EXHIBIT 4
OAR Chapter 333, Division 200

OREGON TRAUMA HOSPITAL RESOURCE STANDARDS

AAAM	Association of the Advancement of Automotive Medicine	**ICU**	intensive care unit
ACS	American College of Surgeons	**ISS**	Injury Severity Score
AIS	Abbreviated Injury Scale	**MRI**	magnetic resonance imaging
ATLS	Advance Trauma Life Support	**MTP**	massive transfusion protocol
CAISS	Certified Abbreviated Injury Scale Specialist	**OPO**	organ procurement organization
CE	continuing education	**OPPE**	Ongoing Professional Practice Evaluation
CME	continuing medical education	**OR**	operating room
CRNA	certified registered nurse anesthetist	**PI**	performance improvement
CT	computed tomography	**PIPS**	Performance Improvement and Patient Safety
DIED	Died in emergency department	**TBI**	traumatic brain injury
DMEP	Disaster Management and Emergency Preparedness	**TMD**	trauma medical director
DOA	Dead on arrival	**TPM**	trauma program manager
EMS	emergency medical services	**TQP**	Trauma Quality Programs
FTE	full-time equivalent	**VRC**	Verification, Review, and Consultation
GCS	Glasgow Coma Scale		

Type: Verification standards are divided into Type 1 and Type 2 standards. Type 1 standards are considered critical standards that directly impact patient care. The trauma program should be in compliance with all applicable standards at the time of the survey visit. If noncompliance with any standard is identified, the trauma program must demonstrate compliance through a Corrective Action Review to achieve or extend

verification. The type of Corrective Action Review will depend on the standard(s) in question. Noncompliance with a Type I standard would result in the trauma program not being verified.
LI, LII, LIII, LIII-N, LIV = Level I, Level II, Level III, Level III-Neuro, Level IV
PTCI & PTCII = Pediatric Trauma Center I & Pediatric Trauma Center II
R = Required standard
■ = Standard not required

Tag	Standard	Type	LI & PTCI	LII & PTCII	LIII (LIII-N*)	LIV
1: Institutional Administrative Commitment						
1.1	In all trauma centers, the institutional governing body, hospital leadership, and medical staff must demonstrate continuous commitment and provide the necessary human and physical resources to properly administer trauma care consistent with the level of verification throughout the verification cycle.	1	R	R	R	R
1.2	The hospital administration of a Level I trauma center must demonstrate support for the research program.	2	R			
2: Program Scope & Governance						
2.1	All trauma centers must participate in the regional and/or statewide trauma system.	2	R	R	R	R
2.2	All trauma centers must participate in regional disaster/emergency management committees, health care coalitions, and regional mass casualty exercises.	2	R	R	R	R
2.3	All trauma programs must participate in two hospital drills or disaster plan activations per year that include a trauma response and are designed to refine the hospital's response to mass casualty events. In Level I, II and III trauma programs must be integrated into the hospital's disaster plan to ensure a robust surgical response: • A trauma surgeon from the trauma panel must be included as a member of the hospital's disaster committee and be responsible for the development of a surgical response to a mass casualty event.	2	R	R	R	R

	• The surgical response must outline the critical personnel, means of contact, initial surgical triage (including subspecialty triage when appropriate), and coordination of secondary procedures. Level I trauma centers must also include an orthopedic surgeon from the orthopedic trauma call panel as a member of the hospital's disaster committee.					
2.4	A Level I adult trauma center must care for at least 1,200 trauma patients per year or at least 240 trauma patients with an Injury Severity Score (ISS) greater than 15 per year.	1	R			
2.5	A Level I pediatric trauma center must care for 200 or more injured patients under 15 years of age per year.	1	PTCI			
2.6	Adult trauma centers that annually admits to the hospital 100 or more injured children under 15 years of age must have the following: • Pediatric emergency department area • Pediatric intensive care area • Appropriate resuscitation equipment, as outlined in the pediatric readiness toolkit	1	R	R	R	
2.7	All trauma centers must have a trauma multidisciplinary PIPS committee chaired by the TMD or an associate TMD which meet at a minimum of quarterly. Combined adult (Level I/II) and pediatric (Level II) trauma centers must hold separate adult and pediatric trauma multidisciplinary PIPS meetings with distinct minutes.	1	R	R	R	R
2.8	In all trauma centers, the TMD must fulfill the following requirement: • Hold current Advanced Trauma Life Support (ATLS) Certification. In Level I, II, and III trauma centers, the TMD must fulfill the following requirements: • Hold current board certification or board eligibility in general surgery or pediatric surgery by the American Board of Medical Specialties (ABMS), American Osteopathic Association (AOA), or Royal College of Physicians and Surgeons of Canada (RCPS-C). • Serve as the director of a single trauma program. • Be credentialed to provide trauma care. • Participate on the trauma call panel • Provide evidence of 36 hours of trauma-related continuing medical education (CME) during the verification cycle. For pediatric TMD, 9 of 36 hours must be pediatric-specific CME • In Level I trauma centers, the TMD must hold active membership in at least one national trauma organization and have attended at least one meeting during the verification cycle.	2	R	R	R	R

