauma Quality Review and Process Improvement Meetings
  - ***Establish bidirectional Healthcare Data Exchange (HDE) with all ALCO hospitals, currently 6/13 and 2/3 TCs.***
  - ***2024 CQI Trauma Metrix:***

Scene Time (90th Percentile) - Trauma Alerts	Process
Scene Time ≤ 10 Minutes	Process
Scene Time ≤ 20 Minutes	Process
Pre-Arrival Notification for Trauma Patients Meeting Trauma Triage Criteria	Process
Transport to a Trauma Receiving Center for Patients Meeting Trauma Triage Criteria	Process
ETC02 Usage - Traum Alerts	Process
Oxygen Administration for Hypoxia - Trauma Alerts	Process

TRAUMA SYSTEM PLAN

- Objective: Review and update a trauma care system plan
- Progress to Date:
  - Alameda County EMS has a plan for trauma care and determines the optimal system design for trauma care.
  - **Trauma Centers**: Alameda Health System (Highland Hospital)-ACS Adult Level 1; Sutter – Eden Medical Center-ACS Adult Level 2; UCSF Benioff Children's Hospital Oakland-ACS Pediatric Level 1.
  - **Trauma Plan Status**:
    - Trauma System Plan updated and accepted by EMSA in ***2023***
    - MOU contracts with the 3 designated Trauma Centers: currently 2021-2024 (renewal, 2024-2027)

  - ***Trauma Patient Volume for 2023***
    - ***UCSF Benioff Children's Hospital 1264***
    - ***Sutter Eden Medical Center 2727***
    - ***Alameda Health System – Highland Hospital INC***
    - ***Total trauma patient volume INC***
    - ***Total trauma activations INC***
    - ***Total critical patient Level-1 activations INC***

    2023 Incomplete at the time of this report: Highland Q1-3 ONLY

- ***Trauma Patient Volume for 2022***
  - ***UCSF Benioff Children's Hospital 1148***
  - ***Sutter Eden Medical Center 2536***
  - ***Alameda Health System – Highland Hospital 3578***
  - ***Total trauma patient volume 7262***
  - ***Total trauma activations 5071***
  - ***Total critical patient Level-1 activations 1321***

- **Receiving Facilities/Non-Trauma Centers** – The non-trauma facilities in Alameda County receive some patients meeting Trauma Patient Criteria (CTP), as outlined in EMS Policy Trauma Triage Criteria. These facilities are directed to call 911 for emergent transfers to the closest trauma center by use of Trauma Triage/Re-Triage Policy, updated 2017 (attached).
  - Priority education and training on the Emergency Triage/Re-Triage to Trauma Center Policy – Ensure process for re-triage of patients needing trauma care from non-trauma hospitals is efficiently adhered to.

PUBLIC INPUT

- Objective:
  - Continue obtaining input from consumer and healthcare partners.
- Progress to Date:
  - Various committee collaborations are continuing to ensure public input and EMS agency representation as follows: EMS Quality Council; Emergency Medical Oversight Committee EMOC; Receiving Hospital Committee; Trauma Audit Committee; Regional Trauma Audit Committee; Data Steering Committee; ePCR Change Committee; EMS Section Chiefs Committee; Alameda County Fire Chiefs Committee; EMSAAC/EMDAAC; LEMSA Coordinators Meeting; and other ad-hoc committees

Triage & Transfer Protocols: SEE ATTACHED PROTOCOLS

2022-2024 TRAUMA PRIORITY WORKPLAN

IDENTIFIED MAJOR NEEDS

1. Facilitate Specialty Trauma Centers - Quality Improvement - Continued data collection for driving continual improvements in care; development of more robust and comprehensive collaborative trauma care quality improvement program

GOALS:

1. Continued enhancement of quality improvement programs including those associated with trauma specialty systems of care
2. Continue to host the Regional Trauma Care Committee as well as participate in local EMS system Clinical Quality Oversight and Process Improvement collaborations.

