

**PEDIATRIC TRAUMA CENTER (PedTC) CRITERIA****I. AUTHORITY:**

*Health and Safety (HS) 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 Pediatric Level I or Level II Trauma Center.

A Pediatric Trauma Receiving Center (PedTC) will provide specialized trauma care for emergency and critically ill pediatric 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) or Comprehensive Children's Emergency Receiving Center (CCERC). Patients eligible for 9-1-1 field triage or transfer to a PedTC include pediatric trauma patients identified by the base hospital physician or transferring physician as critically ill and who would benefit from pediatric trauma specialty services.

The Level I PedTC shall annually admit 200 or more trauma patients younger than 15 years old.

The Level II PedTC shall annually admit 100 or more trauma patients younger than 15 years old.

**III. DESIGNATION:****A. Initial Designation Criteria**

1. Hospitals applying for initial designation as a Pediatric 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 Comprehensive Children's Emergency Receiving Center (CCERC) or have a written transfer agreement with an OCEMS designated CCERC.
3. Hospital will have a designated trauma resuscitation area.
4. Hospital will have a designated pediatric emergency department area.
5. OCEMS will evaluate the request and determine the need for an additional Pediatric 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).

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6. If OCEMS determines there is a need for an additional PedTC, 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.
7. 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.
8. 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 Pediatric Trauma Center.
9. An OCEMS designated Pediatric 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 PedTC.
10. An OCEMS designated Pediatric 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 Pediatric 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 PedTC 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 PedTC shall complete the American College of Surgeons (ACS) re-verification process as a Level I or Level II PedTC.
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 PedTC 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 PedTC 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 PedTC for failure to comply with any applicable OCEMS policies and procedures and/or state regulations.
2. The process for PedTC 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).

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3. The Orange County PedTC designation may be withdrawn by OCEMS upon 120 day written notice to the trauma center, or the PedTC may withdraw as a trauma center upon 120 days written notice to OCEMS. The Orange County trauma center designation is not transferable.

**E. Cancelation of Designation / Reduction or Elimination of Services**

1. Pediatric Trauma Center designation may be cancelled by the PedTC 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. PedTC Level I TMD shall be a physician trained and experienced in pediatric trauma, as evidenced by:
    - a. Board Certified in pediatric surgery by the American Board of Surgery (ABS); or
    - b. Successful completion of an ABS, ACGEM accredited pediatric surgery residency within the past three years; or
    - c. A pediatric surgeon who is an American College of Surgeons Fellow with a special interest in pediatric trauma care.
  2. PedTC Level II TMD should be a physician trained and experienced in pediatric trauma, as evidenced by:
    - a. Certified in pediatric surgery by the American Board of Surgery (ABS); or
    - b. Successful completion of an ABS, ACGEM accredited pediatric surgery residency within the past three years; or
    - c. A pediatric surgeon who is an American College of Surgeons Fellow with a special interest in pediatric trauma care; or
    - d. The PedTC Level II TMD shall be a physician:
      - i. Certified in general surgery by the American Board of Surgery (ABS); or
      - ii. Successful completion of an ABS, ACGEM accredited general surgery residency within the past three years; and
      - iii. Credentialed by the hospital to provide pediatric trauma care.
  3. The Trauma Medical Director shall:
    - a. Participate in trauma call.
    - b. Maintain current Advanced Trauma Life Support® (ATLS®).

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- c. Accrue trauma-related verifiable external continuing medical education (12 hours annually on average, or 36 hours in 3 years) of which 9 hours in 3 years must be related to clinical pediatric trauma care.
  - 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.
  4. 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 pediatric/general surgeon's ability to participate on the trauma panel based on an annual review.
- B. Pediatric/General Surgery
1. Trained and experienced in pediatric/general surgery, as evidenced by:
    - a. Board certification in pediatric surgery by the American Board of Surgery (ABS) or the equivalent as determined by the OCEMS Medical Director; or
    - b. Successful completion of an ABS or ACGEM accredited pediatric surgical residency within the last three years and will become board certified within three years of qualification for ABS board certification in pediatric surgery; or
    - c. Board certified in general surgery\* by the American Board of Surgery (ABS) or the equivalent as determined by the OCEMS Medical Director; or
    - d. Successful completion of an ABS or ACGEM accredited general surgical\* residency within the last three years and will become board certified within three years of qualification for ABS board certification in general surgery; and
    - e. The general surgeon must be credentialed by the hospital to provide pediatric trauma care, be a member of the pediatric trauma panel and be approved by the Pediatric Trauma Medical Director.
  - \* A PedTC Level I must have at a minimum of two surgeons certified in pediatric surgery by the American Board of Surgery (ABS),
  - \* A PedTC Level II must have at a minimum of one surgeon certified in pediatric surgery by the American Board of Surgery (ABS)
2. Pediatric/General Surgeons shall:
    - a. Be credentialed by the hospital with pediatric/general surgery privileges.
    - 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. Pediatric/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. Being knowledgeable and current in the care of injured patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.