	• In Level II or III trauma centers, TMD active membership in at least one regional, state, or national trauma organization and attendance at least one meeting during the verification cycle is recommended. If a board-certified general surgeon who is not board-certified or board-eligible in pediatric surgery serves as the pediatric TMD, then the following are required: • The pediatric TMD must hold current Pediatric Advanced Life Support (PALS) certification • The center must have a written affiliation agreement with a current pediatric TMD at another ACS verified Level I pediatric trauma center. This agreement must identify the affiliate pediatric TMD and at minimum include the following responsibilities: – Assist with process improvement, guideline development, and complex case discussions – Attend at least 50% of trauma multidisciplinary PIPS committee meetings – Attend the VRC site visit at the time of verification In Level IV trauma centers, the TMD is a physician that is currently board certified or board eligible in general surgery or pediatric surgery, or may be a physician practicing emergency medicine, responsible for coordinating the care of injured patients, verifies continuing medical education (CME) of personnel, and has oversight of the trauma quality improvement process. The TMD is clinically involved with trauma patient management and responsible for credentialing of trauma team members.					
2.9	In all trauma centers, the TMD must be responsible for and have the authority to: • Develop and enforce policies and procedures relevant to care of the injured patient. • Ensure providers meet all requirements and adhere to institutional standards of practice. • Work across departments and/or other administrative units to address deficiencies in care. • Determine (with their liaisons) provider participation in trauma care, which might be guided by findings from the PIPS process or an Ongoing Professional Practice Evaluation (OPPE). • Oversee the structure and process of the trauma PIPS program.	2	R	R	R	R
2.10	In Level I, II, and III trauma centers, the TPM must fulfill the following requirements: • Have 1.0 full-time equivalent (FTE) commitment to the trauma program • Provide evidence of 36 hours of trauma-related continuing education (CE) during the verification cycle • Hold current membership in a national or regional trauma organization	2	R	R	R	R

	In Level II and III trauma centers, at least 0.5 FTE of the TPM's time must be spent on TPM-related activities. The remaining time must be dedicated to other roles within the trauma program. In combined programs that are Level II adult and Level II pediatric trauma centers, it is acceptable for the pediatric TPM of a Level II pediatric trauma center to serve at least 0.5 FTE as the pediatric TPM. The remaining time must be devoted to other roles within the adult or pediatric trauma program. In Level IV trauma centers, a proportionate FTE Trauma Coordinator must be employed for trauma centers with less than 250 patients per year.					
2.11	In all trauma centers, the trauma program manager (TPM) must have a reporting structure that includes the TMD and they are to assume at minimum, the following leadership responsibilities in conjunction with the TMD and/or hospital administration: • Oversight of the trauma program • Assist with the budgetary process for the trauma program • Develop and implement clinical protocols and practice management guidelines • Provide educational opportunities for staff development • Monitor performance improvement activities in conjunction with a PI coordinator (where applicable) • Service as a liaison to administration and represent the trauma program on hospital and regional committees to enhance trauma care • Have oversight of the trauma registry	2	R	R	R	R
2.12	All trauma centers must have an injury prevention program that: • Has a designated injury prevention professional • Prioritizes injury prevention work based on trends identified in the trauma registry and local epidemiological data • Implements at least two activities over the course of the verification cycle with specific objectives and deliverables that address separate major causes of injury in the community • Demonstrates evidence of partnerships with community organizations to support their injury prevention efforts	2	R	R	R	R