MAJOR PROGRAM SOLUTIONS – TRAUMA SYSTEM

Refer to the new changes below that will strengthen the EMS system.

- **Identify and implement solutions consistent with the Triple Aim** of the Institute for Healthcare Improvement
- **Continuous quality improvement. Strengthen Continuous Trauma Quality Improvement Program** on an ongoing basis.
- **Emergency Department Pediatric "Readiness" for Trauma** - Site Visits and Evaluations - April and June in 2016 (Completed)
- **Facilitate EMS New Policy / Procedure Update** – Disseminate annual trauma policy information update; and conduct training
- **Ensure Interoperable & Redundant Disaster Communications** - Strengthen infrastructure - interoperable and redundant communications. Expand participating partner access to ReddiNet and EBRCS system.
- **Strengthen Disaster Response Capability** - Strengthen regional resource inventory and relationships with neighboring Operational Areas. Develop a framework for transportation to assist in facilitating

expansion and decompression of Operational Area (OA) medical surge capacity. Given limited transportation resources, a plan for medical surge acquisition and use of prehospital provider resources including alternative transportation vehicles is a priority. Under the HPP work plan grant, a medical surge contractor has been hired to explore prehospital BLS surge capacity - patient movement including preparing to move patients within the OP area. Given that the state and region including EMSA, CDPH, OES, ABAHO and the Bay Area UASI have several ongoing projects to expand surge capacity including the MAC Project, IRG project, and Catastrophic Earthquake Planning, EMS is participating on planning committees and aligning surge plans accordingly.

- **Enhance Bi-Directional Data Sharing Capabilities -** amongst Dispatch Centers, First Responder, Transport Providers, and hospitals – Leverage HL7 compliant software systems to get EMS data into hospital data systems and get outcome data out of hospital systems.
- **Support for ePCR system** – Provide fully functional ePCR Training System, business Intelligence Portal, Tier 4 Hosting Center and redundant hardware for servers starting April 2016 through April 2017
- **Promote Patient Care "Best Practices"** - Sustain and strengthen research and disseminate information **–** Ensure sustainable research funding sources. Seek revenue to enhance already existing programs and to conduct approved trials.
- **Community Awareness and Engagement** - "STOP the BLEED" campaign and courses through ALCO EMS, ALCO EMS Providers and ALCO Trauma Center involvement and support.

July 2020, a memo was disseminated countywide to ALL EMS field providers by the LEMSA, regrading Patients with Suspected COVID-19: ALCO EMS Suspected COVID-19 Interim Guidance (see attached).

Each Trauma Receiving Center has its own policy/procedure in place to manage suspected/confirmed COVID-19 patients.

