

Pennsylvania Trauma Nursing Core Curriculum

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PREFACE

Care of the trauma patient has evolved since 1985, when the Pennsylvania Trauma Systems Foundation (PTSF) Board of Directors approved the initial Standards for Trauma Center Accreditation based upon the American College of Surgeons report *Hospital Resources for the Optimal Care of the Injured Patient*. The 1986 PTSF Standards included the Pennsylvania Trauma Nursing Core Curriculum (PATNCC) that focused on education for registered nurses directly involved with trauma patient care. In 1991, the curriculum was expanded and clarified to include the educational needs and responsibilities of registered nurses in providing care to trauma patients across the continuum of the hospital admission. This included all phases of care from time of injury and pre-hospital care to acute in hospital care, including in hospital rehabilitation and discharge planning.

Building on the 1991 foundation, the Ad Hoc Committee for Trauma Nurse Course Revision 1999 reformatted the curriculum to facilitate an evidence-based approach for trauma nursing credentialing. Successful completion of the Pennsylvania Trauma Nursing Curriculum (PTNC) is one component of PTSF standards for trauma nurse credentialing. This curriculum, which is attached, establishes minimum content for the basic Trauma Nurse Course. *A Comprehensive Curriculum for Trauma Nursing, 2nd Edition* by E.W. Bayley & S.A. Turcke is one suggested resource that can be used as a reference for expanding course content. Additionally, each trauma center will need to consider their specific patient population, registered nurse audience, protocols and guidelines, teaching methodologies, time frame, and evaluation process when developing their own basic trauma course. The Trauma Nurse Course is considered one part of the trauma center's overall competence plan which also includes hospital and unit-based orientation, ongoing competency skills, specialty nursing certification, periodic performance evaluation, etc.

It is an expectation that each trauma center will review their course content on a regular basis at least every two years. The content should support evidence-based practice with the integration of data from the institution's trauma registry, national guidelines, current literature, and benchmarking efforts. This course must be accredited by a recognized professional nursing organization, for example, PSNA, ENA, AACN, or AORN.

NOTE TO LEVEL IV TRAUMA PROGRAMS:

Use of electronic means of course delivery is acceptable as well as partnering with other trauma centers to take part in the course. The following methods of course delivery are acceptable:

- Taking the PTNC at an outside institution as long as there is an institution specific module. The module must be comprehensive and cover institution specific differences between the outside institution course and the institution's own course. Several examples of institution specific content that should be included are:
 - Trauma Performance Improvement process
 - Clinical Management Guidelines
 - Trauma Program Staff
 - Trauma Alert Activation Criteria
 - Nursing and Physician education submission process
- Using nationally accepted courses, such as the ENA's Trauma Nurse Core Course (TNCC), for the clinical aspects of the TNC requirement and augmenting that with an institution specific module(s) that covers curriculum that is not found in TNCC, but are required by the TNC core curricula.
- An institution specific TNC course that includes all of the PTNC curricula as outlined in the Standards for Trauma Center Accreditation Appendix B and delivered in a classroom setting or as an on-line independent study module. It is recommended however that some classroom instruction occurs and that the entire course not be self-study.

Reference: *Standard X: Nursing Credentials, Certifications, and Continuing Education, Standards for Trauma Center Accreditation.*

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PURPOSE

To introduce registered nurses responsible for caring for the trauma patient to the Pennsylvania Trauma Systems Foundation (PTSF), to the *Standards for Trauma Center Accreditation*, and to key areas of evidence based nursing practice that support PTSF in its mission to reduce death and disability from traumatic injury and improve patient outcomes.

