Level I Trauma Centers

The following table may be utilized to align the program with the rules and regulations.

The following material is taken from the Mississippi Trauma Rules and Regs as of Nov 2020. The material is organized in a bulleted format, and in specific cases, more detail is available in the formal Rules and Regulations.

Level I Trauma Centers shall act as tertiary care facilities at the hub of the trauma care system. The facility must have the ability to provide leadership and total care for every aspect of injury, from prevention to rehabilitation. The Level I Trauma Center must have adequate depth of resources and personnel as a tertiary facility.

Level I Trauma Centers shall provide leadership in education, trauma prevention, research, system planning, and performance improvement.

Regulation #	Item	Notes
	Subchapter 1 Hospital Organization	
	Hospital Departments/Divisions/Sections	
3.1.2	The Level I Trauma Centers ***must*** have the following departments, divisions, or sections: a. Emergency Medicine b. General Surgery c. Orthopedic Surgery d. Neurological Surgery e. Anesthesia	
	Trauma Program	
3.1.3	There ***shall be*** a written commitment on behalf of the entire facility to the organization of trauma care.	

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	The written commitment ***shall be*** in the form of a resolution at the time of application passed by an appropriate quorum of the members of the governing authority. Should the business organization be other than a corporation, a letter explaining such, together with a written commitment of the hospital's chief executive officer, to the establishment of a trauma care program may be sufficient.	
	The trauma program ***must*** be established and recognized by the medical staff and hospital administration.	
	The trauma program ***must*** come under the direction of a board-certified general surgeon with a special interest in trauma care.	
	An identified hospital administrative leader ***must*** work closely with the trauma medical director to establish and maintain the components of the trauma program, including appropriate financial support.	
	The trauma program location in the organizational structure of the hospital ***must*** be such that it may interact effectively with at least equal authority with other departments providing patient care.	
	The administrative structure ***must*** minimally include an administrator, medical director (TMD), trauma program manager (TPM), trauma registrar, and appropriate support staff. *Administrative support includes human resources, education activities, community outreach activities, and research.*	
	The trauma program ***must*** be multidisciplinary in nature	
	Performance improvement evaluation of trauma care ***must*** be extended to all the involved departments.	
	Compliance with the above will be evidenced by but not limited to: *a. Governing authority and medical staff letter of commitment in the form of a resolution;* *b. Written policies and procedures and guidelines for care of the trauma patient;* *c. Defined trauma team and written roles and responsibilities;* *d. Appointed Trauma Medical Director with a written job description;* *e. Appointed Trauma Program Manager with a written job description;* *f. A written Trauma Performance Improvement plan; and* *g. Documentation of representative attendance at statewide PI meetings.*	
	Trauma Service	

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3.1.4	The trauma service ***shall be*** established and recognized by the medical staff and be responsible for the overall coordination and management of the system of care rendered to the injured patient. *The trauma service will vary in each organization depending on the needs of the patient and the resources available.*	
	The trauma service ***shall*** come under the organization and direction of a surgeon who is board certified with a special interest in trauma care.	
	All patients with multiple system trauma or serious injury ***shall be*** evaluated and/or admitted by the trauma surgical service.	
	The surgeon responsible for the overall care of the patient ***must*** be identified.	
	Trauma Medical Director (TMD)	
3.1.5	Level I Trauma Centers ***shall*** have a physician director Board Certified in General Surgery of the trauma program.	
	The TMD plays an important administrative role and ***may not*** direct more than one adult trauma center.	
	The TMD will be responsible for developing a performance improvement process and will have overall accountability and administrative authority for the trauma program.	
	The TMD ***must*** be given administrative support to implement the requirements specified by the state trauma plan.	
	The TMD is responsible for working with the credentialing process of the hospital and in consultation with the appropriate service chiefs for recommending appointment and removal of physicians from the trauma team. *The TMD **must** perform an annual assessment of the general surgeons and mid-level providers assigned to the trauma service using a formal documented process.*	
	The TMD ***must*** cooperate with nursing administration to support the nursing needs of the trauma patient and develop treatment protocols for the trauma patients.	
	The director in collaboration with the Trauma Program Manager (TPM) ***must*** coordinate the budgetary process for the trauma program.	
	The TMD ***must*** be currently certified in Advanced Trauma Life Support (ATLS)	
	The TMD ***must*** maintain personal involvement in care of the injured	

