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Traumatic Brain Injury Registry

Statewide Trauma System

Sec. 19a-177-1. Definitions

As used in section 19a-177-1 to 19a-177-9, inclusive, of the Regulations of Connecticut State Agencies:

(1) ''Department'' means the Department of Public Health;

(2) ''EMS Advisory Board'' means the advisory committee on emergency medical services established pursuant to section 19a-177(a) of the Connecticut General Statutes;

(3) ''Glasgow Coma Scale'' or ''GCS'' means a standard and generally accepted scoring system for assessing a patient's level of consciousness based on eye opening and response, verbal response, and motor response. The higher the total point score, the better the patient's neurological status;

(4) ''Hospital'' means an acute care hospital having facilities, medical staff and all necessary personnel to provide diagnosis, care, and treatment of a wide range of acute conditions, including injuries;

(5) ''Protocol'' means a written instrument that guides the collection of data regarding the patient, provides for actions to be taken based on the collected data, and provides for a minimum level of safe practice in specific situations;

(6) ''Trauma'' means a wound or injury to the body caused by accident, violence, shock, or pressure, excluding poisoning, drug overdose, smoke inhalation, and drowning;

(7) ''Traumatic brain injury'' means damage to the brain tissue and any combination of focal and diffuse central nervous system dysfunction, both immediate or delayed, at the brain stem level and above. Such damage and dysfunctions are sustained through the application of external forces including, but not limited to, blows to the head, falls, vehicular crashes, assaults, sports accidents, intrauterine and birth injuries, and violent movement of the body. Such damage and dysfunctions are not developmental or degenerative, and not associated with aging;

(8) ''Trauma facility'' means a hospital that has met the requirements as prescribed in section 19a-177-4 of the Regulations of Connecticut State Agencies and has received such designation from the Office of Emergency Medical Services (OEMS) in accordance with section 19a-177-3 of the Regulations of Connecticut State Agencies;

(9) ''Trauma registry'' means a statewide data base to provide information to analyze and evaluate the quality of care of trauma patients and includes all admitted trauma patients, all trauma patients who died, all trauma patients who are transferred, and all traumatic brain injury patients.

(10) ''Trauma system'' means an organized approach to providing care to trauma patients that provides personnel, facilities, and equipment for effective and coordinated trauma care. The trauma system: identifies facilities with specific capabilities to provide care, triages trauma victims at the scene, requires that all trauma victims be sent to an appropriate trauma facility, and collects and analyzes data for evaluation of the system. The trauma system includes prevention, prehospital care, hospital care, rehabilitation, data collection, and evaluation; and,

(11) ''Verification'' means a review process carried out in accordance with section 19a-177-4 of the Regulations of Connecticut State Agencies.

(Adopted effective March 22, 1995; amended September 6, 2005)

Sec. 19a-177-2. Administration

(a) The Office of Emergency Medical Services is the lead division within the department responsible for the development, implementation, evaluation and enforcement of the trauma system for the state of Connecticut.

(b) A Trauma Committee shall be established by the commissioner as a committee of the EMS Advisory Board.

(1) The committee shall include representatives from at least the following:

(A) Commission on Hospitals and Health Care (CHHC) or its successor agency(ies);

(B) Connecticut Committee on Trauma, American College of Surgeons, (CCT/ACS), four (4) persons, one of whom shall represent the interests of Level III, Level IV, or undesignated facilities;

(C) Connecticut College of Emergency Physicians (CCEP), four (4) persons, one of whom shall represent the interests of Level III, Level IV, or undesignated facilities;

(D) Connecticut Emergency Nurses Association (CENA);

(E) Connecticut Hospital Association (CHA);

(F) Paramedic Committee of the EMS Advisory Board; and

(G) Volunteer Committee of the EMS Advisory Board.

(2) The committee shall, at least annually:

(A) review protocols and recommend changes to the commissioner through the EMS Advisory Board; and

(B) evaluate the status of the trauma system and recommend changes to the commissioner through the EMS Advisory Board.

