

MICHIGAN DEPARTMENT OF COMMUNITY HEALTH  
BUREAU OF HEALTH POLICY, PLANNING AND ACCESS  
EMS AND TRAUMA SERVICES SECTION  
STATEWIDE TRAUMA SYSTEM

Filed with the Secretary of State on October 30, 2007

These rules take effect immediately after filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the department of community health by section 9227 and 20910 of 1978 PA 368, 2004 PA 580, 2004 PA 581, 2004 PA 582, and Executive Reorganization Order No. 1996-1, being MCL 333.9227, 333.20910, 333.1101 to 333.25211, 333.20910, 333.20908 and 330.3101)

September 13, 2007

R 325.125, R 325.126, R 325.127, R 325.128, R 325.129, R 325.130, R 325.131, R 325.132, R 325.133, R 325.134, R 325.135, R 325.136, R 325.137, and R 325.138 are added to the Michigan Administrative Code as follows:

**PART 1. GENERAL PROVISIONS**

R 325.125 Definitions; A to D.

Rule 1. As used in these parts:

(a) “2004 Michigan Trauma Systems Plan” means the same as the document entitled “Michigan Trauma Systems Plan” prepared by the Michigan trauma coalition, dated November 2003.

(b) “Accountable” means ensuring compliance on the part of each healthcare facility, trauma facility, life support agency, and emergency medical services personnel in carrying out emergency medical services based upon protocols established by the medical control authority and approved by the department.

(c) “ACLS course” means an advanced cardiac life support course targeted for pre-healthcare facility and healthcare facility personnel who are credentialed in advanced cardiac life support.

(d) “ACS” means the American college of surgeons.

(e) “Adult trauma patient” means an individual that is, or reasonably appears to be, 15 years of age or older.

(f) “ATLS course” means an advanced trauma life support course targeted for physicians with an emphasis on the first hour of initial assessment and primary management of an injured patient, starting at the point in time of injury continuing through initial assessment, life-saving intervention, reevaluation, stabilization, and transfer when appropriate.

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(g) "Administrative hearing" means a hearing conducted pursuant to the administrative procedures act, 1969 PA 306.

(h) "Board certified in emergency medicine" means current certification by the American board of emergency medicine, the American board of osteopathic emergency medicine, or other agency approved by the department that meets the standards of these organizations.

(i) "Code" means 1978 PA 368, MCL 333.1101 and known as the Michigan public health code.

(j) "Department" means the Michigan department of community health, or its duly appointed successor.

(k) "Direct communication" means a method of communication that ensures medical control authority supervision of a life support agency when performing emergency medical services through any of the following methods:

(i) Direct interpersonal communications at the scene of the emergency.

(ii) Direct verbal communication by means of an approved 2-way telecommunications system operating within the medcom requirements.

(iii) Protocols adopted by the medical control authority (MCA) and approved by the department.

(iv) Other means submitted by the MCA and approved by the department that are not in conflict with the medcom requirements.

(l) "Disciplinary action" means an action taken by the department against a medical control authority, a life support agency, healthcare facility, or individual, or an action taken by a medical control authority against a life support agency or licensed individual for failure to comply with the code, rules, or protocols approved by the department. Action may include suspension, limitation, or removal of medical control from a life support agency of a medical control authority providing medical control, from an individual providing emergency medical services care, or any other action authorized by the code.

#### R 325.126 Definitions; E to O.

Rule 2. (a) "Emergency medical services intercept" means a situation where a life support agency is transporting an emergency patient from the scene of an emergency and requests patient care intervention from another life support agency for a higher level of care.

(b) "Emergency medical services telecommunications" means the reception and transmission of voice and/or data information in the emergency medical services system consistent with the medcom requirements prescribed by the department.

(c) "Fixed wing aircraft" means a non-rotary aircraft transport vehicle that is primarily used or available to provide patient transportation between health care facilities and is capable of providing patient care according to orders issued by a patient's physician.

"Ground ambulance" means a vehicle that complies with design and structural specifications, as defined in R 325.22101 to R 325.22217, and is licensed as an ambulance to provide transportation and basic life support, limited advanced life support, or advanced life support.

(e) "Healthcare facility" means a healthcare facility licensed under MCL 333.20801 and 333.21501 that operates a service for treating emergency patients, 24 hours a day, 7 days a week.

(f) “Hold itself out” means the agency, healthcare facility, or trauma facility advertises, announces, or charges specifically for providing emergency medical services as defined in the code.

(g) “Inter-facility trauma transfer” means identifying the group of trauma patients that require additional trauma resources with the goal of providing optimal care to these patients by the timely transfer of that patient to an appropriate level of care to optimize outcome.

(h) “License” means written authorization issued by the department to a life support agency and its life support vehicles to provide emergency medical services as defined in the code.

(i) “License expiration date” means the date of expiration indicated on the license issued by the department.

(j) “Licensure action” means denial, probation, suspension, limitation, or revocation by the department of a license for a life support agency, a life support vehicle, or a trauma facility for violations of the code.

(k) “Life support vehicle” means an ambulance, a non-transport pre-hospital life support vehicle, or a medical first response vehicle, as defined in the code.

(l) “Medcom requirements” means medical communication requirements for an emergency medical services communication system.

(m) “Medical control” means the supervision and coordination of emergency medical services through a medical control authority, as prescribed, adopted, and enforced through department-approved protocols, within an emergency medical services system.

(n) “Medical control authority” (MCA) means an organization designated by the department to provide medical control, as defined in the code.

(o) “Medical control authority board” means a board appointed by the participating organizations to carry out the responsibilities and functions of the medical control authority.

(p) “Medical control authority region” means the geographic area comprised of a county, group of counties, or parts of an individual county, as designated by the department.

(q) “Non-designated” healthcare facility means a healthcare facility that either has chosen not to be a part of Michigan’s trauma care system, or a healthcare facility that the department has not designated as a level I regional trauma research facility, level II regional trauma facility, level III community trauma facility, or level IV trauma support facility.

#### R 325.127 Definitions; P to T.

Rule 3. As used in this part:

(a) “Pediatric trauma facility” means a facility that has obtained an additional level of verification as a trauma facility, as provided by the American college of surgeons, as well as those requirements to be designated as a trauma facility in Michigan, as set forth in R 325.127 to R 325.138.