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	The TMD ***must*** maintain education in trauma care	
	The TMD ***must*** maintain involvement in professional organizations	
	The TMD ***must*** be actively involved with the trauma system development	
	Trauma Program Manager (TPM)	
3.1.6	Level I Trauma Centers ***must*** have a registered nurse working full time in the role of Trauma Program Manager (TPM). *There are many requirements for data coordination and performance improvement, education and prevention activities incumbent upon this position.*	
	Working in conjunction with the TMD, the TPM is responsible for organization of the program and all systems necessary for the multidisciplinary approach throughout the continuum of trauma care.	
	The TPM is responsible for working with the trauma team to assure optimal patient care.	
	The TPM ***must*** obtain 16 hours of trauma-related education per year.	
	The TPM or his/her designee ***must*** offer or coordinate services for trauma education.	
	The TPM ***should*** liaison with local EMS personnel, the Department, and other trauma centers.	
	Multidisciplinary Trauma Committee	
3.1.8	*The purpose of the committee is to provide oversight and leadership to the entire trauma program.*	
	Each trauma center may choose to have one or more committees as needed to accomplish the task. The major focus will be on PI activities, policy development, communication among all team members, and establishment of standards of care, and education and outreach programs for injury prevention.	
	One committee ***must*** be multidisciplinary and focus on program oversight and leadership. *The committee has administrative and systematic control and oversees the implementation of all program-related services, meets regularly, takes attendance, maintains minutes, and works to correct overall program deficiencies to optimize patient care.*	

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	Membership for the committee includes representatives from: a. TMD (Chairman; must be present at greater than 50% of the meetings). b. Emergency Medicine c. General Surgery d. Orthopedics e. Neurosurgery f. Anesthesia g. Operating Room h. Intensive Care i. Respiratory Therapy j. Radiology k. Laboratory l. Rehabilitation m. Pre-hospital Care Providers n. Administration o. Pediatrics p. Nursing q. Trauma Program Manager	
	The clinical managers (or designees) of the departments involved with trauma care ***must*** play an active role with the committee.	
	The trauma center ***may*** wish to accomplish performance improvement activities in this committee or develop a separate peer review committee.	
	This committee ***must*** handle peer review independent from department-based review.	
	The committee ***must*** meet regularly and maintain attendance and minutes	
	This committee ***must*** report findings to the overall hospital performance improvement program.	
Subchapter 2 Clinical Components		

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	Required Components	
	Level I Trauma Centers ***must*** maintain published call schedules and have the following physician coverage immediately available 24 hours/day	
	Emergency Medicine	
	In-house 24 hours/day	
	Emergency Physician and/or midlevel provider (physician assistant/nurse practitioner) ***must*** be in the specified trauma resuscitation area upon patient arrival.	
	Trauma/General Surgery	
	In-house 24 hours/day	
	The trauma surgeon on-call ***must*** be unencumbered and immediately available to respond to the trauma patient. *The 24 hour-in-house availability of the attending surgeon is the most direct method for providing this involvement.* *A PGY 4 or 5 resident **may** be approved to begin the resuscitation while awaiting the arrival of the attending surgeon but cannot be considered a replacement for the attending surgeon in the ED.*	
	There ***must*** be a backup surgeon schedule published.	
	A system ***must*** be developed to assure notification of the on-call surgeon and compliance with these criteria, and their appropriateness must be documented and monitored by the PI process.	
	The general surgeon is ***expected*** to be in the emergency department upon the arrival of the seriously injured patient.	
	Response time for Alpha Activations is 15 minutes and starts at patient arrival or EMS notification, whichever is shorter. Response time for Bravo Activations is 20 minutes from the time notified to respond.	
	The trauma surgeon's participation in major therapeutic decisions, presence in the emergency department for major resuscitation and presence at operative procedures is ***mandatory***	
	Orthopedic Surgery	
	It is ***required*** to have the orthopedists dedicated to the trauma center solely while on-call. The maximum response time for all trauma patients is 60 minutes from the time notified to respond.	