(Adopted effective March 22, 1995; amended September 6, 2005)

Sec. 19a-177-3. Application by hospitals for trauma facility designation

(a) By October 1, 1995, all hospitals required to maintain an emergency service pursuant to Section 19-13-D3 of the Regulations of Connecticut State Agencies shall participate in the statewide trauma system as set forth in Sections 19a-177-1 through 19a-177-9 of the Regulations of Connecticut State Agencies by:

(1) giving triage medical direction in accordance with Section 19a-177-5 of the Regulations of Connecticut State Agencies;

(2) transferring patients in accordance with the requirements in Section 19a-177-6 of the Regulations of Connecticut State Agencies;

(3) participating in a quality assurance/improvement plan with the trauma registry in accordance with the requirements in Section 19a-177-6 of the Regulations of Connecticut State Agencies; and

(4) submitting data to the trauma registry in accordance with Section 19a-177-7 of the Regulations of Connecticut State Agencies.

(b) Hospitals seeking designation as Level I, Level II, Level III, or Level IV trauma facilities shall apply to the OEMS for designation on forms supplied or approved by the OEMS.

(c) Within thirty (30) days of receipt of an application, the OEMS shall review the application for designation as a trauma facility for completeness and notify the hospital of the result of that review.

(1) If the application is deemed complete, the hospital shall be so notified in writing.

(2) If the application is deemed incomplete, the hospital shall be notified in writing of omissions or errors. The hospital may refile the application when complete, as a new application.

(d) Upon being notified by the OEMS of a complete application, the hospital shall, if not currently verified by the American College of Surgeons, Committee on Trauma, have ninety (90) days to initiate the verification process as outlined in Section 19a-177-4 of the Regulations of Connecticut State Agencies or the application shall be considered withdrawn. Should the verification report not be received by the OEMS within one hundred and eighty (180) days of such notification, an extension of not more than ninety (90) days may be granted by the OEMS upon the request in writing of the hospital. Only one (1) ninety (90) day extension shall be granted by the OEMS.

(e) The hospital shall forward to the OEMS a notarized copy of the verification report or notify the OEMS in writing of its wish to withdraw the application. The verification report shall be considered as an attachment to and part of the application of the hospital for designation as a trauma facility.

(f) Upon receipt of the verification report, the OEMS shall have ninety (90) days to consider the application of the hospital for designation as a trauma facility at the level requested. In addition to the verification report, the OEMS shall consider the facility's compliance with all other applicable DPHAS statutes and regulations.

(g) The OEMS shall notify the applicant hospital and the department in writing of its decision.

(h) Designation by the OEMS shall expire on the same date as the verification expiration date established by the American College of Surgeons in their verification report.

(i) Redesignation at the same level is contingent upon reverification by the American College of Surgeons, Committee on Trauma and reapplication to the OEMS. It is the hospital's responsibility to seek timely reverification.

(j) Once designated, a trauma facility may apply to the OEMS to surrender the designation at any time without giving cause by notifying the OEMS in writing with a plan for alternative patient care and giving a minimum of sixty (60) days notice. Surrender shall take effect only when approved by the OEMS. In such a case, the application and verification process shall be completed again before any designation may be reinstated.

(Adopted effective March 22, 1995; amended September 6, 2005)

Sec. 19a-177-4. Verification process for trauma facility applicants

(a) To be designated as a trauma facility, a hospital shall meet the criteria contained in the American College of Surgeons' most recent version of the publication ''Resources for Optimal Care of the Injured Patient'' for the level of trauma facility for which it has applied. Verification from the American College of Surgeons, Committee on Trauma, is acceptable documentation that those criteria that are the same as the American College of Surgeons standard have been met. For those criteria that substantially differ, the department shall verify on its own that the applicant meets the criteria.

(b) Each hospital requesting designation as a trauma facility shall be responsible for all expenses of the verification process conducted by the American College of Surgeons.

(Adopted effective March 22, 1995; amended September 6, 2005)

Sec. 19a-177-5. Field triage protocols

(a) The following field triage protocol shall provide criteria to categorize trauma patients and determine destination hospitals with resources appropriate to meet the patient's needs.

1. Assess the physiologic signs. Trauma patients with any of the following physiologic signs shall be taken to a Level I or Level II trauma facility:

(A) Glasgow Coma Scale of twelve (12) or less; or

(B) systolic blood pressure of less than ninety (90) mm Hg; or

(C) respiratory rate of less than ten (10) or more than twenty-nine (29) breaths per minute.

2. Assess the anatomy of the injury. Trauma patients with any of the following injuries shall be taken to a Level I or Level II trauma facility:

(A) gunshot wound to chest, head, neck, abdomen or groin;

(B) third degree burns covering more than fifteen (15) per cent of the body, or third degree burns of face, or airway involvement;

(C) evidence of spinal cord injury;

(D) amputation, other than digits; or

(E) two (2) or more obvious proximal long bone fractures.