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4. Pediatric/General Surgery call schedule
  - a. Hospitals with a trauma service shall have a published back-up call schedule for trauma surgery.
- C. Pediatric Neurosurgery
  1. Neurotrauma care should be organized and led by:
    - a. Director of neurosurgery or neurosurgical liaison.
  2. PedTC Level I shall have at least one neurosurgeon trained and experienced in neurosurgery, as evidenced by:
    - a. Board certification in neurosurgery by the American board of Neurological Surgery (ABNS) or eligible for certification by an appropriate neurosurgical board according to the current requirements of that board and who also has had pediatric fellowship training.
    - b. There must be one additional ABNS board certified neurosurgeon or one neurosurgeon eligible for certification by an appropriate neurosurgical board according to the current requirements of that board and identified with demonstrated interests and skills in pediatric trauma.
  3. PedTC Level II shall have at least one neurosurgeon trained and experienced in neurosurgery, as evidenced by:
    - a. Board certified in neurosurgery by the American Board of Neurological Surgery (ABNS) or eligible for certification by an appropriate neurosurgical board according to the current requirements of that board and identified with demonstrated interests and skills in pediatric trauma.
  4. 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 pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.
  5. 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 pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.
  6. 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. Pediatric Orthopaedic Surgery
  1. Orthopaedic trauma care should be organized and led by
    - a. Director of orthopedic surgery or orthopaedic trauma liaison.
  2. PedTC Level I shall have at least one orthopaedic surgeon trained and experienced in orthopaedic surgery, as evidenced by:
    - a. Board certification in orthopaedic surgery by the American Board of Orthopaedic Surgery (ABOS) or eligible for certification by an appropriate orthopaedic surgical board according to the current requirements of that board and who also has had pediatric fellowship training.
    - b. There must be one additional ABOS board certified orthopaedic surgeon or one orthopaedic surgeon eligible for certification by an appropriate orthopaedic surgical board according to the current requirements of that board and identified with demonstrated interests and skills in pediatric trauma.

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3. PedTC Level II shall have at least one orthopaedic surgeon trained and experienced in orthopaedic surgery, as evidenced by:
  - a. Board certified in orthopaedic surgery by the American Board of Orthopaedic Surgery (ABOS) or eligible for certification by an appropriate orthopaedic surgery board according to the current requirements of that board and identified with demonstrated interests and skills in pediatric trauma.
4. 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 for multiple injured patients.
  - b. Must be knowledgeable and current in the care of injured pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.
5. 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 pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.
6. 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.
  - d. Have sufficient training and experience in pediatric trauma care and be knowledgeable about current management of pediatric trauma in their specialty. The PedTC Program must make specialty-specific pediatric education available for these specialists.
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**

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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. PedTC Surgical Physician Specialty**

1. Pediatric 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. Pediatric Trauma Center Non-Surgical Physician Specialty**

1. Pediatric 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
Neonatology			
Nephrology	Promptly	Essential	Essential
Neurology	Promptly	Essential	Essential
Pathology	Promptly	Essential	Essential
General Pediatrics	Promptly	Essential	Essential
Psychiatry	Promptly	Essential	Essential
Pulmonary	Promptly	Essential	Essential
Radiology	Promptly	Essential	Essential

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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:
    - a. Be certified in radiology by the American Board of Radiology (ABR), American Osteopathic Association (AOA) or the equivalent as determined by the OCEMS Medical Director.
    - b. Have sufficient training and experience in pediatric trauma care and be knowledgeable about current management of pediatric trauma in their specialty. The PedTC Program must make specialty-specific pediatric education available for these specialists.
  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, ACGME, 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.
    - e. ED Physician staffing PedTC Level I There must be two physicians who are board certified or eligible for certification by an appropriate emergency medicine board according the current requirements in pediatric emergency medicine.
    - f. The pediatric section of the emergency department must be staffed by individuals credentialed by the hospital to provide pediatric trauma care in their respective areas.
  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 pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.

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3. Emergency physician director or liaison shall be responsible for:
  - a. Attending at least 50 percent of the multidisciplinary trauma peer review committee meetings.
  - b. Must be knowledgeable and current in the care of injured pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.