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	Neurologic Surgery	
	It is ***required*** to have the neurosurgeon dedicated to the trauma center solely while on-call ***Or*** A backup schedule must be available.	
	The maximum response time for all trauma patients is 30 minutes from the time notified to respond	
	It is ***desirable*** the following specialists are promptly available 24 hours/day: a. Cardiac Surgery* b. Cardiology c. Critical Care Medicine d. Hand Surgery e. Infectious Disease f. Micro-vascular Surgery g. Nephrology h. Nutritional i. Obstetrics/Gynecologic Surgery j. Ophthalmic Surgery k. Oral/Maxillofacial l. Pediatrics m. Plastic Surgery n. Pulmonary Medicine o. Radiology p. Thoracic Surgery* **A trauma surgeon is presumed to be qualified and have privileges to provide emergency thoracic surgical care to patients with thoracic injuries. If this is not the case, the facility must have a board-certified cardiac/thoracic surgeon immediately available (within 30 minutes of the time notified to respond).*	
	Policies and procedures must exist to notify the transferring hospital of the patient's condition.	

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	Qualifications of Surgeons on the Trauma Team	
3.2.2	Basic to qualification for trauma care for any surgeon is board certification in a surgical specialty recognized by the American Board of Medical Specialties, the Advisory Board for Osteopathic Specialties, the Royal College of Physicians, the American Dental Association, and Surgeons of Canada, or other appropriate foreign board. *Many boards require a practice period. Such an individual may be included when recognition by major professional organizations has been received in their specialty.* The board certification criteria apply to the general surgeons, orthopedic surgeons, and neurosurgeons.	
	Alternate criteria in lieu of board certification are as follows: a. A non-board certified general surgeon ***must*** have completed a surgical residency program. b. He/she ***must*** be licensed to practice medicine. c. He/she ***must*** be approved by the hospital's credentialing committee for surgical privileges. d. The surgeon ***mus***t meet all criteria established by the trauma director to serve on the trauma team. e. The surgeons' experience in caring for the trauma patient must be tracked by the PI program. f. The TMD ***must*** attest to the surgeons' experience and quality as part of the recurring granting of trauma team privileges. g. The TMD, using the trauma PI program, is responsible for determining each general surgeon's ability to participate on the trauma team.	
	The surgeon is ***expected*** to serve as the captain of the resuscitating team and is expected to be in the emergency department upon arrival of the seriously injured patient to make key decisions about the management of the trauma patient's care.	
	The surgeon ***will*** coordinate all aspects of treatment, including resuscitation, operation, critical care, recuperation, and rehabilitation (as appropriate in a Level I facility)	
	The surgeon ***will*** determine if the patient needs transport to a higher level of care.	

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	*Guidelines **must** be written at the local level to determine which types of patients should be admitted to the Level I Trauma Centers or which patients should be considered for transfer to a higher level of care.*	
	If transport is required, the surgeon is accountable for coordination of the process with the receiving physician at the receiving facility	
	If the patient is to be admitted to the Level I Trauma Center, the surgeon is the admitting physician and will coordinate the patient care while hospitalized	
	General surgeons taking trauma call ***must*** have eight (8) hours of trauma specific continuing medical education over three years. *This can be met within the 40-hour requirement by licensure.*	
	The general surgery liaison, orthopedic liaison, and neurosurgery liaison must participate in a multidisciplinary trauma committee and the PI process. Committee attendance at least fifty percent (50%) over a year's period of time.	
Qualification of Emergency Physicians		
	For those physicians providing emergency medicine coverage, board certification in Emergency Medicine or General Surgery is ***required*** (or current certification in ATLS)	
	Alternative criteria for the non-boarded physician working in the Emergency Department are as follows: a. He/she must be licensed to practice medicine b. He/she must be approved by the hospital's credentialing committee for emergency medicine privileges. c. The physician must meet all criteria established by the trauma and emergency medical director to serve on the trauma team. d. The physician's experience in caring for the trauma patient must be tracked by the PI program. e. The trauma and emergency medical director must attest to the physician's experience and quality as part of the recurring granting of trauma team privileges. f. ATLS must be obtained within 18 months of hire.	
	The emergency medicine liaison ***must*** participate in a multidisciplinary trauma committee and the PI process. Committee attendance ***must*** be at least fifty percent (50%) over a year's period of time.	