3. Assess the mechanism of injury and other factors and, if any of the following is present, determination of destination hospital shall be in accordance with medical direction:

(A) Mechanisms of injury:

(1) falls from over twenty (20) feet;

(2) apparent high speed impact;

(3) ejection of patient from vehicle;

(4) death of same car occupant;

(5) pedestrian hit by car going faster than twenty (20) MPH;

(6) rollover; or

(7) significant vehicle deformity – especially steering wheel.

(B) Other factors

(1) age less than five (5) or greater than fifty-five years;

(2) known cardiac or respiratory disease;

(3) penetrating injury to thorax, abdomen, neck, or groin other than gunshot wounds.

4. Severely injured patients less than thirteen (13) years of age should be taken to a Level I or II facility with pediatric resources including a pediatric ICU.

5. When transport to a Level I or II trauma facility is indicated but the ground transport time to that hospital is judged to be greater than twenty (20) minutes, determination of destination hospital shall be in accordance with local medical direction.

6. If, despite therapy, the trauma patient's carotid or femoral pulses can not be palpated, airway can not be managed, or external bleeding is uncontrollable, determination of destination hospital shall be in accordance with local medical direction.

7. When in doubt regarding determination of destination hospital, contact medical direction.

(b) All EMS providers transporting trauma patients to hospitals shall provide receiving hospitals with a completed OEMS approved patient care form prior to departing from the hospital. A patient care form shall be completed for each trauma patient at the scene who is not transported and shall be forwarded to the OEMS.

(c) Beginning October 1, 1995, all hospitals and EMS providers shall follow the field triage protocols.

(Adopted effective March 22, 1995)

Sec. 19a-177-6. Interhospital transfers

(a) If a trauma patient who meets the Field Triage Protocol criteria for delivery to a Level I or Level II trauma facility is taken to a facility not so designated, that patient shall be transferred to a Level I or Level II trauma facility or the reason that the trauma patient is admitted, discharged or transferred to a different facility shall be documented in the patient's hospital record.

(b) For all interhospital transfers the sending hospital shall:

(1) document patient assessment and efforts to stabilize;

(2) communicate with medical and nursing staff at the receiving hospital;

(3) provide medically appropriate staff and orders for transporting personnel;

(4) transfer copies of the entire chart with copies of any x-rays and laboratory data; and

(5) document, by name, all parties contacted in arranging the transfer.

(c) Level I or Level II trauma facilities shall not refuse the transfer of trauma patients who fall within their designated level of capability unless their ability to provide that level of care is compromised.

(d) The Trauma Committee shall use the following peer review quality assurance/improvement plan to review interhospital transfers:

(1) The care and treatment of trauma patients is to be carried out by each hospital in accordance with standards established by the hospital, its medical staff, and these regulations.

(2) Data collected in accordance with section 19a-177-7 of the Regulations of Connecticut State Agencies shall be supplied to the hospital's internal quality review process and the trauma registry.

(3) The trauma registry shall review and evaluate the data it receives from the hospital for completeness and accuracy.

(4) If data are incomplete or inaccurate the trauma registry shall notify the hospital that the data must be adjusted and re-submitted.

(5) The trauma registry shall produce summaries and reports and forward them to the trauma committee.

(6) Summaries and reports provided by the trauma registry shall be reviewed by the trauma committee to determine if the trauma system standards are being met, including the identification of significant deviations from norms, and to determine if further research is needed to improve the trauma system standards.

(7) The trauma committee shall report back to the hospital and when it believes trauma system standards are not being met may suggest changes that will assist the hospital in meeting those standards.

(8) Should the trauma committee determine that a hospital continues to fail to meet trauma system standards, the trauma committee may make recommendations for action to the Commissioner through the EMS Advisory Board.

(9) Beginning October 1, 1995, all hospitals shall follow the interfacility transfer protocols.

(e) Data and reports used in the peer review quality assurance/improvement plan shall be kept confidential pursuant to sections 19a-25 and 1–19 of the Connecticut General Statutes.

(Adopted effective March 22, 1995)

Sec. 19a-177-7. Data collection

(a) **Trauma registry**

(1) The trauma registry shall include data:

(A) on all admitted trauma patients and all traumatic brain injury patients;

(B) on all trauma patients who died in the field, in the Emergency Department and in the hospital; and,

(C) on all trauma patients and all traumatic brain injury patients who are transferred.

