

## 106 – Trauma System CQI and Patient Safety Program

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### **PURPOSE:**

To establish a system wide Quality Improvement (QI) program for the monitoring, evaluating and improving of the Nor-Cal EMS Trauma System. This multidisciplinary effort will assist participants in the Trauma System to define a standardized approach to recurring care and system issues, minimizing unnecessary variation, which allows better outcome assessment, and makes changes standardized and easier to implement. Patient safety is inseparable from the QI process and underscores an important system goal.

### **AUTHORITY:**

Health and Safety Code 2.5; CCR Title 22, Division 9, Chapters 7 & 12; California Evidence Code, Section 1157.7

### **PRINCIPLES:**

1. To be effective, a QI plan must foster a positive working relationship between all components of the trauma system.
2. This document will allow each Trauma Center to continue meeting its own unique QI needs as well as providing an avenue for meaningful collaboration system-wide.
3. Quality Improvement encourages the utilization of the processes that affect patient outcomes most significantly.

### **POLICY:**

Trauma system participants within the Nor-Cal EMS System will maintain a comprehensive QI program designed to interface with the Nor-Cal EMS Quality Improvement and Patient Safety Program. The Trauma Center QI program shall be approved by Nor-Cal EMS.

### **TRAUMA CENTER (INTERNAL) QI REQUIREMENTS:**

Core competencies and related areas within a trauma program:

1. Patient Care:
  - a. Patient-centered emphasis on all aspects of trauma program.
  - b. Ease of patient access to trauma care.
2. Medical Knowledge:
  - a. Board-certification or qualified specialist requirement of physician trauma care providers.
  - b. Mandatory trauma-related continuing education requirements for trauma team.
  - c. Local, regional, and national trauma educational conferences.
  - d. Level II Trauma Centers only:
    - Trauma Research (recommended)
    - Advanced Trauma Life Support Course
3. Practice-based learning and improvement:
  - a. Development, use and assessment of evidence-based practice guidelines.
  - b. Trauma registry
  - c. Emphasis placed on QI process.
  - d. Trauma Center trauma committee activities.
4. Interpersonal and communication skills - multidisciplinary team approach to care (rounds, conferences)

5. Each trauma center must have a formal and fully functional QI plan and program for its trauma service.
  - a. Trauma Medical Director (Chief of Trauma) – The responsibility for the trauma care at each institution, as well as for compliance with the Nor-Cal EMS QI plan and Trauma Standards, is that of the Trauma Medical Director.
  - b. The following duties will be accomplished and shared by the Trauma Medical Director and the Trauma Program Manager. These individuals will perform at a minimum the following functions:
    - Coordinate an internal multidisciplinary trauma committee that includes members of the emergency medicine, general surgery department, and auxiliary departments. This process will include tracking of identified system issues within the Trauma Center, and trauma cases that meet audit criteria. This committee will follow the applicable provisions of Evidence Code Section 1157.7 to ensure confidentiality.
    - Perform case reviews of ALL trauma cases.
    - Detailed audits of trauma cases that meet the Nor-Cal EMS audit criteria for QI internal and regional review of cases and issues, see Appendix A and B.
    - Analysis of trends.
    - Provide a system for patients and their significant others as defined in Title 22, Division 9, Chapter 7, Section 100265(d), to provide input and feedback to hospital staff regarding the care provided. L-II Trauma Centers shall conduct a stakeholders survey and make efforts to improve response rate from system participants. The results of these surveys should be tracked and trends identified.
  - c. Regional Level Participation:
    - Incorporates the Trauma Center QI plan to interface with the Nor-Cal EMS QI plan.
    - Attendance by appropriate personnel at the Nor-Cal EMS Trauma Audit Committee (TAC) meetings.
    - Data Collection and timely submission of required data, see Trauma Data Collection and Evaluation policy for specifics.
    - Investigation of all unusual occurrences as identified internally or referred by Nor-Cal EMS will take no longer than fourteen (14) days OR a limited time mutually agreed upon by the Trauma Center and Nor-Cal EMS. The results (including any resolution or identification of further actions required) will be reported directly back to Nor-Cal EMS.
6. Level II Trauma Center Requirements:
  - a. An educational schedule highlighting trauma activities will be provided to Nor-Cal EMS on a quarterly basis. This schedule should include, Run Reviews, Trauma Management Rounds, Trauma Grand Rounds, classes/courses related to trauma and trauma conferences.
  - b. In addition, please indicate if the educational opportunity is open for outside participation. Nor-Cal EMS can then facilitate collaboration of these activities throughout the region, making the best use of resources dedicated to trauma education.

### **NOR-CAL EMS QI PLAN:**

1. Written Agreement Requirements – Contract agreements will be made with system participants to allow participation in the trauma care system and to comply with all applicable State Regulations and Nor-Cal EMS Policies and Procedures.
2. The Nor-Cal EMS QI Plan consists of the following elements –
  - a. An ongoing external medical audit of case reviews by the Trauma Audit Committee.
  - b. A periodic local audit of each Trauma Center by Nor-Cal EMS, Inc.
  - c. Scheduled independent evaluations of the Level II Trauma Center(s) from experts outside of the region.