2023 Incomplete at the time of this report: Highland Q1-3 ONLY

Trauma Statistics 2023	Children's		Eden		Highland	
	Total	%	Total	%	Total	%
PATIENT COUNT	1264	100.00%	2727	100.00%	3020	100.00%
ACTIVATE - LEVEL 1	135	10.68%	382	14.01%	610	20.20%
ACTIVATE - LEVEL 2	830	65.66%	1329	48.73%	1696	56.16%
ACTIVATE - DIR ADMIT	6	0.47%	0	0.00%	0	0.00%
ACTIVATE - CONSULT	75	5.93%	82	3.01%	106	3.51%
ACTIVATE-OTHER/NONE	218	17.25%	0	0.00%	96	3.18%
ACTIVATE--6,7,8	0	0.00%	934	34.25%	512	16.95%
ADM AFTER TRA/ED	726	57.44%	1586	58.16%	1261	41.75%
ADM AFTER TRA/ED ICU	80	11.02%	268	16.90%	258	20.46%
ADM AFTER TRA/ED OR	181	24.93%	193	12.17%	174	13.80%
ADM AFTER TRA/ED TCU	0	0.00%	144	9.08%	206	16.34%
ADM AFTER TRA/ED WARD	460	63.36%	665	41.93%	623	49.41%
ADM AFTER TRA/ED UCU, IR	1	0.14%	316	19.92%	0	0.00%
DISCHARGES after TRA/ED	534	42.25%	1141	41.84%	1759	58.25%
DISCHARGES HOME/OTHER	493	92.32%	1035	90.71%	1563	88.86%
DISHARGES AMA	1	0.19%	27	2.37%	67	3.81%
DISCHARGES- ACUTE TRANS.	29	5.43%	62	5.43%	92	5.23%
DISHARGES MORGUE	9	1.69%	17	1.49%	37	2.10%
OUTCOME LIVED	1244	98.42%	2655	97.36%	2928	96.95%
OUTCOME DIED	20	1.58%	72	2.64%	92	3.05%
POS > 50%	984	77.85%	2683	98.39%	2946	97.55%
POS >50% DIED	5	0.40%	46	1.69%	39	1.29%
POS >50% LIVED	5	0.40%	17	0.62%	8	0.26%
ISS > 15	82	6.49%	273	10.01%	257	8.51%
DOA	0	0.00%	7	0.26%	39	1.29%
BLUNT	1208	95.57%	2539	93.11%	2555	84.60%
PENETRATING	56	4.43%	188	6.89%	465	15.40%
MALE	759	60.05%	1702	62.41%	1929	63.87%
FEMALE	505	39.95%	1025	37.59%	1091	#NAME?

Trauma Statistics 2022	Children's		Eden		Highland	
	Total	%	Total	%	Total	%
PATIENT COUNT	1148	100.00%	2536	100.00%	3578	100.00%
ACTIVATE - LEVEL 1	131	11.41%	329	12.97%	861	24.06%
ACTIVATE - LEVEL 2	746	64.98%	1228	48.42%	1776	49.64%
ACTIVATE - DIR ADMIT	6	0.52%	1	0.04%	1	0.03%
ACTIVATE - CONSULT	73	6.36%	95	3.75%	99	2.77%
ACTIVATE-OTHER/NONE	192	16.72%	0	0.00%	0	0.00%
ACTIVATE--6,7,8	0	0.00%	883	34.82%	841	23.50%
ADM AFTER TRA/ED	695	60.54%	1626	64.12%	1571	43.91%
ADM AFTER TRA/ED ICU	108	15.54%	286	17.59%	336	21.39%
ADM AFTER TRA/ED OR	167	24.03%	208	12.79%	286	18.20%
ADM AFTER TRA/ED TCU	0	0.00%	126	7.75%	228	14.51%
ADM AFTER TRA/ED WARD	420	60.43%	676	41.57%	721	45.89%
ADM AFTER TRA/ED UCU, IR	0	0.00%	330	20.30%	0	0.00%
DISCHARGES after TRA/ED	453	39.46%	910	35.88%	2007	56.09%
DISCHARGES HOME/OTHER	412	90.95%	821	90.22%	1779	88.64%
DISHARGES AMA	0	0.00%	23	2.53%	88	4.38%
DISCHARGES- ACUTE TRANS.	21	4.64%	53	5.82%	98	4.88%
DISHARGES MORGUE	10	2.21%	13	1.43%	42	2.09%
OUTCOME LIVED	1128	98.26%	2466	97.24%	3464	96.81%
OUTCOME DIED	20	1.74%	70	2.76%	114	3.19%
POS > 50%	874	76.13%	2494	98.34%	3451	96.45%
POS >50% DIED	2	0.17%	46	1.81%	42	1.17%
POS >50% LIVED	3	0.26%	18	0.71%	11	0.31%
ISS > 15	100	8.71%	290	11.44%	378	10.56%
DOA	0	0.00%	4	0.16%	29	0.81%
BLUNT	1105	96.25%	2378	93.77%	2923	81.69%
PENETRATING	43	3.75%	158	6.23%	655	18.31%
MALE	692	60.28%	1537	60.61%	2461	68.78%
FEMALE	456	39.72%	999	39.39%	1117	#NAME?