(2) Beginning October 1, 1995, for all nonscheduled transports of trauma patients and all traumatic brain injury patients each emergency medical service provider shall provide, on forms approved by the commissioner, to the receiving hospital prior to departing from the hospital, the following data. The forms shall become a part of the patient's medical record at the receiving hospital, and shall include but not necessarily be limited to:

(A) ambulance service identification number;

(B) ambulance run number;

(C) patient's name;

(D) patient's gender and ethnicity;

(E) patient's date of birth;

(F) injury date and time of onset of injury or medical problem;

(G) town and zip code location of site of EMS response;

(H) time of dispatch of first responder;

(I) time of arrival of first responder at scene of the injury/incident;

(J) time of dispatch of ambulance;

(K) time of arrival of ambulance at scene of the injury/incident;

(L) time of departure from scene of the injury/incident;

(M) time of arrival at hospital;

(N) transport interventions;

(O) Glasgow eye opening at scene of the injury/incident;

(P) Glasgow verbal at scene of the injury/incident;

(Q) Glasgow motor response at scene of the injury/incident;

(R) systolic blood pressure at scene of the injury/incident;

(S) respiratory rate at scene of the injury/incident;

(T) date of transport;

(U) work related injury/medical problem;

(V) extrication time if motor vehicle accident;

(W) place where injury occurred;

(X) type and use of protective equipment; and

(Y) mechanism of injury.

(3) Beginning October 1, 1995, each licensed Connecticut acute care hospital shall provide, on forms approved by the commissioner, to the trauma registry the following data:

(A) for all trauma patients and all traumatic brain injury patients admitted to the hospital, transferred to another hospital, or discharged dead:

(1) data elements defined in subdivision (2) of this subsection;

(2) patient's health insurance identification number;

(3) patient's zip code of residence;

(4) emergency department admission and discharge Glasgow eye opening;

(5) emergency department admission and discharge Glasgow verbal response;

(6) emergency department admission and discharge Glasgow motor response;

(7) emergency department admission and discharge systolic blood pressure;

(8) emergency department admission and discharge respiratory rate;

(9) patient's social security number;

(10) referring hospital identification number;
(11) emergency department record number (if different than inpatient record number);
(12) mode of arrival at the emergency department;
(13) trauma team alerted, yes or no;
(14) times of notification and arrival of neurosurgeon;
(15) times of notification and arrival of trauma surgeon;
(16) emergency department interventions;
(17) date and time of discharge from emergency department;
(18) disposition from emergency department;
(19) receiving facility post discharge;
(20) documentation of hourly Glasgow coma score and vital signs; and
(21) medical examiner's case number.
(B) for all trauma patients and all traumatic brain injury patients admitted as inpatients:
(1) inpatient medical record number;
(2) first head CT scan date and time;
(3) first neurosurgery date and time,
(4) first orthopedic surgery date and time;
(5) first thoracic/abdominal surgery date and time;
(6) unanticipated return to the operating room within forty-eight (48) hours;
(7) discharge expression;
(8) discharge locomotion;
(9) discharge self feeding;
(10) medical examiner's case number;
(11) E-codes;
(12) hospital identification code;
(13) anatomic diagnoses;
(14) diagnoses onset;
(15) ICD codes for traumatic brain injury patients;
(16) charges by cost center;
(17) attending physician;
(18) operating physician;
(19) principle diagnosis as defined by ICD-9-CM codes;
(20) secondary diagnoses as defined by ICD-9-CM codes;
(21) principle procedure as defined by ICD-9-CM codes and date;
(22) secondary procedures as defined ICD-9-CM codes and dates of procedures;
(23) inpatient disposition;
(24) expected principle source of payment;
(25) psychiatric or rehabilitation unit discharge;
(26) race;
(27) discharge time;
(28) discharge date;
(29) total charges;
(30) admission date;
(31) admission time;
(32) days in ICU;
(33) days in CCU; and
(34) payor source.