(b) “Pediatric trauma patient” means an injured individual that is, or reasonably appears to be, 14 years of age or under.

(c) “Physician” means a doctor of medicine (MD) or a doctor of osteopathy (DO) who possesses a valid current license to practice medicine in the state of Michigan.

(d) “Protocol” means a patient care standard, standing orders, policy, or procedure for providing emergency medical services that is established by a medical control authority and approved by the department under MCL 333.20919.

(e) “Professional standards review organization” means a committee established by a life support agency or a medical control authority for the purpose of improving the quality of medical care, as provided in MCL 331.531 to 331.533.

(f) “Quality improvement program” means actions taken by a life support agency, medical control authority, trauma facility, or jointly between a life support agency, medical control authority, or trauma facility with a goal of continuous improvement of medical care in accordance with the code. Actions shall take place under a professional standards review organization, as provided in MCL 331.531 to 331.533.

(g) “Regional Professional Standards Review Organization” means a committee established by the regional trauma network for the purpose of improving the quality of trauma care within a recognized trauma region as provided in MCL 331.531 to 331.533.

(h) “Regional trauma advisory council (RTAC)” means a committee established by a regional trauma network and comprised of MCA personnel, EMS personnel, life support agency representatives, healthcare facility representatives, physicians, nurses, and consumers. The functions of the RTAC are to provide leadership and direction in matters related to trauma systems development in their region, and monitor the performance of the trauma agencies and healthcare facilities within the region, including, but not limited to, the review of trauma deaths and preventable complications.

(i) “Regional trauma network” means an organized group comprised of the local MCA’s within a region, which integrates into existing regional emergency preparedness, and is responsible for appointing a regional trauma advisory council and creating a regional trauma plan.

(j) “Regional trauma plan” means a written plan prepared by a regional trauma advisory council, and approved by the regional trauma network, that is based on minimum criteria established by the department, and addresses each of the following trauma system components: leadership; public information & prevention; human resources; communications; medical direction; triage; transport; trauma care facilities; inter-facility transfers; rehabilitation; and evaluation of patient care within the system.

(k) “Rotary aircraft” means a helicopter that is licensed under the code as an ambulance.

(l) “Service area” means a geographic area in which a life support agency is licensed to provide emergency medical services for responding to an emergency.

(m) “Statewide Trauma Care Advisory Subcommittee (STAC)” as used in these rules means the statewide trauma care advisory subcommittee as defined in MCL 333.20917a, 333.20908, and 333.20910, that acts as the department’s subject matter experts with regard to the clinical and operational components of trauma care.

(n) “Statewide trauma care system” means a comprehensive and integrated arrangement of emergency services personnel, facilities, equipment, services, communications, medical control authorities, and organizations necessary to provide trauma care to all patients within a particular geographic region.

(o) “Statewide trauma registry” means a system for collecting data from trauma facilities and life support agencies for which the department manages and analyzes the data and disseminates results.

(p) “Trauma” means bodily injury caused by the application of external forces.

(q) “Trauma bypass” means to forego delivery of a patient to the nearest healthcare facility for a healthcare facility whose resources are more appropriate to the patient’s injury pursuant to direction given to a pre-hospital emergency medical service by online medical direction or

predetermined triage criteria as established by department-approved protocols. However, trauma care still must be provided to patients as necessary pursuant to 42 USC §1395dd or other applicable laws.

(r) “Trauma care system” means a comprehensive and integrated arrangement of emergency services personnel, facilities, equipment, services, communications, medical control authorities, and organizations necessary to provide trauma care to all patients within a particular geographic region.

(s) “Trauma facility” means a healthcare facility designated by the department as having met the criteria set forth in the code as being either a level I regional trauma research facility, level II regional trauma facility, level III community trauma facility, or level IV trauma support facility.

(t) “Trauma response” means a patient who presents as having been bodily injured as a result of the application of external forces and requires the utilization of emergency department resources.

(u) “Trauma team” means a team of multidisciplinary health care providers established and defined by a healthcare facility or emergency care facility that provides trauma care.

(v) “Triage” means classifying patients according to the severity of their medical conditions.

#### R 325.128 Terms.

Rule 4. Terms defined in the code have the same meanings when used in these rules.

#### R 325.129 Powers and duties of the department.

Rule 5. Subject to appropriations, the department, with the advice of the emergency medical services coordinating committee and statewide trauma care advisory subcommittee, contingent upon sufficient funding being appropriated, shall do all of the following:

(a) Implement an “all-inclusive” trauma system throughout the state. This type of system allows for the care of all injured patients in an integrated system of health care in the pre-hospital and healthcare facility environments by personnel that are well trained and equipped to care for injured patients of any severity. The system allows for a healthcare facility to participate in the system to the extent or level that it is willing to commit the resources necessary for the appropriate management of the trauma patients and prohibits the department from limiting the number of health care facilities that seek to qualify for any given level of trauma designation under this system. It also ensures that all trauma patients are served by a system of coordinated care, based on the degree of injury and care required.

(b) Establish a statewide trauma quality improvement process using a statewide database, which is compatible with trauma, emergency departments, and pre-hospital data systems, monitor the statewide trauma system; ensure the coordination and performance of the regional trauma networks; and set minimum standards for system performance and trauma patient care.

(c) Assign a dedicated state EMS/trauma medical director and supporting resources consistent with the criteria in the 2004 Michigan trauma systems plan, pursuant to MCL 333.20910.

(d) Implement and maintain a statewide plan for a trauma system for Michigan, that addresses all of the following:

(i) State leadership.

