TRAUMA CENTER (TC) CRITERIA

I. AUTHORITY:

Health and Safety Code, Division 2.5, Article 2.5, Sections 1798.160-1798.169; California Code of Regulations, Title 22, Division 9, Chapter 7 & Title 21 Sections 3525-3560; American College of Surgeons Resources for Optimal Care of the Injured Patient 2014.

II. APPLICATION:

This policy defines the requirements for designation as an Orange County EMS Level I or Level II Trauma Center.

A Trauma Receiving Center (TC) will provide specialized trauma care for emergency and critically ill trauma patients presenting via the 9-1-1 system or by emergency interfacility transfer from an Orange County Emergency Medical Services (OCEMS) Emergency Receiving Center (ERC). Patients eligible for 9-1-1 field triage or transfer to a TC include trauma patients identified by the base hospital physician or transferring physician as critically ill and who would benefit from trauma specialty services.

The Level I TC shall admit at least 1200 trauma patients yearly or have 240 admissions with an injury severity score (ISS) of more than 15.

III. DESIGNATION:

A. Initial Designation Criteria

1. Hospitals applying for initial designation as a Trauma Center must submit a request to Orange County Emergency Medical Services (OCEMS) and evidence of compliance to all criteria in this policy.
2. Hospital shall be designated as an Orange County Emergency Receiving Center (ERC).
3. Hospital will have a designated trauma resuscitation area.
4. OCEMS will evaluate the request and determine the need for an additional Trauma Center. OCEMS evaluation may include:
    a. Geography (service area population density, travel time and distance to the next nearest facility, number and type of other available trauma services and availability of prehospital resources).
    b. Base Hospital designation if applicable (number of calls, impact on patients, prehospital personnel, and other Base Hospitals).
    c. Trauma care (number of trauma patients, impact on other hospitals, trauma centers, and trauma patients).
    d. Specialty services provided (neurosurgery, obstetrics, burn center, pediatrics and next nearest availability).
    e. Patient volume (number of patients annually, both 9-1-1 transported and walk-ins).
5. If OCEMS determines there is a need for an additional TC, OCEMS will request the interested hospital to provide:
    a. A completed pre-review questionnaire.
    b. Policies and agreements as described in Section IX of this policy.

6. OCEMS will review the submitted material, perform a site visit, and meet with the hospital representatives. In addition, the following information will be collected by OCEMS and considered in the designation process:

   a. Emergency Department diversion statistics during the past three years.

7. Following review, OCEMS will provide the designation decision to the Facilities Advisory Subcommittee and the Emergency Medical Care Committee for endorsement or denial of endorsement for designation of up to one year as a Trauma Center.

8. An OCEMS designated Trauma Center will apply for the American College of Surgeons (ACS) initial verification review process within the first year of designation and shall complete the ACS verification review process prior to the end of the second year of designation as a TC.

9. An OCEMS designated Trauma Center will have a written agreement as described in Section IX of this policy and pay the established Health Care Agency fee.

B. Continuing Designation

1. OCEMS will review each designated Trauma Center for compliance to criteria as described in this policy every three years or more often if deemed necessary by the OCEMS Medical Director.

2. Each TC will be required to submit specific written materials to demonstrate evidence of compliance to criteria established by this policy and pay the established fee.

3. Each TC shall complete the American College of Surgeons (ACS) re-verification process to maintain verification as a Level I or Level II TC.

4. OCEMS will provide its designation decision to the Facilities Advisory Subcommittee and the Emergency Medical Care Committee for endorsement or denial of endorsement for continued designation of up to three years.

C. Change in Ownership / Change in Executive Management

1. In the event of a change in ownership of the hospital, continued TC designation will require adherence to this policy with review and approval of continued designation by the OCEMS Medical Director. OCEMS shall be notified, in writing, at least 30 days prior to the effective date of any changes in hospital ownership. Change in hospital ownership may require re-designation by OCEMS.

2. OCEMS shall be notified, in writing, at least 10 days prior to the effective date of any changes in key TC personnel as identified in Section V, A & L.

D. Denial / Suspension / Revocation of Designation

1. OCEMS may deny, suspend, or revoke the approval of a TC for failure to comply with any applicable OCEMS policies and procedures and/or state regulations.

