IX. APPENDIX A: DESIGNATION REQUIREMENTS

Level I Trauma Center

Designation Criteria for Level I Trauma Center

Criteria for designation of Level I Trauma Centers are based upon *Resources for Optimal Care of the Injured Patient, COT/American College of Surgeons, 2006.* The criteria defined in that document are designed to verify that the services and systems are in place to ensure optimal care of the trauma patient. The following elements must be met for designation as a Level I Trauma Center in Idaho.

1. Trauma System
Time Sensitive Emergencies (TSE)
1.1 The center's trauma program staff has sufficient involvement in national, state, and regional trauma system planning, development, and operation.
Center Mission
1.2 There is a current resolution supporting the trauma center from the medical staff.
1.3 There is a current resolution supporting the trauma center from the hospital board.
1.4 There is sufficient infrastructure, staff, equipment, and support to the trauma program to provide adequate provision of care.
1.5 The trauma program has adequate administrative support and defined lines of authority that ensure comprehensive evaluation of all aspects of trauma care.
2. Description of Trauma Center
Description of the Trauma Center
2.1 All trauma facilities are on the same campus.
2.2 The trauma program is empowered to address issues that involve multiple disciplines.
2.3 The center meets admission volume performance requirements.
2.4 The adult trauma center that treats more than 100 injured children annually has a pediatric ED area, a pediatric intensive care area, appropriate resuscitation equipment, and pediatric-specific trauma Performance Improvement and Patient Safety (PIPS) program.
2.5 The center provides some means of referral and access to trauma center resources.
2.6 The center provides a continuous rotation in trauma surgery for senior residents that is part of an Accreditation Council for Graduate Medical Education- accredited program in any of the following disciplines: general surgery, orthopedic surgery, or neurosurgery; and supports an acute care surgery fellowship consistent with the educational requirements of the American Association for the Surgery of Trauma.
2.7 In teaching facilities, the requirements of the Residency Review Committee are met.
2.8 Center provides initial resuscitation of the trauma patient and immediate intervention to control hemorrhage and to assure maximum stabilization prior to referral to an appropriate higher level of care.

Trauma Leadership
Trauma Medical Director
2.9 The trauma program has a Trauma Medical Director with the authority and administrative support to lead the program.
2.10 The Trauma Medical Director is a board-certified surgeon or an American College of Surgeons (ACS) Fellow.
2.11 The Trauma Medical Director is current in Advanced Trauma Life Support (ATLS).
2.12 The Trauma Medical Director has accrued an average of 12 hours annually or 36 hours in 3 years of external** trauma-related Continuing Medical Education (CME).
2.13 The Trauma Medical Director participates in trauma call.
2.14 The Trauma Medical Director is a member of and participates in regional or national trauma organizations.
2.15 The Trauma Medical Director has sufficient authority to set qualifications for the trauma service members.
2.16 The roles of emergency physicians and trauma surgeons are defined, agreed on, and approved by the Trauma Medical Director.
2.17 The Trauma Medical Director has the authority to correct deficiencies in trauma care or to exclude from trauma call the trauma team members who do not meet specified criteria.
2.18 The Trauma Medical Director has the authority to recommend changes for the trauma panel based on performance review.
2.19 The Trauma Medical Director has the responsibility and authority for determining each general surgeon's ability to participate on the trauma panel through the Performance Improvement and Patient Safety (PIPS) program and hospital policy.
2.20 The Trauma Medical Director has the responsibility and authority to ensure compliance with verification requirements.
2.21 The Trauma Medical Director is involved in the development of the center's bypass protocol.
2.22 The Trauma Medical Director ensures and documents dissemination of information and findings from the TPOPPC to the noncore surgeons on the trauma team.
2.23 In circumstances when attendance is not mandated (noncore members) the Trauma Medical Director ensures dissemination of information from the PIPS program.
2.24 The Trauma Medical Director ensures and documents dissemination of information and findings from the Trauma Program Operational Process Performance Committee (TPOPPC) to the noncore surgeons on the trauma team.
2.25 The Trauma Medical Director is accountable for all trauma care and exercises administrative authority for the trauma program.
Trauma Program Manager
2.26 The Trauma Program Manager shows evidence of educational preparation (a minimum of 16 hours of trauma-related education per year) and clinical experience of injured patients.