	In Level I trauma centers, the injury prevention professional must be someone other than the TPM or PI personnel.					
2.13	In all trauma centers, an organ procurement program must be available and consist of at least the following: • An affiliation with an organ procurement organization (OPO) • A written policy for notification of the regional OPO • Protocols defining clinical criteria and confirmatory tests for the diagnosis of brain death	2	R	R	R	R
2.14	All pediatric trauma centers must have a child life program.	2	PTCI	PTCII		
3: Facilities and Equipment Resources						
3.1	In Level I and II trauma centers, an operating room (OR) must be staffed and available within 15 minutes of notification, and in Level III trauma centers an OR must be staffed and available within 30 minutes of notification.	1	R	R	R	
3.2	In Level I and II trauma centers, if the first OR is occupied, an additional OR must be staffed and available.	2	R	R		
3.3	Level I and II trauma centers must have a dedicated OR prioritized for fracture care in nonemergent orthopedic trauma. In a Level III trauma center, access to the OR must be made available for nonemergent orthopedic trauma.	2	R	R	R	
3.4	Level I and II trauma centers must have an adequate supply of blood products available. Level III and IV trauma centers must have an adequate supply of red blood cells and plasma available.	1	R	R	R	R
3.5	In Level I and II trauma centers, the following services must be available 24 hours per day and be accessible for patient care within the time interval specified: • Conventional radiography—15 minutes • Computed tomography (CT)—15 minutes • Point-of-care ultrasound—15 minutes • Interventional radiologic procedures—1 hour • Magnetic resonance imaging (MRI)—2 hours	1	R	R	R	R

	In Level III and IV trauma centers, the following services must be available 24 hours per day and be accessible for patient care within the time interval specified: • Conventional radiography—30 minutes • CT—30 minutes • Point-of-care ultrasound—15 minutes					
3.6	Level I and II trauma centers must have a mechanism to remotely view radiographic images from referring hospitals within their catchment area.	2	R	R		
3.7	Level I, Level II, and Level III-N trauma centers must have cerebral monitoring equipment available.	1	R	R	*	
3.8	In Level I and II trauma centers, cardiopulmonary bypass equipment must be immediately available when required, or a contingency plan must exist to provide emergency cardiac surgical care.	2	R	R		
4: Personnel and Services						
4.1	Trauma surgeons must have direct patient care responsibilities at the institution and must meet the following qualifications: • Complete the ATLS course at least once • Have privileges in general and/or pediatric surgery • Hold current board certification or board eligibility in general surgery, or have been approved through the Alternate Pathway – Level I pediatric trauma centers must have at least two surgeons board-certified or board-eligible in pediatric surgery. – Level II pediatric trauma centers must have at least one surgeon board-certified or board-eligible in pediatric surgery.	2	R	R	R	R
4.2	In Level I, II, and III trauma centers, trauma surgery coverage must be continuously available. In Level I and II trauma centers, the trauma surgeon must be dedicated to a single trauma center while on call.	1	R	R	R	
4.3	Level I and II trauma centers must have a published backup call schedule for trauma surgery. Level III trauma centers must have a documented backup call schedule or a backup plan for trauma surgery.	2	R	R	R	
4.4	In Level I, II, and III trauma centers, the trauma surgeon must be present in the operating suite for the key portions of operative procedures for which they are the responsible surgeon and must be immediately available throughout the procedure.	2	R	R	R	

4.5	The trauma program must have the following designated liaisons: LI, LII, PTCI, PTCII: • Board-certified or board-eligible emergency medicine physician • Board-certified or board-eligible orthopedic surgeon • Board-certified or board-eligible anesthesiologist • Board-certified or board-eligible neurosurgeon • Board-certified or board-eligible radiologist • Board-certified or board-eligible intensive care unit (ICU) physician • Geriatric provider (applies only to LI and LII) LIII: • Board-certified or board-eligible emergency medicine physician • Board-certified or board-eligible orthopedic surgeon • Board-certified or board-eligible anesthesiologist or certified registered nurse anesthetist • Board-certified or board-eligible neurosurgeon (applies only to LIII-N) • Board-certified or board-eligible ICU physician In Level I trauma centers, the orthopedic trauma surgeon liaison must have completed an orthopedic traumatology fellowship approved by the Orthopaedic Trauma Association (OTA). In Level I pediatric trauma centers, this requirement may be met by having a pediatric fellowship-trained orthopedic surgeon.	2	R	R	R	
4.6	In Level I and II trauma centers, the emergency department medical director must be board-certified or board-eligible in emergency medicine or pediatric emergency medicine. In Level I and Level II trauma centers, physicians who completed primary training prior to 2016 and are board-certified in a specialty other than emergency medicine or pediatric emergency medicine may serve as the emergency department director. In Level III trauma centers, the emergency department director must be board-certified or board-eligible. In Level IV trauma centers, the emergency department must have a designated emergency physician director.	1	R	R	R	R