2. The process for TC suspension or revocation shall adhere to OCEMS Policy and Procedure # 640.00 and 645.00 (Base Hospital / Facilities / Training Programs / EMT-P Service Providers: Review Process for Suspension/Revocation of Approval/Designation).

3. The Orange County TC designation may be withdrawn by OCEMS upon 120 day written notice to the Trauma Center, or the Trauma Center my withdraw as a Trauma Center upon 120 days written notice to OCEMS. The Orange County Trauma Center designation is not transferable.

E. Cancellation of Designation / Reduction or Elimination of Services

1. Trauma Center designation may be canceled by the TC upon 120 days written notice to OCEMS.
2. Hospitals considering a reduction or elimination of emergency services must notify the California Department of Public Health and the Orange County Health Care Agency/ OCEMS a minimum of 120 days prior to the planned reduction or elimination of services.

IV. HOSPITAL LICENSING AND ACCREDITATION:

A. Hospital shall possess a current California Department of Public Health permit for basic or comprehensive emergency services.

B. Hospital shall maintain accreditation by an accreditation organization approved by the Centers for Medicare and Medicaid Services (CMS).

C. Hospital shall notify OCEMS verbally and in writing any time the hospital is not in compliance with any applicable federal and/or state laws, and/or OCEMS policies, indicating reason(s), date(s), and time(s) for non-compliance and corrective actions that are being taken. OCEMS shall determine whether the hospital may continue to receive 9-1-1 patients during the period that corrective actions are underway.

V. MEDICAL PERSONNEL:

A. Trauma Medical Director (TMD)
   1. The Trauma Medical Director shall be a physician:
      a. Certified in general surgery by the American Board of Surgery (ABS); or,
      b. A general surgeon eligible for certification by the American Board of Surgery (ABS); or,
      c. A general surgeon who is an American College of Surgeons Fellow with a special interest in trauma care.
   2. The Trauma Medical Director shall:
      a. Participate in trauma call.
      b. Maintain current Advanced Trauma Life Support® (ATLS®).
      c. Maintain trauma-related extramural continuing medical education (16 hours annually, or 48 hours in 3 years). This requirement must be met by the acquisition of 16 hours of CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program based on the principles of practice-based learning and the performance improvement and patient safety program.
      d. The TMD must chair and attend a minimum of 50% of the multidisciplinary trauma peer review committee meetings.
      e. Maintain membership and active participation in regional or national trauma organizations.
   3. The Trauma Medical Director shall be responsible for:
      a. Establishing the policies and procedures, staffing, educational activities, quality assurance, and audit programs of the trauma service in conjunction with the medical staff.
      b. Correcting deficiencies in trauma care and exclude from trauma call the trauma team members who do not meet specified criteria.
      c. Performing an annual assessment of the trauma panel providers in the form of Ongoing Professional Practice Evaluation (OPPE) and Focused Professional Practice Evaluation (FPPE) when indicated by findings of the Performance Improvement and Patient Safety (PIPS) process.
      d. Ensuring compliance with the requirements of this policy and cannot direct more than one trauma center.
      e. Determining each general surgeon's ability to participate on the trauma panel based on an annual review.

B. General Surgery
   1. General Surgeons shall be physicians:
      a. Certified in general surgery by the American Board of Surgery (ABS), American Osteopathic Board of Surgery (AOBS) or the equivalent as determined by the OCEMS Medical Director.
   2. General Surgeons shall:
      a. Have privileges in general surgery.
      b. Be dedicated to a single trauma center while on duty.
      c. Be available 24 hours per day to respond immediately (within 15 minutes) from time of patient arrival with an 80 percent attendance threshold for the highest-level activations.
      d. As the attending surgeon, be present in the operating room for all operations.
   3. General Surgeons shall be responsible for:
      a. Attending at least 50 percent of the multidisciplinary trauma peer review committee meetings.
      b. Successful completion of the Advanced Trauma Life Support® (ATLS®) course at least once.
      c. Maintaining a commitment to continuing medical education by participating in a minimum 16 hours of CME per year on average or by demonstrating participation in internal educational processes conducted by the trauma program.
   4. General Surgery call schedule
      a. Hospitals with a trauma service shall have a published back up call schedule for trauma surgery.