3. Clinical Functions
3.1 The criteria for graded activation is clearly defined by the center and continuously evaluated by the PIPSprogram.
3.2 The criteria for the highest level of activation is clearly defined and evaluated by the PIPS program.
3.3 The trauma service retains responsibility for its patients and coordinates all therapeutic decisions.
3.4 The trauma surgeon is kept informed of and concurs with major therapeutic and management decisions made by the Intensive Care Unit (ICU) team.
3.5 There is a method to identify injured patients, monitor the provision of health care services, make periodic rounds, and hold formal and informal discussions with individual practitioners.
3.6 The center must be the local trauma authority and assume the responsibility for providing training for prehospital and hospital-based providers.
3.7 The center has established protocols to ensure immediate and appropriate care of the adult and pediatric trauma patient.
Trauma Team
3.8 Criteria for all levels of Trauma Team Activation (TTA) must be defined and reviewed annually.
3.9 All trauma/general surgeons, emergency providers, and midlevel providers on the Trauma Team have completed ATLS at least once.
3.10 Trauma Team members participate in PIPS and TPOPPC.
3.11 Trauma Team physicians and midlevel providers are credentialed by the medical staff and governing board.
Emergency Department (ED)
3.12 The ED has a designated Emergency Physician Director supported by an appropriate number of additional physicians to ensure immediate care for injured patients.
3.13 ED physicians are present in the ED at all times.
3.14 Each emergency physician is board-certified or meets the Alternate Pathway*.
3.15 Physicians who are not board-certified in emergency medicine who work in the ED are current in ATLS.
3.16 Emergency physicians on the call panel are regularly involved in the care of injured patients.
3.17 Emergency physicians who take trauma call have the documented 12 hours annually or 36 hours in three years of trauma-related CME and participate in an internal educational process conducted by the trauma program based on the principles of practice-based learning and the PIPSprogram. Staying current with their board certification satisfies the CME requirement.
3.18 An emergency physician participates in the trauma PIPS program and the Trauma Program Operational Process Performance Committee (TPOPPC).

3.19 A representative from the ED participated in the prehospital PIPS program.
3.20 The PIPS liaison has accrued an average of 12 hours annually or 36 hours in 3 years of external** trauma-related CME.
3.21 The emergency medicine representative or designee to the TPOPPC attends a minimum of 50% of these meetings.
3.22 A designated emergency physician is available to the Trauma Medical Director for PIPS issues that occur in the ED.
3.23 In institutions in which there are emergency medicine residency programs, supervision is provided by an in-house attending emergency physician 24 hours per day.
General Surgery
3.24 All trauma surgeons must have privileges in general surgery.
3.25 The trauma surgeons respond promptly to activations, remain knowledgeable in trauma care principles whether treating locally or transferring to a center with more resources, and participate in PIPS activities.
3.26 Trauma surgeons in adult trauma centers that treat more than 100 injured children annually are credentialed for pediatric trauma care by the center's credentialing body.
3.27 The center has general surgical coverage 24/7.
3.28 The trauma surgeon on call is dedicated to the trauma center while on duty.
3.29 A published backup call schedule for trauma surgery is available.
3.30 Seriously injured patients are admitted to or evaluated by an identifiable surgical service staffed by credentialed trauma providers.
3.31 The trauma surgeon is on site in the ED within 15 minutes of notification 24/7 with an achievement rate of 80% as monitored by the PIPS program.
3.32 The trauma surgeon on call is involved in the decisions regarding diversion.
3.33 The trauma surgeon core group is adequately defined by the Trauma Medical Director.
3.34 The core group takes at least 60% of the total trauma call hours each month.
3.35 The core trauma surgeon attendance at PIPS meetings is greater than 50%.
3.36 Surgeons who take trauma call have the documented 12 hours annually or 36 hours in 3 years of trauma-related CME and an internal education process conducted by the trauma program based on the principles of practice-based learning and the PIPS program. Staying current with their board certification satisfies the CME requirement.
3.37 A general surgeon or appropriate substitute is available for major resuscitations in house 24/7.
3.38 All general surgeons are board-certified, meet the Alternate Pathway*, or are ACS Fellows.
3.39 Adequate (at least 50%) attendance by trauma surgery core group at TPOPPC is documented.
Orthopedic Surgery
3.40 The center has orthopedic surgery available.