TRAUMA PATIENT CRITERIA

1. **INTRODUCTION:** The goal of the Alameda County trauma system is to transport confirmed patients meeting the various criteria below to a designated trauma center in a timely manner, bypassing non-trauma centers

2. **RED CRITERIA TRAUMA PATIENTS (High Risk for Serious Injury):**

   2.1 A patient is identified as at high risk for serious injury when any of the following injury patterns or mental status/vitals signs listed below are present. These patients should be transported to a designated Trauma Center rapidly.

Injury Patterns	Mental Status & Vitals Signs
• Penetrating injuries to head, neck, torso,and proximal extremities • Skull deformity, suspected skull fracture • Suspected spinal injury with new motor or sensory loss • Chest wall instability, deformity, or suspected flail chest • Suspected pelvic fracture • Suspected fracture of two or more proximal long bones • Crushed, degloved, mangled, or pulseless extremity • Amputation proximal to wrist or ankle • Active bleeding requiring a tourniquet or wound packing with continuous pressure	**All Patients** • Total Glasgow Coma Scale ≤ 13 ***or***; Motor GCS < 6 (Unable to follow commands) • RR < 10 or > 29 breaths/min • Respiratory distress or need for respiratory support • Room-air pulse oximetry < 90% **Age 0–9 years** • SBP < 70mm Hg + (2 x age in years) **Age 10–64 years** • SBP < 90 mmHg or • HR > SBP **Age ≥ 65 years** • SBP < 110 mmHg or • HR > SBP

3. **YELLOW CRITERIA TRAUMA PATIENTS (Moderate Risk for Serious Injury):**

   3.1 In addition to above criteria, the following mechanisms of injury and EMS provider judgment of risk factors can be utilized to preferentially triage a patient to a trauma center. In general, these patients are transported code 2, however, differing field circumstances and/or patient condition may require a code 3 transport

Mechanism of Injury	EMS Judgment
• High-Risk Auto Crash – Partial or complete ejection – Significant intrusion (including roof) • >12 inches occupant site OR • >18 inches any site OR • Need for extrication for entrapped patient – Death in passenger compartment – Child (age 0–9 years) unrestrained or in unsecured child safety seat – Vehicle telemetry data consistent with severe injury • Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.) • Pedestrian/bicycle rider thrown, run over, or with significant impact • Fall from height > 10 feet (all ages)	**Consider risk factors, including:** • Low-level falls in young children (age ≤ 5 years) or older adult (age ≥ 65 years) with significant head impact • Anticoagulant use • Suspicion of child abuse • Special, high-resource healthcare needs • Pregnancy > 20 weeks • Burns in conjunction with trauma • Children should be triaged preferentially to pediatric capable centers • EMS Provider judgment - If concerned, take to a trauma center

4. **TRANSPORT:** Patients that meet Red or Yellow trauma criteria in the prior sections will be transported to **the closest, most appropriate, designated Trauma Center. Exception:** The patient is identified as meeting Red or Yellow trauma criteria, but presents with one of the following:

PATIENT PRESENTATION	ACTION
UNMANAGEABLE AIRWAY: ***The patient requires advanced airway management, and the paramedic is unable to manage the patient's airway through basic or advanced interventions.***	**Closest Basic E.D.**
ADULT TRAUMA ARREST - BLUNT or PENETRATING:	**Determination of Death in the Field** (**page 89**) **Note:** Coroner's personnel must transport all dead bodies. If ordered to move a body by law enforcement, note the time, name, and badge number of the officer, and comply with the request. Ensure that the police officer on scene has contacted the Coroner's Bureau for permission to move the body.
PEDIATRIC TRAUMA ARREST BLUNT or PENETRATING:	➔ ETA to the Pediatric Trauma Center ≤ 20 minutes: Pediatric Trauma Center ➔ ETA to the Pediatric Trauma Center ≥ 20 minutes: Closest Adult Trauma Center