	Emergency physicians ***must*** be currently certified in ATLS (*ATLS requirements are waived for Board Certified Emergency Medicine and Board Certified General Surgery Physicians)*	
	Emergency physicians ***must*** be involved in at least eight (8) hours of trauma related continuing medical education (CME) every 3 years.	
Subchapter 3 Facility Standards		
Emergency Department		
3.3.1	The facility ***must*** have an emergency department, division, service, or section staffed so trauma patients are assured immediate and appropriate initial care.	
	The emergency physician and/or mid-level provider (physician assistant/nurse practitioner) ***must*** be in-house 24 hours/day and immediately available at all times.	
	The emergency medicine physician will be responsible for activating the trauma team based on predetermined response protocols.	
	The emergency physician and/or mid-level provider will provide team leadership and care for the trauma patient until the arrival of the surgeon in the resuscitation area.	
	The emergency department ***must*** have established standards and procedures to ensure immediate and appropriate care for the adult and pediatric trauma patient.	
	There ***shall be*** an adequate number of RN's staffing the trauma resuscitation area in-house 24 hours/day.	
	Emergency nurses staffing the trauma resuscitation area ***must*** be a current provider of Trauma Nurse Core Curriculum (TNCC) or Advance Trauma Care for Nurses (ATCN) and participate in the ongoing PI process of the trauma program.	
	Nurses ***must*** obtain TNCC or ATCN within 18 months of assignment to the ER.	
	Emergency Department Medical Director	
	The emergency department medical director ***must*** meet the recommended requirements related to commitment, experience, continuing education, ongoing credentialing, and board certification in emergency medicine.	
	The emergency department medical director, along with the Trauma Medical Director, will establish trauma-specific credentials that ***must*** exceed those that are required for general hospital privileges.	

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	Examples of credentialing requirements would include skill proficiency, training requirements, conference attendance, education requirements, ATLS verification and specialty board certification.	
	The emergency department medical director, or designee, ***must*** act as a liaison and participate with the multidisciplinary trauma committee and the trauma PI process.	
	The list of required equipment necessary for the ED can be found online at the Department's website.	
	Surgical Suites/Anesthesia	
	The operating room (OR) ***must*** be staffed and available in-house 24 hours/day.	
	An operating room ***must*** be adequately staffed and available within 30 minutes of time of notification.	
	Availability of the operating room personnel and timeliness of starting operations ***must*** be continuously evaluated by the trauma performance improvement process, **and** measures ***must*** be implemented to ensure optimal care.	
	The OR nurses ***should*** participate in the care of the trauma patient and be competent in the surgical stabilization of the major trauma patient.	
	The surgical nurses are an integral member of the trauma team and ***must*** participate in the ongoing PI process of the trauma program and be represented on the multidisciplinary trauma committee.	
	The OR supervisor ***must*** be able to demonstrate a prioritization scheme to assure the availability of an operating room for the emergent trauma during a busy operative schedule.	
	There ***must*** be an on-call system for additional personnel for multiple patient admissions.	
	The anesthesia department in a Level I trauma center ***must*** be ideally organized and run by an anesthesiologist who is highly experienced and devoted to the care of the injured patient.	
	Anesthesiologists on the trauma team ***must*** have successfully completed an anesthesia residency program approved by the Accreditation Council for Graduate Medical Education, the American Board of Osteopathic Specialties and have board certification in anesthesia.	
	One anesthesiologist ***must*** maintain commitment to education in trauma related anesthesia.	
	Anesthesia ***must*** be in-house and available 24 hours/day.	