3.41 The orthopedic surgeon has privileges in general orthopedic surgery.
3.42 Orthopedic surgeons who care for injured patients are board-certified or meet the Alternate Pathway*.
3.43 Orthopedic team members have dedicated call at their institution and a backup call system.
3.44 An orthopedic team member is promptly available in the trauma resuscitation area when consulted by the surgical trauma team leader for multiple injured patients.
3.45 The orthopedic trauma team member has documentation of the acquisition of 12 hours of CME per year on average and has participated in an internal educational process conducted by the trauma program and the orthopedic liaison based on the principles of practice-based learning and the PIPS program. Staying current with their board certification satisfies the CME requirement.
3.46 An orthopedic surgeon is designated to and participates in the PIPS program and TPOPPC. The orthopedic surgeon attends a minimum of 50% of these meetings.
3.47 The design of the backup call system, the responsibility of the orthopedic trauma team liaison, has been approved by the Trauma Medical Director.
3.48 The PIPS liaison has accrued an average of 12 hours annually or 36 hours in 3 years of external** trauma-related CME.
Neurosurgery
3.49 The neurosurgeons that care for trauma patients are board-certified or meet the Alternate Pathway*.
3.50 Neurotrauma care is promptly and continuously available for severe traumatic brain injury and spinal cord injury and for less severe head and spine injuries when necessary.
3.51 Qualified neurosurgeons are regularly involved in the care of head- and spinal-cord injured patients and are credentialed by the hospital with general neurosurgical privileges.
3.52 An attending neurosurgeon is present in the ED within 30 minutes of consultation by the surgical trauma team leader for multiple injured patients 24/7 with an 80% achievement rate.
3.53 The center provides an on-call neurosurgical backup schedule with formally arranged contingency plans in case the capability of the neurosurgeon, hospital, or system to care for neurotrauma patients is overwhelmed.
3.54 Neurosurgeons who take trauma call have the documented 12 hours annually or 36 hours in 3 years of verifiable trauma-related CME and participate in an internal educational process conducted by the trauma program based on the principles of practice-based learning and the PIPS program. Staying current with their board certification satisfies the CME requirement.
3.55 There is a dedicated neurosurgeon representative (liaison) that attends a minimum of 50% of the PIPS meetings.
3.56 A neurosurgeon is designated to and participates in the PIPS program and TPOPPC. The neurosurgeon attends a minimum of 50% of these meetings.

3.57 The neurosurgeon liaison representative has the documented 12 hours annually or 36 hours in 3 years of verifiable, external** trauma-related CME.
Collaborative Clinical Services
Anesthesia
3.58 Anesthesia services are available in-house 24/7.
3.59 Anesthesia services are promptly available for emergency operations.
3.60 Anesthesia services are promptly available for airway problems.
3.61 All anesthesiologists taking call have successfully completed a residency program.
3.62 When anesthesiology chief residents or Certified Registered Nurse Anesthetists (CRNA) are used to fulfill availability requirement, the staff anesthesiologist on call is (1) advised, (2) promptly available at all times, and (3) present for all operations.
3.63 An anesthesiologist is designated to and participates in the PIPS program and the TPOPPC. The anesthesiologist attends a minimum of 50% of these meetings.
Operating Room (OR)
3.64 The OR is adequately staffed and immediately available.
3.65 Operating rooms are promptly available to allow for emergency operations on musculoskeletal injuries, such as open fracture debridement and stabilization and compartment decompression.
3.66 There is a mechanism for providing additional staff for a second operating room when the first operating room is occupied.
3.67 The operating room team does not have functions requiring its presence outside the OR.
3.68 The OR has the all of the following essential equipment:
a. Rapid infusers;
b. Thermal control equipment for patients and resuscitation fluids;
c. Intraoperative radiologic capabilities;
d. Equipment for fracture fixation;
e. Equipment for endoscopic evaluation (bronchoscopy and gastrointestinal endoscopy);
f. Equipment necessary for craniotomy;
g. Cardiopulmonary bypass available 24/7; and
h. An operating microscope available 24/7.
3.69 A mechanism to ensure OR availability without undue delay for patients with semi-urgent orthopedic injuries.
3.70 A mechanism for documenting trauma surgeon presence in the OR for all trauma operations is in place.
Post-Anesthesia Care Unit (PACU)
3.71 The PACU has the necessary equipment to monitor and resuscitate patients.