C. Neurosurgery
   1. Neurotrauma care should be organized and led by:
      a. Director of neurosurgery or neurosurgical liaison.
   2. Neurosurgeons shall be physicians:
      a. Certified in neurological surgery by the American Board of Neurological Surgery (ABNS), American Osteopathic Board of Surgery (AOBS) or the equivalent as determined by the OCEMS Medical Director.
   3. Neurosurgeons shall:
      a. Be available 24 hours per day for all traumatic brain injury (TBI) and spinal cord injury patients and must be present and respond promptly (within 30 minutes) based on institutional-specific criteria. Qualified neurosurgeons should be regularly involved in the care of patients with head and spinal cord injuries.
      b. Be credentialed by the hospital with general neurosurgical privileges.
      c. Must be knowledgeable and current in the care of injured patients. This requirement may be met by documenting the acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program.
   4. Neurosurgery director or neurosurgery liaison shall be responsible for:
      a. Attendance at a minimum of 50 percent the multidisciplinary trauma peer review committee meetings.
      b. Must be knowledgeable and current in the care of injured patients. This requirement may be met by documenting the acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program.
   5. Neurotrauma Call Schedule
      a. Hospitals with a trauma service shall have a published back up call schedule for neurotrauma for times when the neurosurgeon is encumbered.

D. Orthopaedic Surgery
   1. Orthopaedic trauma care should be organized and led by
      a. Director of orthopedic surgery or orthopaedic trauma liaison.

b. In a Level I Trauma Center, orthopaedic care must be overseen by an individual who has completed a fellowship in orthopaedic traumatology approved by the Orthopaedic Trauma Association (OTA).

2. Orthopaedic surgeons shall be physicians:
   a. Certified in orthopaedic surgery by the American Board of Orthopaedic Surgery (ABOS), American Osteopathic Board of Surgery (AOBS) or the equivalent as determined by the OCEMS Medical Director.
3. Orthopedic surgeons shall:
   a. Be available 24 hours a day and in the trauma resuscitation area within 30 minutes after consultation has been requested by the surgical trauma team leader.
   b. Must be knowledgeable and current in the care of injured patients. This requirement may be met by documenting the acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program.
4. Orthopaedic surgeon director or liaison shall be responsible for:
   a. Attendance at a minimum of 50 percent of the multidisciplinary trauma peer review committee meetings.
   b. Must be knowledgeable and current in the care of injured patients. This requirement may be met by documenting the acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program.
5. Orthopaedic Surgery Call Schedule
   a. Hospitals with a trauma service shall have a published back up call schedule for orthopaedic surgery.

E. Anesthesiology
1. Anesthetic care should be organized and led by
   a. Director of anesthesia or anesthesiologist liaison.
2. Anesthesiologist shall be physicians:
   a. Certified in anesthesiology by the American Board of Anesthesiology (ABA), American Osteopathic Association (AOA) or the equivalent as determined by the OCEMS Medical Director.
   b. All anesthesiologists taking call must have successfully completed an anesthesia residency program.
3. Anesthesiologist shall:
   a. Be available in-house 24 hours a day to assist and continue trauma resuscitation.
   b. Be promptly available (within 30 minutes) for emergency operations.
   c. When anesthesiology senior residents or CRNAs are used to fulfill availability requirements, the attending anesthesiologist on call must be advised, available within 30 minutes at all times, and present for all operations.
4. Anesthesiologist director or liaison shall be responsible for:
   a. Attendance at a minimum of 50 percent of the multidisciplinary trauma peer review committee meetings.
   b. Ensuring the trauma service is staffed with a panel of anesthesiologists who agree to rotate coverage for the trauma service. The depth of the back-up for anesthesia coverage shall be commensurate with the expected volume of the trauma service.
   c. Commitment to and accrual of education in trauma-related anesthesia and educate other anesthesiologists and the entire trauma team.
5. Anesthesia Call Schedule
   a. Hospitals with a trauma service shall have a published back up call schedule for Anesthesia.

F. Trauma Center Physician Specialty
1. The trauma service shall have priority for such personnel and facilities and they shall not be preempted for non-emergency purposes.
2. For all patients being transferred for specialty care, such as burn care, microvascular surgery, cardiopulmonary bypass capability, complex ophthalmologic surgery, or high-complexity pelvic

fractures, transfer agreements with a similar or higher-qualified verified Trauma Center should be in place. If this approach is used, a clear plan for expeditious critical care transport, follow-up, and performance monitoring is required.