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	Anesthesia chief residents or Certified Registered Nurse Anesthetist (CRNAs) may fill this requirement.	
	When residents or CRNAs are utilized, the staff anesthesiologist on call ***will be*** available within 30 minutes, and present for all operations.	
	Hospital policy ***must*** be established to determine when the anesthesiologist must be immediately available for airway control and assisting with resuscitation.	
	The availability of the anesthesiologist and the absence of delays in airway control or operative anesthesia ***must*** be documented and monitored by the PI process.	
	The maximum response time for all trauma patients is 30 minutes from the time notified to respond.	
	*The list of **required** equipment necessary for Surgery and Anesthesia can be found online at the Department's website.*	
	Post Anesthesia Care Unit (PACU)	
3.3.3	Level I Trauma Centers ***must*** have a PACU staffed 24 hours/day and available to the postoperative trauma patient. *Frequently it is advantageous to bypass the PACU and directly admit to the ICU. In this instance, the ICU may meet these requirements.*	
	PACU staffing ***must*** be in sufficient numbers to meet the critical needs of the trauma patient.	
	*The list of **required** equipment necessary for PACU can be found online at the Department's website.*	
	Intensive Care Unit (ICU)	
	Level I Trauma Centers ***must*** have an Intensive Care Unit (ICU) that meets the needs of the adult trauma patient.	
	The surgical director or co-director ***must*** be the TMD, or general surgeon taking trauma call.	
	The director is responsible for the quality of care and administration of the ICU and will set policy and establish standards of care to meet the unique needs of the trauma patient.	
	The surgeon assumes and maintains responsibility for the care of the serious or multiple injured patients. *The trauma surgeon must maintain control over all the aspects of care, including but not limited to respiratory care, management of mechanical ventilation, and placement and use of pulmonary catheters, as well as the management of fluids, electrolytes and antimicrobials, and enteral and parenteral nutrition.*	

	A surgically directed ICU physician team is ***essential***. *This service can be staffed by appropriately trained physicians from different specialties but must be led by a qualified surgeon as determined by critical care credentials consistent with the medical staff privileging process of the institution.*	
	The team ***will*** provide in-house physician coverage for all ICU trauma patients at all times. There ***must*** be in-house physician coverage for the ICU at all times.	
	A physician credentialed by the facility ***must*** be available to the trauma patient in the ICU 24 hours/day. *This coverage is for emergencies only and is not intended to replace the primary surgeon but rather is intended to ensure that the patient's immediate needs are met while the surgeon is contacted.*	
	Level I Trauma Centers ***must*** provide staffing in sufficient numbers to meet the critical needs of the trauma patient.	
	Critical care nurses ***must*** be available 24 hours per day.	
	ICU nurses are an integral part of the trauma team and, as such***, shall*** be represented on the multidisciplinary trauma committee and participate in the PI process of the trauma program at least 50% of the time.	
	*The list of **required** equipment necessary for the ICU can be found online at the Department's website.*	
Subchapter 4 Clinical Support Services		
	Respiratory Therapy Service	
3.4.1	The service ***must*** be staffed with qualified personnel in-house 24 hours/day to provide the necessary treatment for the injured patient.	
	Radiological Service	
3.4.2	A radiological service ***must*** have a certified radiological technician in-house 24 hours/day and be immediately available at all times for general radiological procedures. *Sonography, angiography, and MRI must be available to the trauma team and may be covered with a technician on call.*	

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	A technician ***must*** be in-house and immediately available for computerized tomography (CT) for both head and body.	
	The radiology liaison ***must*** attend at least 50 percent of committee meetings **and *should*** educate and guide the entire trauma team in the appropriate use of radiologic services.	
	A staff radiologist ***must*** be promptly available, when requested, for the interpretation of radiographs, performance of complex imaging studies, or interventional procedures.	
	The radiologist ***must*** ensure the preliminary interpretations are promptly reported to the trauma team	
	The PI program ***must*** monitor all changes in interpretation.	
	The written policy ***must*** exist delineating the prioritization/availability of the CT scanner for trauma patients.	
	The trauma center ***must*** have policies designed to ensure that trauma patients who may require resuscitation and monitoring are accompanied by appropriate trauma providers during transportation to, and while in, the radiology department.	
	Clinical Laboratory Service	
3.4.3	Clinical laboratory service ***must*** have the following services available in-house 24 hours/day: a. Access to a blood bank and adequate storage facilities. Sufficient quantities of blood and blood products must be maintained at all times. Blood typing and crossmatch capabilities must be readily available. b. Standard analysis of blood, urine, and other body fluids, including micro-sampling when appropriate. c. Blood gas and PH determinations *(this function may be performed by services other than the clinical laboratory service, when applicable.)* d. Alcohol and drug screening. e. Coagulation studies. f. Microbiology	
	Trauma centers of all levels ***must*** have a massive blood transfusion protocol developed collaboratively between the trauma service and the blood bank.	
	Acute Hemodialysis	
3.4.4	Level I Trauma Centers ***must*** have Acute Hemodialysis services.	
	Burn Care	