3.72 The PACU has qualified nurses available 24/7 as needed during the patient's post anesthesia recovery phase.
3.73 The PACU is covered by a call team from home with documentation by the PIPS program that nurses are available and delays are not occurring.
Radiology
3.74 Conventional radiography and CT are available 24/7.
3.75 MRI capability is available 24/7.
3.76 Conventional catheter angiography and sonography are available 24/7.
3.77 There is an in-house CT technologist.
3.78 Radiologists are promptly available, in person or by teleradiology, when requested, for the interpretation of radiographs, performance of complex imaging studies, or interventional procedures.
3.79 There is an in-house radiographer.
3.80 Critical information is verbally communicated to the trauma team.
3.81 Diagnostic information is communicated in a written form and in a timely manner.
3.82 Changes in interpretation are monitored by the PIPS program.
3.83 Final reports accurately reflect communications, including changes between preliminary and final interpretations.
3.84 The center has policies designed to ensure that trauma patients who may require resuscitation and monitoring are accompanied by appropriately trained providers during transportation to and while in the radiology department.
3.85 A radiologist is designated to and participates in the PIPS program and TPOPPC. The radiologist attends a minimum of 50% of these meetings.
Intensive Care Unit (ICU)
3.86 The ICU has the necessary equipment to monitor and resuscitate patients.
3.87 Intracranial pressure monitoring equipment is available.
3.88 A qualified nurse is available 24/7 to provide care during the ICU phase.
3.89 The patient/nurse ratio does not exceed 2:1 for critically ill patients in the ICU.
3.90 The center has in-house physician coverage for ICU at all times.
3.91 Physician coverage of critically ill trauma patients is available 24/7.
3.92 Physicians covering critically ill trauma patients respond rapidly to urgent problems as they arise.
3.93 The trauma surgeon remains in charge of patients in the ICU.
3.94 The trauma surgeon is kept informed of and concurs with major therapeutic and management decisions made by the ICU team.
3.95 The surgical director or co-director of the ICU has appropriate training and experience for the role.

3.96 The surgical director of the ICU has obtained critical care training during residency or fellowship and has expertise in perioperative and post-injury care of injured patients.
3.97 The surgical director of the ICU has added qualifications in surgical critical care from the American Board of Surgery or meets the Alternate Pathway* for critical care.
Other Surgical Specialists
3.98 The center has the following surgical specialists:
a. Orthopedic surgery;
b. Neurosurgery;
c. Cardiac surgery;
d. Thoracic surgery;
e. Hand surgery;
f. Microvascular surgery;
g. Plastic surgery;
h. Obstetric and gynecological surgery;
i. Ophthalmology;
j. Otolaryngology; and
k. Urology.
Medical Consultants
3.99 The trauma center includes the following medical specialists: cardiology, infectious disease, pulmonary medicine, and nephrology and their respective support teams (for example, respiratory therapy, dialysis team, and nutrition support).
Respiratory Therapy
3.100 A respiratory therapist is available to care for trauma patients 24/7.
Laboratory
3.101 Laboratory services are available 24/7 for the standard analysis of blood, urine, and other body fluids, including microsampling when appropriate.
3.102 The capability for coagulation studies, blood gases, and microbiology are present.
3.103 The blood bank is capable of blood typing and cross-matching.
3.104 The blood bank has an adequate amount of red blood cells, fresh frozen plasma, platelets, cryoprecipitate, or appropriate coagulation factors to meet the needs of injured patients.
3.105 The center must have a transfusion protocol developed collaboratively between the trauma service and the blood bank.
Nutrition
3.106 Nutrition support services are available.
Social Services
3.107 The center has social services.