- (ii) Public information and prevention.
  - (iii) Human resources.
  - (iv) Communications.
  - (v) Medical direction.
  - (vi) Triage.
  - (vii) Transport.
  - (viii) Trauma care facilities.
  - (ix) Inter-healthcare facility transfers.
  - (x) Rehabilitation.
  - (xi) Evaluation of trauma patient care and the trauma system.
- (e) Ensure integration of the trauma and Emergency Medical Systems (EMS), including all pre-hospital and organ procurement organization components.
- (f) Develop a statewide process to establish regional trauma networks comprised of local Medical Control Authorities (MCAs) in a manner that integrates into existing regional emergency preparedness, EMS or medical control systems.
- (g) Develop a statewide process for the verification of trauma resources.
- (h) Develop a statewide process for the designation of trauma facilities.
- (i) Develop an appeals process for facilities contesting their designation.
- (j) Establish state trauma recommendations and approve regional trauma triage protocols, which are established and adopted by the local medical control authority.
- (k) Establish regional trauma networks, consistent with the current emergency preparedness regions, in order to provide system oversight of the trauma care provided in each region of the state. Regional trauma networks shall be comprised of collaborating local medical control authorities (MCAs) in a region. The collaborating MCAs in a region shall apply to the department for approval and recognition as a regional trauma network. The department, with the advice and recommendation of the statewide trauma care advisory subcommittee and emergency medical services coordinating committee shall review the appropriateness of the regional structure every 3 years. The establishment of the regional trauma networks shall not limit the transfer or transport of trauma patients between regional trauma networks.
- (l) Implement Tiered Triage Protocols. Major trauma patients requiring the resources of a Level I Regional Trauma Research Facility or Level II Regional Trauma Facility shall be identified by adult and pediatric field triage criteria established by the regional trauma networks. Protocols, which are established and adopted by local medical control, may be developed based on the standards incorporated by reference in these rules, Resources for Optimal Care Of The Injured Patient 2006 ; Committee On Trauma American College of Surgeons, available at a cost of \$25.00 from the American College of Surgeons, 633 N. Saint Clair St. Chicago, Illinois 60611-3211, and those contained in R 325.135. A copy is also available at cost from the EMS & Trauma Systems Section, 201 Townsend Street, Lansing, MI 48913. Tables 1 & 2 apply to adult and pediatric triage criteria:

Table I  
Model Adult Trauma Triage Criteria & Methodology

The EMT or paramedic shall assess the condition of those injured persons with anatomical and physiological characteristics of a person 15 years of age or older for the presence of at least 1 of the following criteria to determine whether to transport as a trauma alert. These

criteria are to be applied in the order listed, and once any 1 criterion is met that identifies the patient as a trauma alert, no further assessment is required to determine the transport destination.

Criteria:

1. GCS  $\leq$  13
2. Meets color-coded triage system (see below)
3. Meets local criteria (specify) \_\_\_\_\_
4. Patient does not meet any of the trauma criteria listed above but, in the judgment of the EMT or paramedic, should be transported as a trauma alert (document) \_\_\_\_\_

Component

▼Blue▼

▼Red▼

Airway	Respiratory rate of 30 or greater	Active airway assistance <sup>1</sup> or RR < 10 or flail chest
Circulation	HR of 120 beats per minute or greater	Lack of radial pulse with systolic BP, 90 mmHg
Best Motor Response <sup>2</sup>	BMR = 5	BMR = 4 or less or presence of new paralysis, or suspicion of spinal cord injury or loss of sensation
Cutaneous	Soft tissue loss <sup>3</sup> or penetrating injury to extremities distal to knee or elbow	Amputation proximal to the wrist or ankle or any penetrating injury <sup>4</sup> to head, neck, or torso or extremity at or proximal to elbow or knee.
Fracture	Single FX site due to trauma excluding ground-level fall	Fracture or two or more long bones <sup>5</sup> or pelvic fracture
Age	55 years or older	
Mechanism of Injury	Prolonged extrication (>20 min.) evidence of high speed crash or significant vehicle damage or bent steering wheel or rollover, or motorcycle crash	Ejection from vehicle, death in same passenger compartment, pedestrian struck, falls >20 feet
Burns	<10% 2 <sup>nd</sup> or 3 <sup>rd</sup> degree	>10% 2 <sup>nd</sup> or 3 <sup>rd</sup> degree or burns to face, hands, feet, genitalia/perineum and major joints, electrical burn or lighting injury, chemical burns, inhalation injury, or burn injury in patient with pre-existing chronic medical condition

B = any 2 transport as a trauma alert

R = any 1 transport as a trauma alert

1. Airway assistance beyond administration of oxygen
2. Best Motor Response:  
6: Obeys movement commands  
wounds in which the depth
3. Major degloving injuries, or avulsion (>5 in.)
4. Excluding superficial

- 5: Purposeful movement to pain of the wound the can be determined
- 4: Withdraws to pain femur
- 3: Flexes to pain (decorticate posturing)
- 2: Extension response to pain (decelerate posturing)
- 1: No response
5. Longbone defined as humerus or femur

Table II  
Model Pediatric Trauma Triage Criteria & Methodology

The EMT or paramedic shall assess the condition of those injured persons with anatomical and physiological characteristics of a person 14 years of age or younger for the presence of at least 1 of the following criteria to determine whether to transport as a trauma alert. These criteria are to be applied in the order listed, and once any 1 criterion is met that identifies the patient as a trauma alert, no further assessment is required to determine the transport destination.

Criteria:

1. Meets color-coded triage system (see below)
2. Meets local criteria (specify) \_\_\_\_\_
3. Patient does not meet any of the trauma criteria listed above but, in the judgment of the EMT or paramedic, should be transported as a trauma alert (document) \_\_\_\_\_

Component

▼Blue▼

▼Red▼

Size	Weight $\leq$ 11 Kg or length $\leq$ 33 inches on a pediatric length and weight emergency tape	
Airway		Active airway assistance <sup>1</sup> or crush injury to the chest
Consciousness	Amnesia or loss of consciousness	Altered mental status <sup>2</sup> or coma or presence or paralysis or suspicion of spinal cord injury or loss of sensation
Circulation	Carotid or femoral pulses palpable, but the radial or pedal pulse not palpable or SBP $<$ 90 mm of Hg <sup>2</sup>	Lack of radial pulse with systolic BP $<$ 90 mmHg <sup>2</sup>
Fracture (FX)	Single closed long bone <sup>4</sup> fracture <sup>5</sup>	Open long bone <sup>4</sup> fracture <sup>6</sup> or multiple fracture sites or multiple dislocations <sup>6</sup>
Cutaneous		Major soft tissue disruption <sup>7</sup> or major flap avulsion or 2 <sup>nd</sup> or 3 <sup>rd</sup> degree burns to $\geq$ 10% TBSA or amputation <sup>8</sup> or any

		penetrating injury to head, neck or torso <sup>9</sup>
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B = any 2 transport as a trauma alert

R = any 1 transport as a trauma alert

1. Airway assistance beyond administration of oxygen
2. OR < 70 + 2 x age in years
3. Altered mental states include drowsiness, lethargy, inability to follow commands, unresponsiveness to voice, totally unresponsive
4. Long bones include the humerus, (radius, ulna) femur, (tibia or fibula)
5. Long bone fractures do not include isolated wrist or ankle fractures
6. Long bone fractures do not include isolated wrist or ankle fractures or dislocations
7. Includes major degloving injury
8. Amputation proximal to ankle or wrist
9. Excluding superficial wounds where the depth of the wound can be determined

(m) Verify the trauma care resources of all healthcare facilities in Michigan over a 3-year period.