(4) Beginning October 1,1995, for all trauma patients and all traumatic brain injury patients who are immediate transfers from an acute care facility to a rehabilitation service, each provider of rehabilitation services shall provide, on forms approved by the commissioner, to the trauma registry the following data:
(A) admission date;
(B) referring facility;
(C) patient's date of birth;
(D) patient's gender;
(E) patient's zip code;
(F) total charges;
(G) functional independence measures on admission and discharge,
(ii) eating,
(ii) grooming,
(iii) bathing,
(iv) dressing,
(v) toileting,
(vi) bladder management,
(vii) mobility,
(viii) locomotion,
(ix) communication,
(x) social cognition, and
(xi) total function independence measure;
(H) patient's health insurance claim number and social security number;
(I) discharge date;
(J) disposition from rehabilitation;
(K) discharge expression;
(L) discharge locomotion;
(M) discharge self feeding; and
(N) hospital identification code.
(5) Beginning October 1, 1995, for all deaths that occur as a result of injury outside a hospital, the trauma registry shall obtain from the state medical examiner the data specified in this subsection:
(A) date of injury/incident;
(B) time of injury/incident;
(C) location of injury/incident;
(D) type of injury/incident;
(E) victim's date of birth;
(F) victim's gender;
(G) name of pre-hospital provider service, if applicable;
(H) results of the autopsy, if performed;
(I) cause of death;
(J) death date;
(K) place of death;
(L) victim's race;
(M) victim's residence address;
(N) victim's residence zip code; and
(O) victim's social security number.
(6) All data required by subdivisions (2), (3), (4), and (5) of this subsection shall be submitted by the following schedule:
(A) first quarter due June 30;

(B) second quarter due September 30;
(C) third quarter due December 30; and
(D) fourth quarter due March 30.

(7) The trauma registry shall maintain, process, and analyze such data as are needed to provide to the commissioner the following summary data reports within ninety (90) days after the data are due for each quarter:

(A) EMS provider response time by region;
(B) EMS provider response time for Connecticut;
(C) mechanism of injury by region;
(D) type of injury by region;
(E) type of injury, severity and categorization level of triage hospital (Level I, II, III, and IV as designated by the OEMS);
(F) safety device use frequency by type of device;
(G) type, severity, and mechanism of injury by town of injury occurrence;
(H) number of deaths taken directly to the morgue; and
(I) other special studies at an aggregate level at the request of the commissioner that shall facilitate the department's ability to follow a patient through the statewide trauma system.

(b) If the patient is further transported from one acute care hospital to another acute care hospital, a copy of the completed patient care form shall be provided by the sending hospital to the emergency medical service transport personnel and provided to the receiving hospital.

(c) The information contained in the trauma registry shall be made available only to those who have been approved for use of the information by the commissioner pursuant to section 19a-6e of the Connecticut General Statutes and in accordance with sections 19a-25-1 through 19a-25-4, inclusive, of the Regulations of Connecticut State Agencies.

(d) Summary data will be available for public inspection and distribution. However, data containing patient specific information and provider and facility identification shall not be available and shall be kept confidential pursuant to sections 19a-25, 19a-6e and 1-210 of the Connecticut General Statutes.

(e) Each emergency medical service provider shall supply an annual report to the commissioner on all transports. Annual reports for the year ending June 30 shall be due by September 30 each year. Reports shall include:

(1) number of transports per emergency medical service provider;
(2) number of prior arranged transports;
(3) number of transports not arranged prior to the call that results in dispatch;
(4) number of paramedic intercepts; and
(5) number of helicopter assists.

(f) Ownership of data. All raw data collected and maintained by the department or pursuant to a contract with the commissioner shall remain the property of the department. All raw data collected and maintained by a contractor independent of a contract with the commissioner shall remain the property of the contractor.

(Adopted effective March 22, 1995; amended September 6, 2005)

Sec. 19a-177-8. Prohibited acts

(a) No facility, institution or other entity shall represent itself to be a trauma facility unless it is designated as such by the OEMS.

(b) No designated trauma facility shall advertise services or capabilities for the treatment of trauma patients above those for which it has been designated.

(c) No EMS provider shall take a trauma patient meeting the criteria as determined by the field triage protocols to a hospital other than the facility identified by either protocol or medical direction.

(Adopted effective March 22, 1995)

Sec. 19a-177-9. Investigations and disciplinary action

(a) The department may investigate any reported failure to comply with sections 19a-177-1 to 19a-177-9, inclusive, of the Regulations of Connecticut State Agencies. Failure to cooperate in providing documentation and interviews with appropriate department staff shall constitute grounds for disciplinary action.

(b) Based on findings in subsection (a) of this section, the commissioner may require a hospital to become reverified by the American College of Surgeons as a basis for continued designation as a trauma facility. The expenses of such reverification review shall be borne by the hospital.

(Adopted effective March 22, 1995; amended September 6, 2005)