G. Trauma Center Surgical Physician Specialty
   1. Trauma Center surgical physician specialty shall include at least the following surgical specialties to properly serve trauma patients:

Surgical Specialty	Availability	Level I Trauma Center	Level II Trauma Center
General Surgery	Immediately	Essential	Essential
Cardiothoracic	Promptly	Essential	Essential
Vascular Surgery	Promptly	Essential	Essential
Neurologic	Promptly	Essential	Essential
Obstetric/Gynecologic	Promptly	Essential	Essential
Ophthalmologic	Promptly	Essential	Essential
Orthopedic	Promptly	Essential	Essential
Oral/Maxillofacial or Head and Neck	Promptly	Essential	Essential
Plastic	Promptly	Essential	Essential
Urologic	Promptly	Essential	Essential
Pediatric	Promptly	Essential	Desirable
Reimplantation/Microvascular	Promptly	Essential	Essential
Hand Surgery	Promptly	Essential	Essential

H. Trauma Center Non-Surgical Physician Specialty
   1. Trauma Center non-surgical physician specialty shall include at least the following specialties to properly serve trauma patients:

Specialty	Availability	Level I Trauma Center	Level II Trauma Center
Emergency Medicine	Immediately	Essential	Essential
Anesthesiology	Promptly	Essential	Essential
Cardiology	Promptly	Essential	Essential
Gastroenterology	Promptly	Essential	Essential
Hematology	Promptly	Essential	Essential
Infectious Disease	Promptly	Essential	Essential
Internal Medicine	Promptly	Essential	Essential
Nephrology	Promptly	Essential	Essential
Neurology	Promptly	Essential	Essential
Pathology	Promptly	Essential	Essential
Pediatrics	Promptly	Essential	Essential
Psychiatry	Promptly	Essential	Essential
Pulmonary	Promptly	Essential	Essential
Radiology	Promptly	Essential	Essential

   2. Medical specialists on staff must include their respective support teams (for example, respiratory therapy, a dialysis team, and nutrition support).

I. Radiologist
   1. Radiologist shall be physicians:
      a. Certified in radiology by the American Board of Radiology (ABR), American Osteopathic Association (AOA) or the equivalent as determined by the OCEMS Medical Director.
   2. Radiologist shall be:

a. Qualified radiologists must be available within 30 minutes in person or by teleradiology for the interpretation of radiographs.
b. Qualified radiologists must be available within 30 minutes in person to perform complex imaging studies or interventional procedures or by tele-radiology for the interpretation of radiographs.

3. A radiologist must be appointed as liaison to the trauma program
   a. The radiologist liaison must attend at least 50 percent of peer review meetings and should educate and guide the entire trauma team in the appropriate use of radiologic services.
   b. Radiologists must be involved in protocol development and trend analysis that relate to diagnostic imaging.

J. Emergency Department Physician Staffing
1. Emergency Department Physicians who participate as a member of the trauma team shall be have training and experience in emergency medicine, as evidenced by:
   a. Board Certification by the American Board of Emergency Medicine (ABEM), American Osteopathic Board of Emergency Medicine (AOBEM) or the equivalent as determined by the OCEMS Medical Director; or
   b. Successful completion of an ABEM, ACGEM or AOA accredited Emergency Medicine Residency within the past three years.
   c. A resident in postgraduate year 4 or 5 or an attending emergency physician who is part of the trauma team may be approved to begin resuscitation while awaiting the arrival of the attending surgeon but cannot independently fulfill the responsibilities of, or substitute for, the attending surgeon.
   d. In institutions in which there are emergency medicine residency training programs, supervision must be provided by an in-house attending emergency physician 24 hours per day.
2. Emergency Department Physician:
   a. May initially evaluate the limited-tier trauma patient, but the center must have a clearly defined response expectation for the trauma surgical evaluation of those patients requiring admission.
   b. Shall be present in the emergency department at all times and shall be regularly involved in the care of injured patients.
   c. Must be knowledgeable and current in the care of injured patients. This requirement may be met by documenting the acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program.
3. Emergency physician director or liaison shall be responsible for:
   a. Attending at least 50 percent of the multidisciplinary trauma peer review committee meetings.