4.7	In all trauma centers, emergency medicine physicians involved in the care of trauma patients must be currently board-certified or board-eligible or have been approved through the Alternate Pathway. • In Level I and II trauma centers, physicians must be board-certified or board-eligible in emergency medicine or pediatric emergency medicine. – Physicians who completed primary training in a specialty other than emergency medicine or pediatric emergency medicine prior to 2016 may participate in trauma care. • In Level I pediatric trauma centers, at least one physician must be board-certified or board-eligible in pediatric emergency medicine. • In Level III and Level IV trauma centers, physicians must be board-certified or board-eligible in emergency medicine, pediatric emergency medicine, or a specialty other than emergency medicine. All emergency physicians must have completed the ATLS course at least once. Physicians who are board-certified or board-eligible in a specialty other than emergency medicine must hold current ATLS certification.	2	R	R	R	R
4.8	In Level I and II trauma centers, a board-certified or board-eligible emergency medicine physician must be present in the emergency department at all times. This requirement may also be met with a board-certified or board-eligible physician who completed primary training prior to 2016 in a specialty other than emergency medicine or pediatric emergency medicine.	1	R	R		
4.9	In Level I pediatric trauma centers, there must be at least two physicians who are board-certified or board-eligible in pediatric critical care medicine or in both pediatric surgery and surgical critical care. These two physicians must practice at least part of their time in the ICU where the majority of pediatric trauma patients are cared for.	2	PTCI			
4.10	Level I and II trauma centers must have board-certified or board-eligible neurosurgeons continuously available for the care of neurotrauma patients. Level III-N trauma centers must have board-certified or board-eligible neurosurgeons. In Level I pediatric trauma centers, there must be at least one board- certified or board-eligible neurosurgeon who has completed a pediatric neurosurgery fellowship.	1	R	R	*	

4.11	Level I, II, and III trauma centers must have board-certified or board-eligible orthopedic surgeons continuously available for the care of orthopedic trauma patients and must have a contingency plan for when orthopedic trauma capabilities become encumbered or overwhelmed. In Level I pediatric trauma centers, at least one board-certified or board-eligible orthopedic surgeon must have completed a pediatric orthopedic fellowship.	1	R	R	R	
4.12	Trauma centers must have an orthopedic surgeon who has completed an Orthopedic Trauma Association-approved fellowship or has met the alternate training criteria. This requirement may also be met by having transfer protocols specifying the type of patients/injuries that will be transferred to a center with an orthopedic surgeon who has completed an OTA-approved fellowship or meets the alternate training criteria.	2	PTCI	R		
4.13	In Level I and II trauma centers, anesthesia services must be available within 15 minutes of request. Furthermore, the attending anesthesiologist must be present within 30 minutes of request for all operations. In Level III trauma centers, anesthesia services must be available within 30 minutes of request.	1	R	R	R	
4.14	In Level I, II, and III trauma centers, a radiologist must have access to patient images and be available for imaging interpretation, in-person or by phone, within 30 minutes of request.	1	R	R	R	
4.15	Level I and II trauma centers must have the necessary human and physical resources continuously available so that an endovascular or interventional radiology procedure for hemorrhage control can begin within 60 minutes of request.	2	R	R		
4.16	In Level I, II, and III trauma centers must have an ICU surgical director who is board-certified or board-eligible in general surgery and actively participates in unit administration. In Level I adult trauma centers, the ICU surgical director must be board-certified or board-eligible in surgical critical care.	2	R	R	R	
4.17	In Level I and II trauma centers, the ICU must be staffed with physicians who are continuously available within 15 minutes of request and whose primary responsibility is to the ICU.	1	R	R		
4.18	In Level II adult trauma centers, at least one surgeon must be board-certified or board-eligible in surgical critical care.	2		R		
4.19	In Level III trauma centers, provider coverage of the ICU must be available within 30 minutes of request, with a formal plan in place for emergency coverage.	1			R	
4.20	In all trauma centers, the patient-to-nurse ratio in the ICU must be 1:1 or 2:1, depending on patient acuity as defined by the hospital policy for ICU nursing staffing.	2	R	R	R	R
4.21	Level I trauma centers must have continuous availability of the surgical expertise listed below:	1	R	R		

	• Cardiothoracic surgery • Vascular surgery • Hand surgery • Plastic surgery • Obstetrics/Gynecology surgery • Otolaryngology • Urology Sporadic gaps in coverage due to vacation or conference attendance must be addressed with a contingency plan. Level II trauma centers must have surgical expertise listed above available.				
4.22	Level I trauma centers must have continuous availability of ophthalmology. Sporadic gaps in coverage due to vacation or conference attendance must be addressed with a contingency plan. Level II trauma centers must have ophthalmology available.	2	R	R	
4.23	Level I trauma centers must have the capability for comprehensive soft tissue coverage of wounds, including microvascular expertise for free flaps.	1	R		
4.24	Level I trauma centers must have the capability to diagnose and manage acute facial fractures of the entire craniomaxillofacial skeleton, including the skull, cranial base, orbit, midface, and occlusal skeleton, with expertise contributed by any of the following specialists: otolaryngology, oral maxillofacial surgery, or plastic surgery.	1	R		
4.25	Level I and II trauma centers must have replantation capability continuously available or must have in place a triage and transfer process with a replant center.	2	R	R	
4.26	Level I and II trauma centers must have all of the following medical specialists: • Cardiology* • Gastroenterology* • Internal medicine or pediatrics* • Infectious disease* • Nephrology* • Pain management (with expertise to perform regional nerve blocks) • Physiatry • Psychiatry • Pulmonary medicine*	2	R	R	R