**K. Alternative Pathway Physicians**

1. Non-U.S. or non-Canadian trained physicians in the fields of Trauma &/or Pediatric surgery, Neurosurgery, Orthopaedic Surgery, Emergency Medicine or Anesthesiology may participate in the trauma program if they fulfill the requirements for the American College of Surgeons (ACS) Alternative Pathway Criteria (APC).
2. The APC is only applicable for physicians who did not train in the U.S. or Canada.
  - a. The only acceptable alternative is a Fellow of the American College of Emergency Physicians (FACEP).

**L. 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.
  - c. The trauma program must demonstrate appropriate orientation and skill maintenance for advanced practitioners. PAs and NPs shall have sufficient training and experience in pediatric trauma care and be knowledgeable about current management of pediatric trauma in their specialty. The PedTC Program must make specialty-specific pediatric education available for these specialists.
4. 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.

**M. 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 Trauma Centers under OCEMS Policy #620.00 must have a separate full time dedicated TPM for the pediatric trauma program).
  - c. Demonstrate evidence of educational preparation and clinical experience in the care of injured patients with a minimum of 12 hours (internal or external) of trauma-related continuing education (CE) 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 pediatric 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.

**N. Trauma Nursing Staff**

1. The trauma team is responsible for the care of the patient from admission to discharge.

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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.
- O. Education
- a. The trauma program must demonstrate appropriate orientation and skill maintenance for trauma nursing staff.
  - b. Trauma nursing staff shall have sufficient training and experience in pediatric trauma care and be knowledgeable about current management of pediatric trauma in their specialty. The PedTC Program must make specialty-specific pediatric education available for these specialists.

**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. 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 is 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.
    - e. PACU nurses shall have sufficient training and experience in pediatric trauma care and be knowledgeable about current management of pediatric trauma in their specialty. The PedTC Program must make specialty-specific pediatric education available for these specialists.
- B. Pediatric Intensive Care Unit (PICU) for trauma patients
1. Designated Medical Director
    - a. The PICU medical director shall be a surgeon with board certification in surgical critical care for Level I PedTCs.
    - b. The PICU medical director or co-medical director shall be a surgeon with board certification in surgical critical care for Level II PedTCs.
    - c. The surgical director of the PICU must participate actively in the administration of the unit, as evidenced by the development of pathways and protocols for care of surgical patients in the PICU and in unit-based performance improvement and should be board certified in surgical critical care.

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- d. The designated medical director or co-director shall be actively involved in, and responsible for, setting policies and administrative decisions related to trauma PICU patients.
  - e. The designated medical director or co-director shall serve as a liaison or identify a physician liaison to the trauma service.
  - f. The PICU liaison must attend at least 50 percent of the multidisciplinary peer review meetings.
  - g. The PICU liaison to the trauma program must be knowledgeable and current in the care of injured pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.
3. **PICU Physicians**
    - a. Shall be credentialed by the hospital to provide pediatric trauma care.
    - b. Physician PICU staffing for PedTC Level I - There must be two physicians board certified or eligible for certification in Pediatric critical care medicine, according the current requirements in Pediatric critical care medicine or in pediatric surgery and surgical critical care by the American Board of surgery.
    - c. Pediatric surgeons or trauma surgeons with pediatric privileges must be included in all aspects of the care of injured children admitted to a PICU.
    - d. Shall be available in-house within 15 minutes to provide care for the PICU patients 24 hours per day.
    - e. Must be knowledgeable and current in the care of injured pediatric patients by demonstrating evidence of ongoing trauma education. This requirement may be met by staying current with board certification.
    - f. If a trauma attending provides coverage, a backup PICU attending must be identified and readily available.
    - g. The trauma surgeon must retain responsibility for the patient and coordinate all therapeutic decisions.
    - h. The pediatric trauma service must maintain oversight of the patient's management while the patient is in the ICU.
    - i. The trauma service should work collaboratively with the pediatric critical care providers, although significant therapeutic decisions must be approved by the trauma service, and the service must be made aware of all significant clinical changes.
  4. **PICU Nursing Staff**
    - a. Nurse-patient ratios shall remain at a maximum of 1:2 on each shift.
    - b. The PICU charge nurse will be assigned for each shift and shall not be registry.
  5. **PICU 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 pediatric trauma patients.
2. **Radiological Services**

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- a. In-house radiological services with qualifications and necessary equipment to care for pediatric trauma patients 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 with qualifications and necessary equipment to care for pediatric trauma patients must be available in Level I and II Pediatric 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 pediatric patient with in-house personnel trained in pediatric trauma patient rehabilitation care.
  - b. May be provided through a written transfer agreement with a freestanding rehabilitation hospital.
9. Child Life and Family Support Programs
  - a. Child life and family support programs must be available for pediatric trauma patients during the acute phase of care, including intensive care.
10. Social Services
  - a. Pediatric social services must be available during the acute phase of care, including intensive care.
11. Acute Spinal Cord Injury Management Capability
  - a. May be provided through a written transfer agreement with a rehabilitation center.
12. Clinical Laboratory Services, supplies and equipment for pediatric trauma patients 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.
13. Nutritional Support
  - a. Nutrition support services must be available.