K. Physician Assistants (PAs) and Nurse Practitioners (NPs) Staffing
1. The TMD is responsible for establishing the roles and responsibilities for PAs and NPs participating in the trauma program.
2. PA and NP scope of practice must be clearly delineated and must be consistent with state regulations.
3. Credentialing procedures for PAs and NPs must meet the requirements of the local, state and federal jurisdiction.
4. The trauma program must demonstrate appropriate orientation and skill maintenance for advanced practitioners.
5. PAs and NPs shall
   a. Maintain current ACLS® and PALS® or APLS®.
   b. Maintain verification as an Advanced Trauma Life Support® provider if the PA or NP participates in the initial evaluation of trauma patients.

L. Trauma Program Manager (TPM)
   1. The TPM shall:
      a. Be a registered nurse with at least three years' experience in trauma nursing within the previous five years.
      b. Be full time and dedicated to the trauma program. (Trauma Centers also designated as a Pediatric Trauma Centers must have a separate full time dedicated TPM for the pediatric trauma program. The dedicated pediatric trauma program manager may have duties beyond that of pediatric trauma program manager as described in the Resources for Optimal Care of the Injured Patient).
      c. Demonstrate evidence of educational preparation and clinical experience in the care of injured patients with a minimum of 16 hours (internal or external) of trauma-related continuing education per year and clinical experience in the care of injured patients.
   2. TPM shall be responsible for:
      a. Organization of services and systems necessary for a multidisciplinary approach to providing care to injured patients.
      b. Process and performance improvement activities of nursing and ancillary staff.
      c. Identify events, develop corrective action plans, and ensure methods of monitoring, reevaluation, and benchmarking.
      d. Supervision of trauma registry staff, injury prevention coordinator, and trauma nurse clinicians.

M. Trauma Nursing Staff
   1. The trauma team is responsible for the care of the patient from admission to discharge.
   2. Trauma team personnel must participate in in-service educational opportunities including regional trauma training programs.
   3. Certification:
      a. All Trauma Nursing Staff shall maintain current Basic Life Support® (BLS) provider certification.
      b. All Trauma Nursing staff shall maintain current Advanced Cardiac Life Support® (ACLS) provider certification.
      c. All Trauma Nursing staff shall maintain current Pediatric Advanced Life Support® (PALS) certification or other approved pediatric resuscitation competency.
   4. Education
      a. The trauma program must demonstrate appropriate orientation and skill maintenance for trauma nursing staff.

VI. HOSPITAL SERVICES:

Trauma centers must be able to provide the necessary human and physical resources (physical plant and equipment) to properly administer acute care consistent with their level of verification.

A. Surgical Service
   1. The Surgical Service shall:
      a. Have one operating suite that is available or being utilized for major trauma patients with in house operating room staffing immediately available 24 hours a day unless operating on major trauma patients and back up personnel who are on-call and promptly available when needed.
      b. Ensure an operating room must be adequately staffed and available within 15 minutes. If the first operating room is occupied, an adequately staffed additional room must be available.
      c. Ensure a PACU with qualified nurses available 24 hours per day to provide care for the patient if needed during the recovery phase.
         i. If this availability requirement is met with a team on call from outside the hospital, the availability of the PACU nurses and compliance with this requirement must be documented by the PIPS program.

d. The PACU must have the necessary equipment to monitor and resuscitate patients, consistent with the process of care designated by the institution.