3.108 The center must screen all trauma patients for alcohol use and provide a brief intervention if appropriate.
Dialysis
3.109 Acute hemodialysis is available.
Rehabilitation
3.110 Rehabilitation consulting services, occupational therapy, speech therapy, physical therapy, and social services are available during the acute phase of care.
3.111 The center has either rehabilitation services within its facility or a transfer agreement to a freestanding rehabilitation hospital.
4. Prehospital Trauma Care
4.1 The trauma program participates in prehospital care protocol development.
5. Interhospital Transfer
5.1 The decision to transfer an injured patient to a specialty care facility in an acute situation is based solely on the needs of the patient.
5.2 There are transfer agreements in place with specialty referral centers (e.g. burn, pediatric, and rehabilitation centers).
5.3 A mechanism for direct physician-to-physician contact is present for arranging patient transfer.
5.4 Centers that refer burn patients to a designated burn center must have in place written transfer protocols with a referral burn center.
5.5 The center must have guidelines addressing which patients (including pediatric patients) should be transferred and the safe transport of those patients.
6. Performance Improvement and Patient Safety (PIPS)
6.1 The center demonstrates a clearly defined PIPS program for the trauma population.
6.2 The PIPS program is supported by a reliable method of internal data collection that consistently gathers valid and objective information necessary to analyze and identify opportunities for improvement.
6.3 System and process issues (such as documentation and communication), clinical care issues (including identification and treatment of immediate life-threatening injuries), and transfer decisions must be reviewed by the PIPS program.
6.4 All trauma centers must use a risk stratified benchmarking system to measure performance and outcomes.
6.5 The trauma program must use clinical practice guidelines, protocols, and algorithms derived from evidence-based validation resources to achieve benchmark goals.
6.6 All process and outcome measures must be documented in a written PIPS plan and updated annually.
6.7 The trauma center demonstrates a clearly defined PIPS program for the trauma population. All process and outcome measures must be documented in a written PIPS plan and updated annually.

6.8 The process of analysis occurs at regular intervals to meet the needs of the program.
6.9 The process of analysis includes multidisciplinary review.
6.10 The process demonstrates problem resolution (loop closure).
6.11 The center is able to separately identify the trauma patient population for review.
6.12 The PIPS program must have audit filters to review and improve pediatric and adult patient care.
6.13 The center uses the registry to support its PIPS program.
6.14 Deaths are categorized as unanticipated mortality with opportunity for improvement, anticipated mortality with opportunity for improvement, or mortality without opportunity for improvement.
6.15 The PIPS program reviews the organ donation rate.
6.16 The PIPS program has defined conditions requiring the surgeon's immediate hospital presence.
6.17 The PIPS program ensures that the PACU has the necessary equipment to monitor and resuscitate patients.
6.18 All Trauma Team Activations must be categorized by the priority of response and quantified by number and percentage.
6.19 The center's PIPS program must work with receiving facilities to provide and obtain feedback on all transferred patients.
6.20 The PIPS program evaluates OR availability and delays when an on-call team is used.
6.21 The PIPS program documents the appropriate timeliness of the arrival of the MRI technologist.
6.22 The availability of the anesthesia services and the absence of delays in airway control or operations are documented in the PIPS program.
6.23 The 80% compliance of the surgeon's presence in the ED is confirmed and monitored by PIPS (15 minutes).
6.24 Programs that admit more than 10% of injured patients to nonsurgical services demonstrate the appropriateness of that practice through the PIPS program.
6.25 The adult trauma center that treats children reviews the care of injured children through the PIPS program.
6.26 In centers with ICUs, transfers to a higher level of care must be reviewed to determine the rationale for transfer, adverse outcomes, and opportunities for improvement.
6.27 The PIPS program must document that timely and appropriate care and coverage are being provided in the ICU.
6.28 The PIPS program reviews transfers to ensure appropriateness.
6.29 There is a PIPS review of all neurotrauma patients who are diverted or transferred.
6.30 The center must have a policy to notify dispatch and Emergency Medical Services (EMS) agencies when on divert status.