	An asterisk (*) denotes services that must be continuously available. Level III trauma centers must have internal medicine continuously available.					
4.27	Level I and II pediatric trauma centers must have either a physician on the medical staff who is board-certified or board-eligible in child abuse pediatrics or a physician with special interest in child abuse (nonaccidental trauma) who provides expertise to the trauma center.	2	PTCI	PTCII		
4.28	Trauma centers must have the following allied health services available: LI, LII, PTCI, PTCII: • Respiratory therapy (24/7/365) • Nutrition support • Speech therapy • Social worker (7 days per week) • Occupational therapy (7 days per week) • Physical therapy (7 days per week) LIII: • Respiratory therapy (24/7/365) • Nutrition support • Social worker • Occupational therapy • Physical therapy • Speech therapy	2	R	R	R	
4.29	Level I and Level II trauma centers must have renal therapy services available to support patients with acute renal failure. Levell III trauma centers must have renal replacement therapy services available to support patients with acute renal failure or a transfer agreement in place if this service is not available.	2	R	R	R	
4.30	In all trauma centers, trauma and/or emergency department advanced practice providers who are clinically involved in the initial evaluation and resuscitation of trauma patients during the activation phase must have current ATLS certification.	2	R	R	R	R
4.31	In all trauma centers, there must be at least 0.5 full-time equivalent (FTE) dedicated to the trauma registry per 200-300 annual patient entries. A proportionate FTE must be employed for hospitals with less than 200 annual patient entries. The count of entries is defined as all patients who meet Oregon Trauma Registry inclusion criteria.	2	R	R	R	R

	Combined adult and pediatric programs (Level I/II adult trauma center with Level II pediatric trauma center) may share resources, but someone must be identified as the lead pediatric registrar.					
4.32	In Level I or other trauma centers seeking ACS verification, at least one registrar must be a current Certified Abbreviated Injury Scale Specialist (CAISS).	2	R			
4.33	In all trauma centers, all staff members who have a registry role in data abstraction and entry, injury coding, ISS calculation, data reporting, or data validation for the trauma registry must fulfill all of the following requirements: • Participate in and pass the Association of the Advancement of Automotive Medicine's (AAAM's) Abbreviated Injury Scale (AIS) course for the version used at your center • Participate in a trauma registry course that includes all of the following content: – Abstraction – Data management – Reports/report analysis – Data validation – HIPAA • Participate in an ICD-10 course or an ICD-10 refresher course every five years	2	R	R	R	R
4.34	In all trauma centers, each trauma registrar must accrue at least 24 hours of trauma-related CE during the verification cycle.	2	R	R	R	R
4.35	In Level I, II, and III trauma centers, there must be at least 0.5 FTE dedicated performance improvement (PI) personnel when the annual volume of registry patient entries exceeds 500 patients. The count of entries is defined as all patients that meet Oregon Trauma Registry inclusion criteria. When the annual volume exceeds 1,000 registry patient entries, the trauma center must have at least 1.0 FTE PI personnel.	2	R	R	R	
4.36	In Level I adult and pediatric trauma centers, the trauma surgeon liaison to the disaster committee must successfully complete the Disaster Management and Emergency Preparedness (DMEP) course at least once.	2	R			
5: Patient Care: Expectations and Protocols						
5.1	All trauma centers must have evidence-based clinical practice guidelines, protocols, or algorithms that are reviewed every three years.	2	R	R	R	R