(n) Establish a mechanism for periodic re-designation of all healthcare facilities.

(o) Develop a comprehensive statewide data collection system that shall be phased in over a 5-year period.

(p) Formulate recommendations for the development of performance improvement plans by the regional trauma networks, consistent with those in R 325.135.

(q) Develop a process for trauma system performance improvement, which will include responsibility for monitoring compliance with standards, maintaining confidentiality and periodic review of trauma facility standards. The following standards are incorporated by reference in these rules, as specified in R 325.129(2)(l) and R 325.135.

(r) Develop a process for the evaluation of trauma system effectiveness based on standards that are incorporated by reference in these rules, as specified in R 325.129(2)(l), and R 325.135.

(s) Coordinate and integrate appropriate injury prevention initiatives and programs.

(t) Support and fund the components of the state trauma system and the regional trauma networks, and provide adequate staffing and resources to carry out its responsibilities and functions.

(u) Conduct an accurate assessment of the training and education needs and resources of trauma care personnel throughout the state.

(2) In developing a statewide trauma system, the department shall consider the following factors:

(a) Efficient implementation and operation.

(b) Decrease in morbidity and mortality.

(c) Cost effective implementation.

(d) Incorporation of national standards.

(e) Availability of funds to implement.

(3) The 2004 Michigan Trauma Systems Plan may be periodically updated by the statewide trauma advisory subcommittee and the emergency medical services coordinating committee.

R 325.130. Trauma facility verification; designation and re-designation.

Rule 6. (1) A healthcare facility, which intends to provide trauma care, shall obtain designation as a trauma facility, and a healthcare facility shall not self designate itself as a trauma facility.

(2) A healthcare facility shall not use the word “trauma” to describe its facility, or in its advertising, unless it obtains and maintains a designation as a “trauma facility” from the department.

(3) A healthcare facility that wishes to identify itself as a trauma facility shall meet the criteria for the level of designation being sought.

(4) The department shall re-designate the trauma capabilities of each healthcare facility on the basis of verification and designation requirements in effect at the time of re-designation.

(5) To obtain a designation as a “trauma facility”, the institution shall apply to the department. An applicant healthcare facility has a right to an administrative hearing if denied a specific trauma facility level designation.

(6) The department shall designate the existing trauma resources of all participating healthcare facilities in the state, based upon the following categories:

(a) A level I regional trauma research center shall comply with the standards that are incorporated by reference pursuant to R 325.129(2)(l), and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(iii) Participate in coordinating and implementing regional injury prevention plans.

(iv) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities contingent upon sufficient funding being appropriated.

(b) A level II regional trauma center shall comply with the standards that are incorporated by reference and verification criteria established by the American College of Surgeons Committee on Trauma (ACSCOT) for level II trauma facilities, pursuant to R 325.129(2)(l), and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(iii) Participate in coordinating and implementing regional injury prevention plans.

(iv) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities, contingent upon sufficient funding being appropriated.

(c) For a level III, community trauma facility, verification criteria shall be established by the department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee. The standards are incorporated by reference in these rules, based upon verification criteria established by ACSCOT for level III facilities, pursuant to R 325.129(2)(l), and all of the following:

(i) Comply with data submission requirements in R 325.133 and R 325.134.

(ii) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(iii) Participate in coordinating and implementing regional injury prevention plans.

(d) For a Level IV, trauma support facility, verification shall be completed using an “in-state” process, and criteria shall be established by the department, with the advice and

recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee. The standards are incorporated by reference in these rules, based upon relevant verification criteria established by ACSCOT for level IV facilities, pursuant to R 325.129(2)(1) and shall include all of the following essential components:

- (i) Institutional organization, which shall include all of the following:
  - (A) Trauma program.
  - (B) Trauma team.
  - (C) Trauma coordinator/TPM.
- (ii) Clinical capabilities – specialty immediately available 24 hours/day, as documented in a published on-call schedule.
- (iii) Clinical qualifications, which shall include both of the following:
  - (A) General/trauma surgeon, who has ATLS completion.
  - (B) Emergency medicine, with ATLS completion.
- (iv) Facilities/resources/capabilities, presence of surgeon at operative procedures.
- (v) Emergency department equipped with all of the following resuscitation equipment:
  - (A) Airway control and ventilation equipment.
  - (B) Pulse oximetry.
  - (C) Suction devices.
  - (D) Electrocardiograph-oscilloscope-defibrillator.
  - (E) Standard IV fluids and administration sets.
  - (F) Large-bore intravenous catheters.
  - (G) Sterile surgical sets for all of the following:
    - (1) Airway control/cricothyrotomy.
    - (2) Thoracostomy.
    - (3) Venous cutdown.
  - (G) Drugs necessary for emergency care.
  - (H) Broselow tape.
  - (I) Thermal control equipment for patient.
  - (J) Qualitative end-tidal Co<sub>2</sub> determination.
  - (K) Communication with EMS vehicles.
- (vi) Operating room with personnel available 24 hours /day, which shall include both of the following:
  - (A) Thermal control equipment for both of the following:
    - (1) Patient.
    - (2) Fluids and blood.
  - (B) X-ray capability.
- (vii) Postanesthetic recovery room, which shall include both of the following:
  - (A) Equipment for monitoring and resuscitation.
  - (B) Intracranial pressure monitoring equipment, which shall include both of the following:
    - (1) Pulse oximetry.
    - (2) Thermal control.
- (viii) Respiratory therapy services.
- (ix) Radiological services available 24 hours/day.
- (x) Clinical laboratory service available 24 hours/day, which shall include all of the following:

- (A) Standard analyses of blood, urine, and other body fluids, including microsampling when appropriate.
- (B) Blood typing and cross-matching.
- (C) Coagulation studies.
- (D) Comprehensive blood bank or access to a community central blood bank and adequate storage facilities.
- (E) Blood gases and pH determinations.
- (F) Microbiology including the following:
  - (1) Acute Hemodialysis or transfer agreement.
  - (2) Burn care, organized in-house or transfer agreement with burn center.
  - (3) Acute spinal cord management in-house or transfer agreement with regional acute spinal cord injury rehabilitation center.
  - (4) Rehabilitation services in-house or transfer agreement to an approved rehabilitation facility.
  - (5) Performance improvement, which shall include all of the following:
    - (a) Performance improvement programs.
    - (b) Participation in state, local, or regional registry.
    - (c) Audit of all trauma deaths.
    - (d) Morbidity and mortality review.
    - (e) Medical nursing audit including the following:
      - (i) Continuing education/outreach.
      - (ii) Prevention.
  - (e) The facility shall comply with data submission requirements as set forth in R 325.133 and R 325.134.
  - (f) The facility shall develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.
  - (g) The facility shall participate in coordinating and implementing regional injury prevention plans.
  - (h) The department may, with the advice and recommendations of the state trauma advisory committee and emergency medical services coordinating committee, modify the criteria or establish additional levels of trauma care resources as appropriate to maintain an effective state trauma system and protect the public welfare, except that the department shall not establish any criteria for the purpose of limiting the number of health care facilities that qualify for a particular trauma level under these rules.
- (7) The resources of healthcare facilities applying for level I regional trauma research facility or level II regional trauma facility designation status shall be verified by the ACSCOT and shall do all of the following:
  - (a) Comply with data submission requirements in R 325.133 and R 325.134.
  - (b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.
  - (c) Participate in coordinating and implementing regional injury prevention plans.
  - (d) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities contingent upon sufficient funding being appropriated.

(8) Healthcare facilities seeking designation as a level III, community trauma facility shall be verified using either an “in-state” process established by the department, with the advice of the state trauma advisory subcommittee, or by the ACSCOT and shall do all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(c) Participate in coordinating and implementing regional injury prevention plans.

(9) Healthcare facilities seeking designation as a Level IV, Trauma Support Facility shall be verified using an “in-state” process established by the department, with the advice of the state trauma advisory subcommittee, and shall do all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(c) Participate in coordinating and implementing regional injury prevention plans.

(10) Healthcare facilities wishing to be re-designated as a Level I Regional Trauma Research Facility must independently obtain ACS verification at that level, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(2)(l), and all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(c) Participate in coordinating and implementing regional injury prevention plans.

(d) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities contingent upon sufficient funding being appropriated.

(11) Healthcare facilities wishing to be re-designated as a Level II regional trauma facility must independently obtain ACS verification at that level, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(2)(l), and all of the following:

(a) Comply with data submission requirements as set forth in R 325.133 and R 325.134.

(b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(c) Participate in coordinating and implementing regional injury prevention plans.

(d) Provide staff assistance to the department in the designation and verification process of community trauma facilities and trauma support facilities contingent upon sufficient funding being appropriated.

(12) Healthcare facilities wishing to be re-designated as a Level III community trauma facility must obtain verification at that level using either “in-state” resources, or the ACSCOT, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(2)(l), and all of the following:

(a) Comply with data submission requirements in R 325.133 and R 325.134.

(b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(c) Participate in coordinating and implementing regional injury prevention plans.

(13) Healthcare facilities wishing to be re-designated as a Level IV trauma support facility must obtain verification at that level using an “in-state” process. Criteria shall be established

by the department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee, based upon relevant most current verification criteria established by ACSCOT for level IV facilities, and shall comply with the standards that are incorporated by reference pursuant to R 325.129(2)(l), and those listed in R 325.130, and all of the following:

(a) Comply with data submission requirements in R 325.133 and R 324.134.

(b) Develop and submit a performance improvement plan based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135.

(c) Participate in coordinating and implementing regional injury prevention plans.

#### R 325.131 Triage and transport.

Rule 7. (1) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee, shall develop recommendations, based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l), R 325.136, R 325.137, and R 325.138 for protocols which are established and adopted by local medical control, for the triage, transport, and inter-facility transfer of adult and pediatric trauma patients to appropriate trauma care facilities.

(2) The standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l), R 325.136, R 325.137, and R 325.138 for the triage, transport, and the inter-facility transfer of trauma patients provide recommended minimum standards of care for protocols which are established and adopted by local medical control that must be utilized in the transfer of care for trauma patients. On an annual basis, or as needed, the department shall review and update these recommended minimum standards with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee.

(3) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee, shall create regional trauma networks that shall have the responsibility for developing triage and transport procedures within that geographical area. Both of the following apply:

(a) Each regional trauma network shall be created within the emergency preparedness region currently established within the state.

(b) Each trauma region may create its own triage and transport criteria and protocols, destination criteria and protocols, and inter-facility transfer criteria and protocols, which are established and adopted by local medical control, so long as they meet or exceed the standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l), R 325.136, R 325.137, and R 325.138, and that they are reviewed by the quality assurance task force and approved by the department. This may include coordination of triage and transport criteria and protocols, which are established and adopted by local medical control, across geographic regions if in the best interest of providing optimal trauma care to patients.

#### R 325.132 Trauma regions.

Rule 8. (1) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee, and contingent upon sufficient funding being appropriated, shall support the establishment and operational activities of the trauma regions through the commitment of staff resources consistent with recommendations of the 2004 Michigan trauma systems plan.

(2) Each region shall establish a regional trauma network as prescribed and defined by R 325.125 to R 325.135.

(3) All MCAs within a region must participate in the regional trauma advisory network, and life support agencies that care for trauma patients shall be offered membership on the regional trauma advisory committee. Regional trauma advisory committees shall be operated in a manner that maximizes inclusion of their constituents. All of the following apply:

(a) At least quarterly, a regional trauma network shall submit evidence of ongoing activity, such as meeting notices and minutes, to the department. Annually, the regional trauma advisory committee shall file a report with the department which describes progress toward system development, demonstrates on-going activity, and include evidence that members of the regional trauma advisory committee are currently involved in trauma care.

(b) The regional trauma network shall develop a system plan for comprehensive system development. The system plan is subject to review of the State trauma advisory subcommittee and emergency medical services coordinating committee and approval by the department.