- d. An ongoing local evaluation of the Trauma System.
3. Trauma Systems Review – Nor-Cal EMS will conduct a trauma system evaluation concurrent with Trauma Center designation process and TAC meetings.
  - a. Overall trauma system design may be evaluated annually at the Joint TAC meeting. Any required policy changes will be addressed during the Policy Review Cycle or on an emergent basis by Nor-Cal EMS.
  - b. Aggregate Trauma System data will be available as needed at Joint TAC meetings, for policy discussion and review. When an annual report is available, it will be shared with trauma system participants.
4. Trauma Center Reviews -
  - a. Level II Trauma Centers:
    - Verification of Designation: A scheduled review is conducted by out of region trauma specialists allow for independent evaluation for verification of Trauma Centers and effectiveness of the trauma system. A successful ACS verification as well as medical direction to ensure Title 22 compliance will be part of this process. The outside review is designed to evaluate the quality of care rendered by the trauma centers and to review for compliance with the components of the trauma system.
    - Compliance Audit: Scheduled reviews are performed by Nor-Cal EMS to assure Trauma Center contract compliance. The audits may include random chart reviews, trauma registry data review, and review of other records and documents.
  - b. Level III or Level IV Trauma Center:
    - Verification of Designation: A scheduled review is conducted by Nor-Cal EMS for verification of compliance as reported in the self-survey tool. It is designed to evaluate the quality of care rendered by the Trauma Center and to review for compliance with the components of the trauma system.
    - Compliance Audit: Scheduled reviews are performed by Nor-Cal EMS to assure trauma center contract compliance. The audits may include random chart reviews, trauma registry data review, and review of other records and documents.

#### **Trauma Audit Committee (TAC)**

1. TAC is a multidisciplinary medical advisory committee to the EMS Agency, comprised of representatives from surgical and non-surgical specialties. This is a closed committee and attendees must be included by position on the list below or by special invitation only.
2. Nor-Cal EMS has a two peer committees; North and South Trauma Audit Committee. These committees coordinate with corresponding trauma zones. Nor-Cal EMS will conduct combined North and South Trauma Zones to meet cohesively at one Joint Trauma Audit Committee (TAC) annually and as deemed necessary.
3. Oath of Confidentiality: The proceedings and records of this committee are confidential and are protected under Section 1157.7 of the Evidence Code, State of California. Members and invited guests of the TAC are required to sign a Confidentiality Agreement as a condition of attendance, which is maintained on file at the EMS Agency and updated annually.
  - a. Because of the confidentiality requirements, TAC meetings are closed. Members will not divulge or discuss information that would have been obtained solely through TAC membership.
  - b. Minutes/correspondence of the TAC are stored in a secure place in the EMS Agency by the Trauma System Director to maintain confidentiality. After review, all paperwork will be disposed of in an appropriate confidential manner.
4. Functions of the Trauma Audit Committee:
  - a. Monitors the process and outcome of trauma patient care and presents opportunities for analysis of data and information of scientific value for studies and strategic planning of the trauma system.

- b. Serves in an advisory capacity to Nor-Cal EMS on trauma care systems issues/policies, which includes the appropriateness and effectiveness of the Trauma Triage and the Trauma Triage Criteria policies Establishes Audit Filters.
  - c. Conducts detailed mortality and morbidity review of cases that meet one or more of the audit filter(s) as identified by the trauma audit committee. Other cases may also be reviewed that are regarded as having exceptional educational or scientific benefit.
  - d. Provides educational forums for trauma care when trends or issues are identified.
  - e. Identifies regional issues and trends.
5. Functions of Nor-Cal EMS:
- a. Develops and implements corrective action(s).
  - b. Evaluates the effectiveness of corrective action(s).
  - c. Monitors the results and determines frequency and methods of future monitoring.
  - d. To conduct audits to evaluate, whether recommended corrective action has resulted in improved care.
  - e. Inform the committee at the next regularly scheduled meeting of any recommendation that is overruled or modified with an explanation of the reversal or modification.
6. Mandatory membership of the Nor-Cal EMS regional Trauma Audit Committee:
- a. Representatives from Nor-Cal EMS:
    - Medical Director
    - Trauma System Director
    - Staff Support
  - b. Representatives from the Level II Trauma Center:
    - Chief of Trauma
    - Trauma Program Manager
    - Emergency Department Medical Director, ALS Medical Director
    - Intensive Care Medical Director
    - Neurosurgeon, Orthopaedic, and/or other surgical specialties as prearranged with Nor-Cal EMS.
    - Pre-hospital Liaison Nurse
    - ED Nursing Director (Optional)
  - c. Representatives from the Level III - Trauma Medical Director, required.
    - Emergency Department Medical Director (recommended)
    - Trauma Program Nurse Coordinator / or Emergency Department Director.
  - d. Representatives from each Level IV Trauma Center or non-designated facility:
    - Medical staff representative, preferably Emergency Department Medical Director.
    - Trauma Program Nurse Coordinator or Emergency Department Director, whichever applies.
  - e. Other representatives:
    - Forensic Pathologist from county in which the Level II facility is located.
    - Law Enforcement participant.
    - Other individuals who Nor-Cal EMS Medical Director deems necessary or their expertise is essential, on an ad-hoc or permanent basis, and appointed by Nor-Cal EMS Trauma Medical Director.