6.31 The center must have a diversion policy and track the occurrence of diversion through the PIPS program.
7. Trauma Program Operational Process Performance Committee (TPOPPC)
7.1 There is a TPOPPC. This multidisciplinary committee addresses, assesses, and corrects global trauma program and system issues. This committee handles process, includes all program-related services, meets regularly, takes and requires attendance of medical staff involved in trauma care, has minutes, and works to correct all overall program deficiencies to continue to optimize patient care.
7.2 There is TPOPPC participation from general surgery, orthopedic surgery, neurosurgery, emergency medicine, and anesthesia.
7.3 The TPOPPC is chaired by the Trauma Medical Director or designee.
7.4 Identified problem trends undergo multidisciplinary peer review by the TPOPPC.
7.5 There is documentation reflecting the review of operational issues and, when appropriate, the analysis and proposed corrective actions.
8. Time Sensitive Emergency (TSE) Registry
8.1 Data is submitted to the Idaho TSE Registry (Idaho Trauma Registry). At least 80% of cases must be entered into the registry within 180 days of treatment.
8.2 There is a process in place to verify that TSE Registry data is accurate and valid.
8.3 The trauma program ensures that registry data confidentiality measures are in place.
9. Outreach & Education
9.1 The center is engaged in trauma and injury prevention related public and professional education.
9.2 The center provides a mechanism for trauma-related education for nurses involved in trauma care.
9.3 The center provides an ATLS course at least annually.
10. Prevention
10.1 The center participates in traumatic injury prevention and bases activities on local data. It is recommended to have a fall prevention program, but not required.
10.2 The center has a prevention coordinator with a demonstrated job description and salary support.
10.3 The center demonstrates collaboration with or participation in national, regional, or state injury prevention programs.
11. Disaster Planning and Management
11.1 The center meets the disaster-related requirements of the Joint Commission.
11.2 A trauma surgeon is a member of the center's disaster committee.
11.3 Center drills that test the individual hospital's disaster plan are conducted at least every 6 months.
11.4 The center has a disaster plan described in its Disaster Manual.

12. Organ Procurement
12.1 The center has an established relationship with a recognized Organ Procurement Organization (OPO).
12.2 There are written policies for triggering notification of the OPO.
12.3 The center has written protocols for declaration of brain death.
13. Research
13.1 The center meets the minimum 20 peer-reviewed articles published in journals included in Index Medicus in 3 years or the criterion of 4 of 7 scholarly activities listed in chapter 19 (Resources for Optimal Care of the Injured Patient, COT/American College of Surgeons, 2006) and 10 peer-reviewed articles published in journals included in Index Medicus in 3 years.
13.2 The research resulted from work related to the trauma center.
13.3 The articles include authorship or co-authorship by a member of the general surgical team.
13.4 Of the 20 articles, there is at least one that includes authorship or co-authorship by members of the general surgery team and at least one each from 3 of 6 disciplines: neurosurgery, emergency medicine, orthopedics, radiology, anesthesia, and rehabilitation.
13.5 The center meets the alternative criteria for research:
a. 10 peer-reviewed articles published in journals included in Index Medicus resulting from work in the trauma center with at least one each from 3 of 6 disciplines (neurosurgery, emergency medicine, orthopedics, radiology, anesthesia, and rehabilitation); AND
b. 4 of 7 scholarly activities as stated in Chapter 19 (Resources for Optimal Care of the Injured Patient, COT/American College of Surgeons, 2006), Trauma Research and Scholarship.
13.6 The administration of the trauma center demonstrates support of the research program.