B. Intensive Care Unit (ICU) for trauma patients
   1. Designated Medical Director
      a. The ICU medical director shall be a surgeon with board certification in surgical critical care for Level I TCs.
      b. The ICU medical director or co-medical director shall be a surgeon with board certification in surgical critical care for Level II TCs.
      c. The designated medical director or co-director shall be actively involved in, and responsible for, setting policies and administrative decisions related to trauma ICU patients.
      d. The designated medical director or co-director shall serve as a liaison or identify a physician liaison to the trauma service.
      e. The ICU liaison must attend at least 50 percent of the multidisciplinary peer review meetings.
      f. The ICU liaison to the trauma program shall accrue an average of 16 hours annually or 48 hours in 3 years of verifiable external trauma-related continuing medical education (CME) which can be by acquisition of 16 hours of trauma CME per year, on average, or through an internal educational process conducted by the trauma program.
   2. ICU Physicians
      a. Shall be available in-house within 15 minutes to provide care for the ICU patients 24 hours per day.
      b. Must be knowledgeable and current in the care of injured patients. This requirement may be met by documenting the acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program.
      c. If a trauma attending provides coverage, a backup ICU attending must be identified and readily available.
      d. The trauma surgeon must retain responsibility for the patient and coordinate all therapeutic decisions.
   3. ICU Nursing Staff
      a. Nurse patient ratios shall remain 1:2 on each shift.
      b. The ICU charge nurse will be assigned for each shift and shall not be registry.
   4. ICU Equipment shall include:
      a. Cardiac output monitoring devices.
      b. Electronic blood pressure monitoring devices.
      c. Intracranial pressure monitoring devices.
      d. Pulmonary function measuring devices.
      e. Rapid transfusion devices.
      f. Thermal control devices.
      g. Immediate access to clinical laboratory services.
      h. Patient weighing devices.

C. Ancillary Services
   In addition to requirements delineated in Title 22, hospitals shall maintain these trauma and emergency service capabilities 24 hours/day, 7 days/week for:
   1. Respiratory Services
      a. In-house availability of respiratory therapist with qualifications and necessary equipment to care for trauma patients.
   2. Radiological Services
      a. In-house radiological services 24 hours per day, including radiology technologist and CT technologist, with availability of general radiological procedures, plain X-Rays and computed tomography.
      b. Magnetic resonance imaging (MRI) capability must be available 24 hours per day, including MRI technologist who must be available within 60 minutes in person to perform MRI studies.

c. Interventional radiologic procedures and sonography must be available 24 hours per day.

3. Acute Hemodialysis
   a. Acute hemodialysis must be available in Level I and II Trauma Centers.
4. Burn Care
   a. May be provided through a written transfer agreement with a burn center.
5. Speech Therapy Service
   a. Must be available during the acute phase of care, including intensive care.
6. Physical Therapy Service
   a. Must be available during the acute phase of care, including intensive care.
7. Occupational Therapy Service
   a. Must be available during the acute phase of care, including intensive care.
8. Rehabilitation Center Service
   a. Equipped for acute care of the critically injured patient with in-house personnel trained in rehabilitation care.
   b. May be provided through a written transfer agreement with a freestanding rehabilitation hospital.
9. Social Services
   a. Must be available during the acute phase of care, including intensive care.
10. Acute Spinal Cord Injury Management Capability
    a. May be provided through a written transfer agreement with a rehabilitation center.
11. Clinical Laboratory Services immediately available 24 hours a day to perform:
    a. Standard blood analysis
    b. Blood gas and pH determination.
    c. Urine and other body fluids osmolality.
    d. Blood typing and cross matching.
    e. Coagulation studies.
    f. Drug and alcohol screening.
    g. Other body fluids including micros sampling when appropriate.
    h. Microbiology studies.
    i. Comprehensive Blood Bank
       i. With adequate in-house supply of red blood cells, fresh frozen plasma, platelets, cryoprecipitate, and appropriate coagulation factors to meet the needs of injured patients.
       ii. Must have a massive transfusion protocol developed collaboratively between the trauma service and the blood bank.
       iii. Access to a community central blood bank.
12. Nutritional Support
    a. Nutrition support services must be available.

VII. EQUIPMENT

The hospital shall ensure the following trauma and emergency equipment is available 24 hours/day, 7 days/week:

1. Cardiothoracic surgery capabilities available 24 hours per day and should have cardiopulmonary bypass equipment.
2. Operating microscope – required for Level I Trauma Center / desirable for Level II Trauma Center.
3. Rapid fluid infusers.
4. Thermal control equipment for patients, resuscitation fluids and blood.
5. Intraoperative radiologic capabilities.
6. Endocsopes, including at least bronchoscopes, esophagoscopes and gastroscopes.

7. Craniotomy trays and necessary equipment to perform a craniotomy.
8. Equipment for fracture fixation.
9. Autotransfusion capability.