- f. Guests may attend TAC with prior approval of the Chairperson and the Agency. Invited guests may participate in the meeting only after Nor Cal EMS has explained the Oath of Confidentiality and obtained a signed confidentiality statement by the guest.
- g. TAC Chairperson and Vice Chairperson:
  - Will be appointed by the members of the committee.
  - Will serve for a period of two years and then may be re-appointed at the decision of the committee.
  - The Chairperson presides over the committee and makes recommendations to Nor-Cal EMS as directed by the membership of the committee.
  - The Vice-chairperson may preside over the committee in absence of the chairperson.

**TAC Process:**

1. TAC will meet a minimum of three (3) times a year for chart review and jointly for formal education and/or trauma system evaluation according to the needs of the committee.
2. Scope of Review: The review conducted by the Committee includes trauma patient care in the Nor-Cal EMS region and transfer of patients to other hospitals or designated trauma centers and system issues.
3. The committees review includes, and is limited to:
  - a. Prehospital trauma care activities.
  - b. Trauma patient care from time of injury through rehabilitation.
  - c. Preparation of Cases for TAC Review:
    - Each trauma center prepares appropriate materials for its cases to be presented to the TAC to include:
      - (1) Clinical information
      - (2) Pre-hospital care report
      - (3) All pertinent radiologic examinations
      - (4) Autopsy findings, when appropriate and available. Each L-II Trauma Center is required to contact (fax) the county coroner one (1) week in advance of all deaths being reviewed. Other Trauma Centers are required to attempt to obtain autopsies from their coroners in a timely manner.
  - d. A formal chart review may be performed by the Nor-Cal EMS Medical Director and the Trauma System Director prior to a Trauma Audit Committee Meeting. A request will be sent out prior to the review of charts; providing an outline of the schedule, the procedure, and necessary trauma charts necessary for the review.
4. The EMS Agency provides:
  - a. Distributing meeting announcements.
  - b. Preparation of TAC agenda.
  - c. Staff support for documentation (minutes) of TAC meetings, to include any memorandum(s) issued by the Agency in response to Committee recommendation(s).
  - d. Maintaining records of proceedings.

**Trauma Audit Committee Grading and QI Loop Closure:**

1. Grading Categories for complications and morbidity and mortality:
  - a. **Preventable:** An event or complication that is an expected or unexpected sequela of a procedure, a disease, an illness, or an injury that is likely to have been prevented or substantially improved had appropriate steps been taken.

- b. **Potentially Preventable:** An event or complication that is a sequela of a procedure, a disease, an illness, or an injury that has the potential to be prevented or substantially improved.
  - c. **Non-Preventable:** An event or complication that is a sequela of a procedure, a disease, an illness, or an injury for which reasonable and appropriate preventable steps had been taken.
  - d. **Provider Related:** an event or complication largely due to provider-related provision of care by a credentialed or noncredentialed provider functioning in a supportive and otherwise well-functioning system.
  - e. **System-Related:** an event or complication not specifically related to a provider or disease, such as, operating room availability, blood availability, and diagnostic test availability; an event or complication whose correction usually goes beyond a single provider or department. System-related issues usually involve multiple individuals and/or departments. For the TAC process these will be divided into Trauma Center systems and Nor-Cal EMS systems.
2. Action Steps will be decided on at the conclusion of each case or issue review. The committee will discuss each case and arrive at a conclusion for action that may include one or more of the following:
- a. No further review or action is indicated.
  - b. Request for additional information and follow-up report from the involved institution or prehospital care provider.
  - c. Formal recommendation requested:
    - (a) Letter
    - (b) Internal review
    - (c) Nor-Cal EMS Investigation
  - d. Removal From TAC - The following are reasons for removal of a member from the Committee:
    - Breach of confidentiality.
    - Excessive absence, defined as two unexcused absences.
    - Disruption and/or rude behavior.

**Standing Committees:**

1. Ad Hoc Committees - assisted by the EMS Agency staff, are time-limited committees with specific functions designed to assist the Trauma Audit Committee (TAC) to achieve their overall objectives.
2. Trauma Registry Users Group (TRUG) - The TRUG, assisted by the Trauma System Director, is composed of the Trauma Coordinators and Registrars within the region and meets as necessary to plan, implement, and monitor the trauma registry and its data. Trauma Coordinators and Trauma Registrars make up this committee.