5.2	In all trauma centers, the shared roles and responsibilities of trauma surgeons and emergency medicine physicians for trauma resuscitation must be defined and approved by the TMD.	2	R	R	R	R
5.3	In all trauma centers, the criteria for tiered activations must be clearly defined. For the highest level of activation, the following eight criteria must be included: • Confirmed blood pressure less than 90 mm Hg at any time in adults, and age-specific hypotension in children aged 0-9 years less than 70 mmHg + (2 x age years) • All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee • Glasgow Coma Scale less than 9 (with mechanism attributed to trauma) • Transfer patients from another hospital who require ongoing blood transfusions • Patients intubated in the field and directly transported to the trauma center • Patients who have respiratory compromise or are in need of an emergent airway • Emergency physician's discretion	2	R	R	R	R
5.4	In all trauma centers providing trauma surgical services, for the highest level of activation, at least 80 percent of the time, the trauma surgeon must be at the patient's bedside within 15 minutes (Level I and Level II trauma centers) or 30 minutes (Level III and Level IV trauma centers) of patient arrival.	1	R	R	R	R
5.5	In all trauma centers providing trauma surgical services, the trauma program must define and meet acceptable response time to trauma surgical evaluation for activations other than the highest level.	2	R	R	R	R
5.6	All trauma centers must have the following protocols for care of the injured older adult: • Identification of vulnerable geriatric patients • Identification of patients who will benefit from the input of a health care provider with geriatric expertise • Prevention, identification, and management of dementia, depression, and delirium • Process to capture and document what matters to patients, including preferences and goals of care, code status, advanced directives, and identification of a proxy decision maker • Medication reconciliation and avoidance of inappropriate medications • Screening for mobility limitations and assurance of early, frequent, and safe mobility • Implementation of safe transitions to home or other health care facility	2	R	R	R	R
5.7	All trauma centers must have a process in place to assess children for nonaccidental trauma.	2	R	R	R	R
5.8	All trauma centers must have a massive transfusion protocol (MTP) developed collaboratively between the trauma service and the blood bank.	1	R	R	R	R
5.9	All trauma centers must have a rapid reversal protocol in place for patients on anticoagulants.	2	R	R	R	R

5.10	In all trauma centers, each emergency department must perform a pediatric readiness assessment during the verification cycle and have a plan to address identified gaps.	2	R	R	R	R
5.11	All trauma centers must have a provider and equipment immediately available to establish an emergency airway.	1	R	R	R	R
5.12	All trauma centers must have clearly defined transfer protocols that include the types of patients, expected time frame for initiating and accepting a transfer, and predetermined referral centers for outgoing transfers.	2	R	R	R	R
5.13	In all trauma centers, the decision to transfer an injured patient must be based solely on the needs of the patient, without consideration of their health plan or payor status.	2	R	R	R	R
5.14	In all trauma centers, when trauma patients are transferred, the transferring provider must directly communicate with the receiving provider to ensure safe transition of care. This communication may occur through a transfer center.	2	R	R	R	R
5.15	In all trauma centers, diversion protocols must be approved by the TMD and include: • Agreement of the trauma surgeon in the decision to divert, for all trauma centers that provide trauma surgical services • A process for notification of dispatch and EMS agencies • A diversion log to record reasons for and duration of diversions	2	R	R	R	R
5.16	All trauma centers must not exceed 400 hours of diversion during the reporting period.	2	R	R	R	R
5.17	Neurosurgical evaluation must occur within 30 minutes of request for the following: • Severe TBI (GCS less than 9) with head CT evidence of intracranial trauma • Moderate TBI (GCS 9–12) with head CT evidence of potential intracranial mass lesion • Neurologic deficit as a result of potential spinal cord injury (applicable to spine surgeon, whether a neurosurgeon or orthopedic surgeon) • Trauma surgeon discretion In Level I, II, and III-N trauma centers, neurosurgical provider response times must be documented. In Level I and II trauma centers, the neurosurgery attending must be involved in clinical decision-making.	2	R	R	*	
5.18	All Level III and IV trauma centers must have a written plan approved by the TMD that defines the types of neurotrauma injuries that may be treated at the center.	2			R	R
5.19	Level I and II trauma centers must have a neurotrauma contingency plan and must implement the plan when neurosurgery capabilities are encumbered or overwhelmed.	2	R	R	*	

	Level III-N trauma centers must have a neurotrauma contingency plan that includes the potential for diversion and must implement the plan when neurosurgery capabilities are encumbered, overwhelmed, or unavailable. The plan must include the following criteria: • A thorough review of each instance by the PIPS program • Monitoring of the effectiveness of the process by the PIPS program					
5.20	In Level I, II, and III trauma centers must have treatment guidelines for, at minimum, the following orthopedic injuries: • Patients who are hemodynamically unstable attributable to pelvic ring injuries • Long bone fractures in patients with multiple injuries (e.g., time to fixation, order of fixation, and damage control versus definitive fixation strategies) • Open extremity fractures (e.g., time to antibiotics, time to OR for operative debridement, and time to wound coverage for open fractures) • Hip fractures in geriatric patients (e.g., expected time to OR (LI, LII, LIII))	2	R	R	R	
5.21	In Level I, II, and III trauma centers, an orthopedic surgeon must be at bedside within 30 minutes of request for the following: • hemodynamically unstable, secondary to pelvic fracture • suspected extremity compartment syndrome • fractures/dislocations with risk of avascular necrosis (e.g., femoral head or talus) • vascular compromise related to a fracture or dislocation • trauma surgeon discretion The attending orthopedic surgeon must be involved in the clinical decision-making for care of these patients.	2	R	R	R	
5.22	In Level I, II, and III trauma centers must have an OR booking policy that specifies targets for timely access to the OR based on level of urgency and includes access targets for a range of clinical trauma priorities. Level IV trauma centers that provide surgical services must have an OR booking policy that specifies targets for timely access to the OR based on level of urgency and includes access targets for a range of clinical trauma priorities.	2	R	R	R	R