(c) The department shall review the plan to assure that it contains at a minimum, all of the following:

(i) All counties within the regional trauma advisory committee have been included unless a specific county, or portion thereof, has been aligned within an adjacent network, and all health care entities and MCAs, life support agencies have been given an opportunity to participate in the planning process.

(ii) All of the following components have been addressed:

(A) Injury prevention.

(B) Access to the system.

(C) Communications.

(D) Medical oversight.

(E) Pre-hospital triage criteria.

(F) Trauma diversion policies.

(G) Trauma bypass protocols.

(H) Regional trauma treatment guidelines.

(I) Regional quality improvement plans.

(J) Trauma education.

(4) Each regional trauma network shall appoint a regional professional standards review organization as defined in R 325.127(e).

(5) Each regional trauma advisory committee shall develop performance improvement plans that are based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l) and R 325.135, and shall be reviewed annually by the state trauma advisory subcommittee and emergency medical services coordinating committee for recommendations to the department.

(6) Recommendations, which are developed and proposed for implementation by a regional trauma advisory committee shall meet or exceed those that have been established by the department with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee, as based on standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(l).

(7) Once the department approves a completed regional trauma plan, the department shall recognize the regional trauma network. The regional trauma network approval process shall consist of the following phases:

(a) The first phase is the application phase, which begins with the submission to the department of a completed regional plan for the regional trauma network.

(b) The second phase is the review phase, which begins with the receipt of the regional plan, and ends with a department recommendation to approve the regional trauma network.

(c) The third phase is the final phase, with the department making a final decision regarding the regional trauma network plan. This phase also includes an appeal procedure for the denial of an approval of application in accordance with the department's administrative hearings requirements.

(8) If the application phase results in a recommendation to the department for approval by the statewide trauma advisory subcommittee and the emergency medical services coordinating committee, and the department approves, then the department shall notify the regional trauma network applicant of the recommended action within 90 days from receipt by the department.

(9) Upon approval, a regional trauma advisory committee shall implement the plan to include the following:

(a) Education of all entities about the plan components.

(b) On-going review of resources, process, and outcome data.

(c) If necessary, revision and re-approval of the plan or plan components by the department.

#### R 325.133. Data collection.

Rule 9. (1) The department, with the advice and recommendations of the state trauma advisory subcommittee and emergency medical services coordinating committee, shall develop and maintain a statewide trauma data collection system, and contingent upon sufficient funding being appropriated, shall do all of the following, which will include development of a state trauma data oversight committee, a subcommittee of the state:

(a) Adopt the national trauma data elements and definitions as a minimum set of elements for data collection, the following standards are incorporated by reference in these rules, as identified in the National Trauma Registry Data Dictionary August 2006, Version 2.2, and available free online at <http://www.facs.org/trauma/ntdb/datadictionary.pdf>. A copy may be obtained at no cost by writing the EMS & Trauma Systems Section, 201 Townsend Street, Lansing, MI 48913. Additional required data elements that shall be submitted include both of the following:

(i) Destination medical record number.

(ii) Patient care report number.

(b) Develop procedures to meet the 5-year data implementation plan, as set forth in the following, based on the effective date of these rules:

(i) Year 1 – Establish regions, define data dictionary, and define the data download and data verification process. Establish regional and state committee structure. Download all ACS verified trauma facility data to a regional trauma registry. Generate reports and evaluate uniformity of data. All of the following apply:

(A) Data related to a trauma response shall be submitted to the department on a quarterly basis. Initially, data may be submitted in either paper form, or as an electronic file.

(B) The initial data submission requirements only apply to trauma response patients who have a mechanism of injury that may have resulted from a criminal act. A healthcare facility need not determine whether the acts related to the mechanism of a patients injuries result in any criminal proceedings to include an arrest, prosecution, or conviction.

(C) For those trauma response patients who meet the criteria identified for initial data submission, the following data elements shall be submitted to the department:

(1) Patient identification number.

(2) A mechanism of injury code – ICD9, e-code, or another comparable alternative.

(3) Date of treatment.

(4) Facility federal identification number.

(ii) Year 2 – Work towards uploading regional data to state registry. Identify all healthcare facilities for data submission. Establish a data collection process for community trauma facilities, and trauma support facilities. Initial evaluation of regional data by regional committees and upload the data to the state trauma registry.

(iii) Year 3 – Develop annual reports using regional and state data defined by the state trauma data oversight committee, a subcommittee of the STAC. Assess the state trauma system and regional trauma network.

(iv) Year 4 –Expand the trauma data collection system to include all participating healthcare facilities.

(v) Year 5 - Evaluate and import additional data from existing databases on a needs basis.

(2) The department will support the data collection and analysis process through the commitment of staff resources consistent with the advice and recommendations of the state trauma advisory subcommittee and the emergency medical services coordinating committee.

(3) Both of the following shall apply to healthcare facility participation in data collection:

(a) All healthcare facilities with an emergency center shall participate in data submission.

(b) The confidentiality and protection of patient data collected as part of the creation and operation of the trauma system shall be provided and maintained through the creation of regional professional standards review organization, as provided in 1967 PA 270, MCL 331.531 to 331.533.

#### R 325.134 Trauma registry.

Rule 10. (1) The purpose of the trauma registry is to collect and analyze trauma system data to evaluate the delivery of adult and pediatric trauma care, develop injury prevention strategies for all ages, and provide resources for research and education.

(2) The department is responsible, contingent upon sufficient funding being appropriated, for the coordination of data collected by the trauma care facilities, emergency medical service providers, and first responder services. The department shall develop and publish a data submission manual that specifies all of the following:

(a) Data elements and definitions. The standards that are incorporated by reference pursuant to R 325.133(1)(a), and all of the following.

(i) Definitions of what constitutes a reportable trauma case.

(ii) Method of submitting data to the department.

(iii) Timetables for data submission.

(iv) Electronic record format.

(v) Protections for individual record confidentiality.

(b) Notification of trauma care facilities, ambulance service providers and first responder services of the required registry data sets and update the facilities and providers, as necessary, when the registry data set changes.

(c) Specification of both the process and timelines for healthcare facility and ambulance service provider submission of data to the department.