5. **TRAUMA BASE CONTACT:** Varying field circumstances make rigid application of any set of rules impractical. These criteria should serve as guidelines. Clinical circumstances may dictate that transport be undertaken immediately with Trauma Base contact made en route

5.1 **Designated trauma base hospital** - Highland Hospital is the Base Station for all trauma patients requiring base contact

5.2 **Contact the trauma Base Physician if:**

- ► The patient meets the criteria listed in the "Yellow Criteria" but the provider is requesting transport to a basic ED
- ► The patient requires medical treatment not covered in the "Trauma Patient Care" protocol (see **page 25**)
- ► The patient would benefit from consultation with the Base Physician

TRAUMA PATIENT CRITERIA

6. OUT-OF-COUNTY TRANSPORT

6.1 Patients who meet Trauma Patient Criteria may be transported directly to an out of county Trauma Center if it is the closest, most appropriate destination for the patient

6.2 Prior to transporting to an out-of-county Trauma Center, the transporting provider must:

- ► Contact the out-of-county Trauma Center by landline to determine if they can accept the patient
- ► Give a brief report including E.T.A. (See Reporting Format Protocol)
- ► Contact the Alameda County Base Hospital if medical consultation is required (see #5 above)

6.3 **Out-of-County Trauma Centers:**

TRAUMA CENTER	PEDIATRIC CAPABLE	LOCATION	PHONE #
STANFORD UNIVERSITY MEDICAL CENTER	X	PALO ALTO	(650) 723-7337
SAN FRANCISCO GENERAL HOSPITAL		SAN FRANCISCO	(415) 206-8111
REGIONAL MEDICAL CENTER		SAN JOSE	(408) 729-2841
SANTA CLARA VALLEY MEDICAL CENTER	X	SAN JOSE	(408) 885-6912
JOHN MUIR MEDICAL CENTER		WALNUT CREEK	(925) 947-4444
SAN JOAQUIN GENERAL		FRENCH CAMP	(209) 982-1975

Exhibit B

Base Physician Contact Template Highland Hospital Base Physician – 510-535-6000	
Situation	▪ Identify yourself/unit number ▪ State purpose of call: (e.g. AMA consult, destination decision, etc.) ▪ Provide basic patient demographics (e.g. age/gender) ▪ Reason for patient contact/EMS activation
Background	▪ Provide history of present illness/injury ▪ Medical history
Assessment	▪ Vital signs ▪ Physical findings ▪ Treatment provided
Recommendation/Request	▪ State your recommendation/request ▪ Confirm Base Physician's recommendation/orders

Hospital Notification Template	
Basic Notifications	
1. Unit Number 2. Transport code 3. Age & Gender 4. Chief Complaint 5. V/S stable or detailed V/S if abnormal	6. Pertinent negatives/positives 7. Treatment(s) 8. Repeat ETA 9. Check for questions
Specialty care patient notifications **For each category below, include info from the basic notification template plus the appropriate category below**	
Trauma	
1. Mechanism of Injury 2. Injuries	3. GCS – each category of E/V/M + total 4. Detailed Vital Signs
Cardiac Arrest / ROSC	
1. Airway – non-patent, patent, airway placed/not-placed 2. Breathing – absent/spontaneous 3. Circulation – pulses present/absent	4. Total estimated down time 5. Summary of treatment(s) given
Stroke Alert	
1. Last seen normal time 2. Stroke Assessment/Scale findings	3. Blood glucose
Sepsis	
1. Temperature 2. Suspected source of infection (if known)	3. Detailed Vital Signs
STEMI	
1. Estimated onset of S/S 2. Was 12-lead ECG Transmitted	3. Detailed Vital Signs
Pediatric Patients	
1. Patient's weight-based color code	2. Status of parent/guardian
Note: Detailed Vital Signs should include: RR, HR, B/P, SpO2, GCS (number of each category E/V/M)	