5.23	In all trauma centers providing trauma surgical services, trauma patients requiring ICU admission must be admitted to, or be evaluated by, a surgical service.	2	R	R	R	R
5.24	In all trauma centers providing trauma surgical services, the trauma surgeon must retain responsibility for the trauma patient in the ICU up to the point where the trauma surgeon documents transfer of primary responsibility to another service.	2	R	R	R	R
5.25	In all trauma centers, documentation of preliminary diagnostic imaging must include evidence that critical findings were communicated to the trauma team. The final report must accurately reflect the chronology and content of communications with the trauma team, including changes between the preliminary and final interpretations.	2	R	R	R	R
5.26	In all trauma centers, documentation of the final interpretation of CT scans must occur no later than 12 hours after completion of the scan.	2	R	R	R	R
5.27	In Level I, II, and III trauma centers must meet the rehabilitation needs of trauma patients by: • Developing protocols that identify which patients will require rehabilitation services during their acute inpatient stay • Establishing processes that determine the rehabilitation care, needs, and services required during the acute inpatient stay • Ensuring that the required services during acute inpatient stay are provided in a timely manner	2	R	R	R	
5.28	All trauma centers must have a process to determine the level of care patients require after trauma center discharge, as well as the specific rehabilitation care services required at the next level of care. The level of care and services required must be documented in the medical record.	2	R	R	R	R
5.29	All trauma centers must meet the mental health needs of trauma patients by having: • A protocol to screen patients at high risk for psychological sequelae with subsequent referral to a mental health provider (LI, LII, PTCI, PTCII) • A process for referral to a mental health provider when required (LIII, LIV)	2	R	R	R	R
5.30	All trauma centers must screen all admitted trauma patients greater than 12 years old for alcohol misuse with a validated tool or routine blood alcohol content testing. Programs must achieve a screening rate of at least 80 percent.	2	R	R	R	R
5.31	In all trauma centers, at least 80 percent of patients who have screened positive for alcohol misuse must receive a brief intervention by appropriately trained staff prior to discharge. This intervention must be documented.	2	R	R	R	R

	Level III and Level IV trauma centers must have a mechanism for referral if brief intervention is not available as an inpatient.					
6: Data Surveillance and Systems						
6.1	All trauma centers must have a written data quality plan and demonstrate compliance with that plan. At minimum, the plan must require quarterly review of data quality.	2	R	R	R	R
6.2	In all trauma centers, the trauma registry must be concurrent, defined as having a minimum of 80 percent of patient records completed within 60 days of the patient discharge date.	2	R	R	R	R
6.3	In all trauma centers, trauma registry data must be collected in compliance with the Oregon Trauma Registry inclusion criteria and Oregon Trauma Registry Data Dictionary data elements index. In Level I and Level II trauma centers, data must be submitted to the National Trauma Data Bank® every year in a timely fashion so that it can be aggregated and analyzed at the national level.	2	R	R	R	R
7: Performance Improvement and Patient Safety						
7.1	In all trauma centers, the trauma PIPS program must be independent of the hospital or departmental performance improvement (PI) program, but it must report to the hospital or departmental PI program.	2	R	R	R	R
7.2	All trauma centers must have a written PIPS plan that: • Outlines the organizational structure of the trauma PIPS process, with a clearly defined relationship to the hospital PI program • Specifies the processes for event identification. As an example, these events may be brought forth by a variety of sources, including but not limited to: individual personnel reporting, morning report or daily sign-outs, case abstraction, registry surveillance, use of clinical guideline variances, patient relations, or risk management. The scope for event review must extend from prehospital care to hospital discharge. • Includes a list of audit filters, event review, and report review that must include, at minimum, those listed in the Resources section • Defines levels of review (primary, secondary, tertiary, and/or quaternary), with a listing for each level that clarifies: – Which cases are to be reviewed	2	R	R	R	R