**VII. EQUIPMENT**

**PEDIATRIC TRAUMA CENTER (PedTC) CRITERIA**

- A. In addition to requirements delineated in Title 22, hospitals shall have immediately available equipment and supplies necessary for pediatric resuscitation in all appropriate patient care areas. Sufficient size-specific equipment to adequately care for pediatric patients shall be available (e.g., An OCEMS approved length-based resuscitation tape, pediatric crash carts, pediatric emergency medications and supplies consistent with the most current evidence based recommendations).
- B. 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 PedTC / desirable for Level II PedTC.
  - 3. Rapid fluid infusers.
  - 4. Thermal control equipment for patients, resuscitation fluids and blood.
  - 5. Intraoperative radiologic capabilities.
  - 6. Endoscopes, 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. PedTCs must provide some means of referral and access to trauma center resources.
  - c. PedTCs 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 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. PedTCs 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. PedTC Level I shall have identifiable pediatric trauma research program equivalent to that of a Level I ATC.
  - b. Trauma centers designated as a Level I Trauma Center and a Level I PedTC – half of the research requirement must be pediatric research.
  - c. Trauma research program – desirable for PedTC Level II.
- D. Continuing Medical Education
  - 1. Providers who are not pediatric trained providers (anesthesiology, neurosurgery, orthopaedic surgery, emergency medicine, radiology, and rehabilitation) shall have sufficient training and experience in pediatric trauma care and be knowledgeable about current management of pediatric trauma in their specialty. The PedTC Program must make specialty-specific pediatric education available for these specialists.
  - 2. The PedTC shall provide formal programs in CME in trauma care provided by hospital for:
    - a. Staff physicians
    - b. Staff allied health personnel

**PEDIATRIC TRAUMA CENTER (PedTC) CRITERIA**

- c. Prehospital emergency and medical care personnel to include at least EMTs and paramedics
  - d. Community physicians and health care personnel
  - e. Affiliated trauma receiving 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 PedTC / desired for Level II PedTC).
  - b. PedTC Level I must have continuous rotations in trauma surgery for senior residents who are part of an ACGME accredited program. These rotations should include residency programs in all of the following specialties General surgery, orthopaedic surgery, emergency medicine, and neurosurgery. They may also include support of a pediatric surgical fellowship.
- F. Disaster Planning
- a. Pediatric 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 have written protocols defining the clinical criteria and confirmatory tests for the diagnosis of brain death.
- I. Trauma Center Diversion
- a. The trauma 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 hospital shall establish a policy and process to assess children for maltreatment which should include screening, treatment, and referral guidelines.
  - D. 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.
  - E. The PedTC 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 has needing higher level trauma care.

**PEDIATRIC TRAUMA CENTER (PedTC) CRITERIA**

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- F. 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.
  - G. All patients will be transferred physician-to-physician. The accepting physician shall be of the appropriate specialty to manage the patient's injuries.
  - H. 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 comprehensive children's emergency receiving centers (OCEMS Policy 680.00), including appropriate physician consultants to include neurosurgery, urology, psychiatry, ophthalmology, and oral surgery if needed.
- X. DATA COLLECTION**
- A. Participation is required in the OCEMS trauma 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. The hospital shall submit patient outcome information to the specialty patient care registry (i.e. the National Trauma Data Bank and the Trauma Quality Improvement Program) pursuant to OCEMS Policy 300.50 for all trauma-designated patients whether or not the patient is transported by the 911 system (ALS or BLS) or IFT-ALS transport.
- XI. QUALITY ASSURANCE/IMPROVEMENT:**
- A. Integrated Pediatric Performance Improvement and Patient Safety (PIPS) program to ensure optimal care and continuous improvement in care for 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. Medical nursing audit, utilization review, tissue review.
    3. Rate of change in interpretation of radiologic studies.
    4. Review of all admissions to non-surgical services if trauma program admits more than 10% of trauma patients to non-surgical services.
    5. 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 pediatric general surgery, and liaisons to the trauma program from emergency medicine, orthopaedics, and anesthesiology, pediatric critical care medicine, 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.

**PEDIATRIC TRAUMA CENTER (PedTC) CRITERIA**

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**Approved:**A handwritten signature in blue ink that reads "Carl Schultz, MD".

Carl H. Schultz, MD  
OCEMS Medical Director

A handwritten signature in blue ink that reads "Tammi McConnell".

Tammi McConnell, MSN, RN  
OCEMS Administrator

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