VIII. SYSTEM COORDINATON AND COMMUNICATION

A. Outreach programs
   a. Telephonic and on-site consultations with physicians in the community and outlying area.
B. Prevention Programs
   a. All designated trauma centers must engage in public and professional education.
   b. TCs must provide some means of referral and access to trauma center resources.
   c. Trauma centers must have an organized and effective approach to injury prevention and must prioritize those efforts based on the American College of Surgeons guidelines, community needs, local trauma registry and epidemiologic data.
   d. The trauma center must have someone in a leadership position that has injury prevention as part of his or her job description.
      i. In Level I Trauma Centers, this individual must be a prevention coordinator (separate from the trauma program manager) with a job description and salary support.
   e. Universal screening for alcohol use must be performed and documented for all injured patients meeting ACS registry inclusion criteria with a hospital stay of > 24 hours.
      i. All patients who have screened positive must receive an intervention by appropriately trained staff, and this intervention must be documented.
   f. Trauma centers must implement at least two programs that address one of the major causes of injury in the community.
   g. A trauma center's prevention program must include and track partnerships with other community organizations.
C. Trauma Research Program
   a. Level 1 Trauma Centers shall have an identifiable trauma research program.
   b. Trauma research program – desirable for Level 2 Trauma Centers.
D. Continuing Medical Education
   1. The Trauma Center shall provide formal programs for CME in trauma care provided by hospital for:
      a. Staff physicians
      b. Staff allied health personnel
      c. Prehospital emergency and medical care personnel to include at least EMTs and paramedics
      d. Community physicians and health care personnel
      e. Affiliated Trauma Centers
E. Post Graduate Medical Training
   a. Approved and accredited post graduate medical training program for residents at multiple levels of training in general surgery, internal medicine and anesthesiology (required for Level I Trauma Centers / desired for Level II Trauma Centers).
F. Disaster Planning
   a. Trauma Centers must participate in regional disaster management plans and exercises.
   b. Trauma Centers must meet the disaster-related requirements of the Joint Commission.
   c. A surgeon from the trauma panel must be a member of the hospital's disaster committee.
   d. Hospital drills that test the individual hospital's disaster plan must be conducted at least twice a year, including actual plan activations that can substitute for drills.
   e. All trauma Centers must have a hospital disaster plan described in the hospital's policy and procedure manual or equivalent.
G. Heliport
   a. Maintain a heliport and state heliport permit from the California Department of Transportation.

H. Organ Procurement
   a. Trauma Center must have an established relationship with a recognized organ procurement organization.
   b. Trauma Center shall have a written policy must be in place for triggering notification of the regional organ procurement organization.
   c. Trauma Center must review its sold organ donation rate annually.
   d. Trauma Center shall have written protocols defining the clinical criteria and confirmatory tests for the diagnosis of brain death.

I. Trauma Center Diversion
   a. The Trauma Medical Director must be involved in the development of the trauma center's bypass (diversion) protocol.
   b. Trauma Center shall have a process to limit the total trauma centers annual diversion hours to a maximum of five (5) percent.

IX. HOSPITAL POLICIES AND AGREEMENTS

A. The hospital will have a written agreement with OCEMS indicating the concurrence of the institutional governing body, hospital administration and medical staff to meet the requirements for trauma program participation as specified in this policy.
B. The hospital shall implement clearly defined criteria for graded activation with defined trauma team activation levels.
C. The Trauma Center must have policies designed to ensure that trauma patients who may require resuscitation and monitoring are accompanied by appropriately trained providers during transportation to, and while in, the radiology department.
D. The Trauma Center will have written transfer agreements with all nearby Emergency Receiving Centers (ERC) and/or Comprehensive Children's Emergency Receiving Centers (CCERC) and affiliated trauma care hospitals to accept in transfer those trauma patients recognized by both transferring and receiving physicians as needing higher level trauma care.
E. Designated trauma patients shall not be transferred from a trauma receiving center until the patient is unlikely to require trauma center care, within reasonable medical probability, as determined by the trauma surgeon.
F. All patients will be transferred physician-to-physician. The accepting physician shall be of the appropriate specialty to manage the patient's injuries.
G. Patients requiring additional acute care shall be transferred to a facility able to provide evaluation and care if there should be an unexpected change in their condition. These facilities shall substantially meet the requirements of Emergency Receiving Centers (OCEMS Policy #600.00), including appropriate physician consultants to include neurosurgery, urology, psychiatry, ophthalmology, and oral surgery if needed.