(3) Submission of data. All healthcare facilities and life support agencies shall submit to the department trauma data determined by the department to be required for the department's operation of the state trauma registry. The department shall prescribe and provide both of the following:

(a) Standard reporting mechanisms to be used by all healthcare facilities and life support agencies.

(b) The form and content of records to be kept and the information to be reported to the department.

(4) The department and regional trauma advisory committees shall use the trauma registry data to identify and evaluate regional trauma care and to prepare standard quarterly and annual reports and other reports and analyses as requested by regional trauma advisory committees, the state trauma advisory subcommittee, or the emergency medical services coordinating committee.

#### R 325.135 Performance improvement.

Rule 11. (1) Each regional trauma advisory committee shall use the trauma registry data collected to improve trauma care through the appointment of regional professional standards review organizations, reduce death and disability, and correct local and regional injury problems.

(2) Each regional trauma network shall appoint a professional standards review organization.

(3) Deviations from recommendations and protocols, which are established and adopted by local medical control and approved by the department for trauma patients, shall be addressed through a documented trauma performance improvement process established by a professional standards review organization.

(4) Data confidentiality. Each regional trauma advisory committee shall observe the confidentiality provisions of the health insurance portability and accountability act under 45 CFR Part 164, data confidentiality provisions under the code, or as established by the regional professional standards review organization.

(5) Process. The performance improvement process shall include the following standards that are incorporated by reference in these rules, pursuant to R 325.129(2)(1), and include all of the following for both pediatrics and adults:

(a) Data collection and analysis.

(b) Adult and pediatric-specific quality indicators for evaluating the trauma system and its components.

(c) A system for case referral.

(d) A process for indicator review and audit.

(e) A mechanism for an action plan and process improvement.

(f) A mechanism for feedback to the medical control authorities, the emergency medical services coordinating committee, and the state trauma advisory subcommittee.

- (g) An evaluation of system performance to include all of the following:
- (i) Designation: Compliance with criteria.
  - (ii) Triage and transport (Access).
  - (iii) Outcomes: (stratified by ISS/TRISS).
  - (iv) Both of the following transfers:
    - (a) LOS.
    - (b) Deaths.
  - (v) Both of the following patient care issues:
    - (a) Mortality: all deaths.
    - (b) Morbidity: Defined by regions.
  - (vi) Review of hospital performance improvement.
  - (vii) The following audit filters and data elements:
    - (A) Trauma related deaths list hospital, elapsed time, ED admission time, MOI, age, cause code, transport mode, GCS, RTS, AIS, ICD-9, CPT's and ISS for each patient.
    - (B) Trauma patients with more than one inter-hospital transfer prior to definitive care list hospitals sending and accepting the transfer for each patient meeting criterion.
    - (C) Ground transport trauma patients with an ED RTS less than or equal to 5.5 and scene transport times (scene departure to ED arrival) greater than 20 minutes list (and sort by) hospital, transport mode, EMS agency, scene to hospital transport time, injury county, cause code, ISS, and outcome for each patient meeting these criteria.
    - (D) Trauma patients with EMS scene times (EMS scene arrival to EMS scene departure) greater than 20 minutes list EMS agency, transport mode, scene time, scene procedures (air, CPR, fluids), trauma type, injury zip code (injury county), ISS, and outcome for patients meeting criterion.
    - (E) Transferred trauma patients with an ISS greater than 15 and transfer time (ED admit to definitive hospital admit) greater than 6 hours for rural place of injury or 4 hours for urban place of injury list ED hospital, definitive hospital, urban or rural place of injury, transfer time, cause code, ISS, and outcome for patients meeting criteria.
    - (F) Trauma patients with an ISS greater than 15 and ED time (ED admit to ED discharge) greater than 2 hours list hospital, patient transfer? (yes or no), cause code, and ED time for patients meeting criteria.
    - (G) Trauma patients who die with a probability of survival (TRISS) > 50%. (TRISS score for trauma patients using physiologic measures collected at the first presenting hospital) list hospital, age, cause code, transport mode, ISS, outcome, LOS, and TRISS for patients meeting criteria.
    - (H) Trauma patients with an ISS greater than 15 who are discharged from non-trauma centers list hospital, age, cause code, transport mode, ISS, outcome, discharge disposition, and time to discharge for each patient meeting criteria.
    - (I) Trauma patients transported by EMS without an associated ambulance report in the medical record list percentage of missing run reports by transport mode and EMS agency.
    - (J) Trauma patients 14 years of age or younger (children) who either had an ED GCS less than or equal to 8, intubation, or ISS greater than 15 and not transferred to a regional pediatric trauma center list hospital, age, ED GCS, ISS, cause code, LOS, and transport mode for each patient meeting criteria.
- (5) Trauma System Evaluation. Each trauma care region shall be responsible for the ongoing evaluation of its trauma care system. Accordingly, each region shall develop a

procedure for receiving information from EMS providers, trauma centers and the local medical community on the implementation of various components of that region's trauma system, shall include the standards that are incorporated by reference pursuant to R 325.129(2)(1), as well as include all of the following;

(a) The following system components to be evaluated:

- (i) Components of the regional trauma plan.
- (ii) Triage criteria, and effectiveness.
- (iii) Activation of trauma team.
- (iv) Notification of specialists.
- (v) Trauma center diversion.

(b) Results to be reported annually. Based upon information received by the region in the evaluation process, the region shall annually prepare a report containing results of the evaluation and a performance improvement plan. Such report shall be made available to all EMS providers, trauma centers and the local medical community. The region shall ensure that all trauma centers participate in this annual evaluation process, and encourage all other hospitals that treat trauma patients to do likewise. Specific information related to an individual patient or practitioner shall not be released. Aggregate system performance information and evaluation will be available for review.

(6) Performance improvement process for trauma centers. All trauma centers shall develop and have in place a performance improvement process focusing on structure, process, and outcome evaluations which focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process as set forth in the trauma center level specific requirements. This system shall provide for input and feedback from these patients and guardians to hospital staff regarding the care provided.

In addition, the process shall include the standards that are incorporated by reference pursuant to R 325.129(2)(1), and all of the following:

(a) A detailed audit of all trauma-related deaths, major complications and transfers.

(b) A multidisciplinary trauma peer review committee that includes all members of the trauma team.

(c) Participation in the trauma system data management system.

(d) The ability to follow up on corrective actions to ensure performance improvement activities.