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3.4.5	There must be a written protocol to transfer the patient to a Burn Center, if appropriate burn care is not available at the Level I Trauma Center.	
	Policies and procedures shall be in place to assure the appropriate care is rendered during the initial resuscitation and transfer of the patient.	
	Rehabilitation/Social Services	
3.4.6	Recognizing that early rehabilitation is imperative for the trauma patient, a physical medicine and rehabilitation specialist ***must*** be available for the trauma program.	
	Each facility will be ***required*** to address a plan for integration of rehabilitation into the acute and primary care of the trauma patient at the earliest stage possible after admission to the trauma center. *The rehabilitation of the trauma patient and the continued support of the family members are an important part of the trauma system.*	
	Hospitals will be ***required*** to identify a mechanism to initiate rehabilitation services and/or consultation in a timely manner as well as policies regarding coordination of the Multidisciplinary Rehabilitation Team.	
	The rehabilitation services ***must*** minimally include; a. Occupational Therapy b. Physical Therapy c. Speech Pathology d. Social Work e. Psychological f. Nutritional support	
	Prevention/Public Outreach	
3.4.7	Level I trauma centers ***will be*** responsible for taking a lead role in the coordination of appropriate agencies, professional groups, and hospitals in their region to develop a strategic plan for public awareness.	

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	*This plan **must** take into consideration public awareness of the trauma system, access to the system, public support for the system, as well as specific prevention strategies*	
	Prevention programs ***must*** be specific to the needs of the hospital and/or geographic area.	
	A trauma center's prevention program ***must*** include and track partnerships with other community organizations.	
	Trauma registry data ***must*** be utilized to identify injury trends and focus prevention needs.	
	Staff members at a Level I trauma center ***must*** provide consultation to staff members of other level facilities. *For example: Advanced Trauma Life Support (ATLS), Pre Hospital Trauma Life Support (PHTLS), Trauma Nurse Curriculum Course (TNCC), and Transport Nurse Advanced Trauma Course (TNATC) courses can be coordinated by the trauma center.*	
	Transfer Guidelines	
3.4.8	Level I Trauma Centers ***shall*** work in collaboration with the referral trauma facilities in the system and develop inter-facility transfer guidelines. *These guidelines **must** address criteria to identify high-risk trauma patients that could benefit from a higher level of trauma care.* *All designated facilities will agree to provide services to the trauma victim regardless of ability to pay.*	
	Education	
	Level I Trauma Centers ***must*** have an internal trauma education programs, including training in trauma for physicians, nurses, and pre-hospital providers. *Education can be accomplished via many mechanisms (i.e. classic CME, preceptorships, fellowships, clinical rotations, telecommunications or providing locum tenens etc.).*	
	Level I Trauma Centers ***must*** take a leadership role in providing educational activities.	
	Level I Trauma Centers ***must*** have a written trauma education plan.	
	The Level I Trauma Center is ***expected*** to support a surgical residency program.	

	There ***should*** be a senior resident rotation in at least one of the following disciplines: emergency medicine, general surgery, orthopedic surgery, neurosurgery or support a trauma fellowship.	
	The Level I ***should*** provide ATLS courses for the system.	
	Research	
3.4.10	A trauma research program ***must*** be designed to produce new knowledge applicable to the care of the injured patient. *The research may be conducted in a number of ways including traditional laboratory and clinical research, reviews of clinical series, and epidemiological or other studies.*	
	Publication of articles in peer-review journals as well as presentations of results at local, statewide and national meetings and ongoing studies approved by human and animal research review boards are ***expected*** from productive programs.	
	The program ***should*** have an organized structure that fosters and monitors ongoing productivity.	
	The research program ***must*** be balanced to reflect a number of different interests.	
	There ***must*** be a research committee, an identifiable Institutional Review Board process, active research protocols, surgeons involved in extramural educational presentations, and an adequate number of peer-reviewed scientific publications. *Publications **should** appear in peer-reviewed journals.*	
	In a three-year cycle, the minimum activity is ten publications from the physicians representing any of the four following specialties: emergency medicine, general surgery, orthopedic surgery, and neurosurgery.	