	– Who performs the review – When cases can be closed or must be advanced to the next level • Specifies the members and responsibilities of the trauma multidisciplinary PIPS committee • Outlines an annual process for identification of priority areas for PI, based on audit filters, event reviews, and benchmarking reports					
7.3	All trauma centers must have documented evidence of event identification; effective use of audit filters; demonstrated loop closure; attempts at corrective actions; strategies for sustained improvement measured over time.	2	R	R	R	R
7.4	All trauma centers must participate in a benchmarking program and use the results to determine whether there are opportunities for improvement in patient care and registry data quality.	2	R	R	R	R
7.5	In all trauma centers, a physician from the emergency department or trauma program must participate in the prehospital PIPS program, including assisting in the development of prehospital care protocols relevant to the care of trauma patients.	2	R	R	R	R
7.6	All trauma centers must meet the following trauma multidisciplinary PIPS committee meeting attendance thresholds: • 60 percent of meetings for the TMD (cannot be delegated to the associate TMD) • 50 percent of meetings for each trauma surgeon • 50 percent of meetings for the liaisons (or one predetermined alternate) from emergency medicine, neurosurgery, orthopedic surgery, critical care medicine, and anesthesia, • 50 percent of meetings for the liaison (or one predetermined alternate) from radiology (LI, LII, PTCI, PTCII) Combined adult (Level I/II) and pediatric (Level II) trauma centers must have 50 percent attendance by a representative (TMD or one predetermined alternative) from the other program; this representative is responsible for disseminating information to panel members of the other program. Level IV trauma centers must have 50 percent attendance by medical staff active in trauma resuscitation.	2	R	R	R	R
7.7	In all trauma centers, all cases of trauma-related mortality and transfer to hospice must be reviewed and classified for potential opportunities for improvement. Deaths must be categorized as: • Mortality with opportunity for improvement	2	R	R	R	R

	• Mortality without opportunity for improvement					
7.8	In all trauma centers, all nonsurgical trauma admissions must be reviewed by the trauma program. As part of secondary review, the Trauma Medical Director must review non-surgical admissions according to the criteria in the Nelson Criteria for Nonsurgical Admission.	2	R	R	R	R
7.9	In all trauma centers, all instances of diversion must be reviewed by the trauma operations committee.	2	R	R	R	R
7.10	All trauma centers must have a process of reviewing and providing feedback to: • EMS agencies, related to accuracy of triage and provision of care • Referring providers, related to the care and outcomes of their patients and any potential opportunities for improvement in initial care	2	R	R	R	R
8: Education: Professional and Community Outreach						
8.1	All trauma centers must provide public and professional trauma education.	2	R	R	R	R
8.2	All trauma centers must provide trauma orientation to new nursing staff caring for trauma patients. Nurses must participate in trauma continuing education (CE) corresponding to their scope of practice and patient population served.	2	R	R	R	R
8.3	In all trauma centers, the trauma program must participate in the training of prehospital personnel.	2	R	R	R	R
8.4	Level I trauma centers must demonstrate commitment to postgraduate training and education by having residency rotations in trauma that meet all of the following conditions: • There must be a defined trauma curriculum and trauma-specific objectives for junior and senior residents • The rotations must be available to, at minimum, general surgery, orthopedic, neurosurgery, and emergency medicine residents • All residents on the trauma service must be from an Accreditation Council for Graduate Medicine Education (ACGME) accredited program • There must be a sufficient volume and breadth of cases to provide general surgery senior residents the opportunity to meet the competency requirements for senior general surgery residents in trauma set forth by the ACGME	2	R			

	• The rotation must be continuously available to residents to assure ample exposure to trauma care			
9: Research				
9.1	Level I trauma centers must demonstrate the following scholarly activities during the verification cycle: • At least 10 trauma-related research articles* • Participation by at least one trauma program faculty member as a visiting professor, invited lecturer, or speaker at a regional, national, or international trauma conference • Support of residents or fellows in any of the following scholarly activities: laboratory experiences; clinical trials; resident trauma paper competitions at the state, regional, or national level; and other resident trauma research presentations *Fulfillment of the research requirement must also meet the following criteria: • At least three articles must be authored by general surgery/pediatric trauma providers • Research activity must be performed at the trauma center • If case series are to be counted, they must include more than five patients • Basic science research must involve topics directly related to the pathophysiology of injury • At least three articles must be from disciplines other than general/pediatric surgery • All articles must be published or accepted for publication in peer-reviewed and indexed journals • Authors from the trauma center must meet accepted authorship requirements of the International Committee of Medical Journal Editors • One paper from acute care surgery may be included	2	R	