(7) Performance improvement process for trauma care regions. Each trauma care region shall be required to develop and implement a region wide trauma performance improvement program. This program shall include the standards that are incorporated by reference pursuant to R 325.129(2)(1), and shall include the development of an annual processes for reporting to the department a review of all region-wide policies, procedures, and protocols.

#### R 325.136 Destination protocols.

Rule 12. Local MCA's shall develop and submit trauma destination protocols to the EMS and trauma section for review by the quality assurance task force, pursuant to MCL 333.20916. Upon review and approval by the department the MCA must formally adopt and implement the protocol. The following factors will be used in evaluating those destination protocols.

(a) All trauma patients, as defined by the adult and pediatric trauma and triage criteria and methodology documents, should be transported to the closest appropriate state designated

trauma center. There is not 1 single set of criteria that can define the appropriate trauma center for each area of the state. Each region will need to determine a system that is appropriate for its specific situation. The following factors may be used to assist in this process:

(i) If a level 1 or 2 state designated trauma center is within 30 minutes transport time of the scene, the adult patient should be transported to the closest of these facilities.

(ii) Pediatric trauma patients should be transported to a regionally designated facility for appropriate evaluation and stabilization and then transported to the appropriate children's trauma center if needed. Parents should be transported to the same facility as their children if resources are available.

(b) Bypassing a level 3 or 4 trauma center or a nonparticipating hospital is appropriate as long as the level 1 or 2 facility is within a reasonable distance from the scene, as defined by protocol.

(c) Trauma patients shall not be transported to a facility not participating in the state trauma system unless there is no other reasonable alternative available. For example, the next closest facility is more than a reasonable distance from the scene.

(d) Some areas of the state have prolonged transport times to any facility. Trauma patients in these areas shall be transported to the closest facility that can facilitate rapid transport to the definitive care facility.

(e) In areas of the state where level 1 and 2 trauma centers are not within a reasonable distance from the scene, the trauma patient shall be transported to the closest appropriate highest level trauma center.

(f) Each region shall carefully evaluate this situation since it could be detrimental to the patient to transport him/her to a level 4 center 30 minutes to the east, when the closest level 2 center is 40 minutes to the west. That patient would then have to be transported 70 minutes back to the west after stabilization.

(g) Protocols shall take into account the fact that some centers may have different resources available even though they are the same level.

(h) Each region shall make appropriate determinations for destination based on what is best for the patient rather than based on politics or economic factors.

(i) In areas of the state close to state borders, the most appropriate facility may be out of the state. Whenever possible, trauma patients shall be transported within state borders, but local protocols shall address this issue.

#### R 325.137 Trauma patient inter-facility transfer protocols.

Rule 13. (1) All designated trauma centers shall maintain inter-facility transfer protocols for trauma patients.

All level 3, level 4 and non-designated hospitals will develop and implement a formal policy that describes the process for transfer of trauma patients who meet criteria to be cared for at a level 1 or level 2 trauma center.

All level 3, level 4 and non-designated hospitals will have formal transfer agreements established with level 1 or level 2 hospitals for the transfer and receipt of trauma patients.

(4) Trauma patients will be transported to Michigan hospitals that participate in and are designated as a Michigan trauma facility.

(5) Michigan hospitals that frequently transfer patients to out of state hospitals will do so only if a designated Michigan trauma center is unavailable.

(6) A trauma patient, who meets the criteria set forth in the adult and pediatric trauma triage methodology documents, will undergo rapid evaluation and treatment in preparation for transfer.

(7) Level 3 and level 4 hospitals shall have protocols for activation of the transfer process, in anticipation of need for a level 1 or level 2 center, by pre-hospital personnel prior to arrival at the level 3 or level 4 hospital based on the adult and pediatric trauma triage methodology.

(8) The method by which the patient is transferred (ground or air) shall be determined by the sending or receiving physician based on patient need. Patients needing staff or equipment beyond the scope of local ground providers will be transferred via air-medical personnel at the discretion of the sending or receiving physician, or as defined by section 20921 (5).

(9) Patients or their families may request transfer to a specific hospital if it is designated as a level 1 or level 2 trauma center, and the transfer can be accomplished without harm to the patient.

#### R325.138 Criteria for transfer protocols; criteria.

Rule 14. Designated trauma centers shall use all of the following criteria for trauma patient transfer protocols:

- (1) Central nervous system:
  - (a) Depressed skull fracture.
  - (b) Penetrating injury /open fracture, with or without cerebrospinal fluid leak.
  - (c) GCS <14 or deterioration.
  - (d) Spinal cord injury or cerebral vascular injury.
- (2) Chest:
  - (a) Major chest wall injury or pulmonary contusion.
  - (b) Wide mediastinum or other signs suggesting great vessel injury.
  - (c) Cardiac injury.
  - (d) Patients who may require prolonged ventilation.
  - (e) Flail chest/multiple rib fractures.
- (3) Pelvis/Abdomen:
  - (a) Unstable pelvic ring disruption.
  - (b) Pelvic fracture with shock or other evidences of continuing hemorrhage.
  - (c) Open pelvic injury.
  - (d) Intra-abdominal visceral injury.
  - (e) Acetabular injury.
- (4) Major Extremity Injuries:
  - (a) Fracture/dislocation with loss of distal pulses.
  - (b) Open long-bone fractures.
  - (c) Extremity ischemia.
  - (d) Compartment syndrome.
- (5) Multiple-system injury:
  - (a) Head injury combined with face, chest, abdominal, or pelvic injury.
  - (b) Burns with any combination of multi-system, injury including inhalation injury.
  - (c) Multiple long-bone fractures.
  - (d) Injury to more than two body regions.

- (6) Comorbid Factors:
  - (a) Age >55 years.
  - (b) Children <5 years.
  - (c) Cardiac or respiratory disease.
  - (d) Insulin-dependent diabetes.
  - (e) Morbid obesity.
  - (f) Pregnancy.
  - (g) Immunosuppression.
  - (h) Liver or renal insufficiency.
- (7) Secondary deterioration (late sequelae):
  - (a) Prolonged mechanical ventilation >48 hours.
  - (b) Sepsis.
  - (c) Single or multiple organ system failure (deterioration in central nervous, cardiac, pulmonary, hepatic, renal, or coagulation systems).
  - (d) Major tissue necrosis /soft tissue injury.