X. DATA COLLECTION

A. Participation in the trauma system OCEMS data management system and performance evaluation.
B. Trauma data shall be made available to OCEMS for medical review (All patient information shall be confidential).
C. Trauma Registry
   1. Trauma registry data must be collected and in compliance with the National Trauma Data Standard (NTDS) and submitted to the National Trauma Data Bank® (NTDB®) every year in a timely fashion so that they can be aggregated and analyzed at the national level.
   2. Trauma registries should be concurrent. At a minimum, 80 percent of cases must be entered within 60 days of discharge.
   3. Trauma centers shall use a risk-adjusted benchmarking system to measure performance and outcomes.
   4. The trauma center shall develop and implement strategies for monitoring data validity.

5. Data shall be analyzed by the trauma center and findings shall be used to identify injury prevention priorities that are appropriate for local implementation.

D. Trauma Registrar
   1. The trauma registrar shall attend or have previously attended two courses within 12 months of being hired: (1) the American Trauma Society's Trauma Registrar Course or equivalent provided by a state trauma program; and (2) the Association of the Advancement of Automotive Medicine's Injury Scaling Course.
   2. One full-time equivalent employee dedicated to the registry must be available to process the data capturing the NTDS data set for each 500–750 admitted patients annually.

XI. QUALITY ASSURANCE/IMPROVEMENT:

A. Integrated Performance Improvement and Patient Safety (PIPS) program to ensure optimal care and continuous improvement in care for adult and pediatric patients. PIPS review should include but shall not be limited to:

   1. Detailed audit of all trauma related death, major complications and transfers.
   2. Rate of change in interpretation of radiologic studies.
   3. Review of all admissions to non-surgical services if trauma program admits more than 10% of trauma patients to non-surgical services.
   4. Review of anesthesia service availability, operating room availability, operating room and post anesthesia care unit response times, and response times for computed tomography technologist, magnetic resonance imaging technologist, and/or interventional radiology team when responding from outside of the trauma center.

B. Multidisciplinary trauma peer review committee must meet at least monthly, with required attendance of medical staff active in trauma resuscitation, to review systemic and care provider issues, as well as to propose improvements to the care of the injured and shall:
   1. Include representation with at least 50 percent attendance of all trauma team members, including but not limited to representation from general surgery, and liaisons to the trauma program from emergency medicine, orthopaedics, and anesthesiology, critical care, neurosurgery and radiology.
   2. Provide for the implementation of the requirements by State law and OCEMS policies and procedures and provide for coordination with OCEMS.
   3. Include processes of event identification and levels of review that result in the development of corrective action plans, and methods of monitoring, reevaluation, and benchmarking must be present.
   4. Include problem resolution, outcome improvements, and assurance of safety ("loop closure") that are identifiable through methods of monitoring, reevaluation, benchmarking, and documentation.

C. Annual performance evaluation based on criteria determined by the trauma operations committee.

D. Pediatric Patients
   a. Trauma Centers that admit over 100 pediatric trauma patients shall:
      i. Ensure trauma surgeons are credentialed for pediatric trauma care by the hospital's credentialing body.
      ii. Provide a pediatric emergency department area, a pediatric intensive care area, appropriate resuscitation equipment, and a pediatric-specific trauma PIPS program.

b. Trauma Centers that admit less than 100 pediatric trauma patients shall review the care of their injured children through their PIPS program and review each case for timeliness and appropriateness of care. Additionally, the Trauma Center should:
   i. Ensure trauma surgeons are credentialed for pediatric trauma care by the hospital's credentialing body.
   ii. Provide a pediatric emergency department area, a pediatric intensive care area, appropriate resuscitation equipment, and a pediatric-specific trauma PIPS program.

c. Trauma Centers providing in-house pediatric trauma care shall have:
   i. A pediatric intensive care unit; or
   ii. A written transfer agreement with a CCS approved PICU. Hospitals without a PICU shall establish and utilize written criteria for consultation and transfer of pediatric patients needing intensive care and provide a multidisciplinary team to manage child abuse and neglect.

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