TRAUMA SYSTEMS	
Objectives	Content
1. Describe the Pennsylvania Trauma Systems Foundation (PTSF) and its standards and accreditation process.	<ul style="list-style-type: none"> A. Quasi-governmental agency—PTSF B. Standards for Trauma Center Accreditation C. Accreditation/Verification process D. Entry of patient into system E. Triage Guidelines F. Performance improvement
2. Describe how institution-specific practices relate to the PTSF standards requirements.	<ul style="list-style-type: none"> A. Institution specific credentialing B. Institution specific Performance C. Improvement process D. Trauma Program Structure <ul style="list-style-type: none"> 1. Clinical 2. Administrative E. Trauma Registry F. Clinical Practice Guidelines G. Trauma Resuscitation Team H. Multidisciplinary Acute Care Team I. Plan of Care J. Outcome measurements

PRE-HOSPITAL	
Objectives	Content
1. Identify the purpose and role of Emergency Medical Services (EMS) and availability within the region.	<ul style="list-style-type: none"> A. Access EMS B. Purpose of EMS C. Scene Management D. Medical Command E. EMS Documentation F. Disaster preparedness/Mass Casualties

SYSTEMATIC ASSESSMENT/MANAGEMENT

Objectives	Content
<i>Resuscitative Phase</i>	
1. Define predictable clinical manifestations relative to mechanism of injury.	A. Mechanism of Injury/ Kinematics 1. Blunt 2. Penetrating 3. Injuries due to burns/cold 4. Hazardous environment
2. Outline a basic trauma nursing assessment in collaboration with the ATLS® standardized approach.	A. Primary Survey 1. Airway 2. Breathing 3. Circulation 4. Disability 5. Exposure B. Secondary Survey 1. AMPLE history with mechanism of injury: Allergies, Medications, Past illnesses/Pregnancy, Last meal, Events/Environment 2. Physical exam of: a. Head and Maxillofacial b. Cervical Spine and Neck c. Chest d. Abdomen e. Peritoneum, Rectum, Vagina f. Musculoskeletal ▪ Extremities ▪ Pelvis g. Neurologic h. Spine ▪ Cord ▪ Central Nervous System ▪ Skin integrity C. Tertiary Nursing Assessment 1. Replication of primary and secondary surveys 2. Ongoing evaluation of response to interventions 3. Recognition of subtle signs and symptoms of decompensation 4. End points of resuscitation
<i>Perioperative Phase</i>	
1. Describe the perioperative phase as it relates to the operative management of traumatic injury and to predisposition of complications (occurrences).	A. Operative priorities B. Potential complications from operative procedures C. Evidence preservation
<i>Post Anesthesia Recovery Phase</i>	
1. Discuss the patient's response to anesthetic agents in relation to the injury and to operative management.	A. Anesthetics B. Assessment and monitoring patient response
<i>Acute Care Phase</i>	
Suggested Teaching Method: Use a case study that demonstrates the use of data from the trauma registry, the performance improvement process, and patient outcomes.	
1. Recognize signs, symptoms and management	Classifications

SYSTEMATIC ASSESSMENT/MANAGEMENT

Objectives	Content
strategies of shock.	Signs and symptoms Management Massive transfusion concerns
<p>2. Describe the pathophysiology, clinical manifestations, and medical and nursing management of systems trauma during the acute phase of care, including issues for discharge planning (<i>See A - H</i>).</p> <p>3. Identify significant performance improvement data that affects current practice in trauma care.</p>	<p>A. Head trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations, assessment 4. Treatment, interventions, nursing care 5. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation—life threatening 7. Complications (occurrences)—identify by using institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement <p>B. Maxillofacial trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, and nursing care 5. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation—life threatening 7. Complications (occurrences)—identify by using institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement <p>C. Spinal cord injury</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, and nursing care 5. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation—life threatening 7. Complications (occurrences)—identify by using institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement

SYSTEMATIC ASSESSMENT/MANAGEMENT

Objectives	Content
	<p>D. Chest trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, and nursing care 5. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation—life threatening 7. Complications (occurrences)—identify by using institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement <p>E. Abdominal trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, and nursing care 5. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation—life threatening 7. Complications (occurrences)—identify by using institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement <p>F. Genitourinary trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, and nursing care 5. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation 7. Complications (occurrences)—identify by using institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement <p>G. Musculoskeletal trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, and nursing care

SYSTEMATIC ASSESSMENT/MANAGEMENT

Objectives	Content
	<ul style="list-style-type: none"> 5. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation 7. Complications (occurrences)—identify by using of institution specific data 8. Nutrition 9. Discharge planning 10. Performance improvement H. Injuries due to burns or cold <ul style="list-style-type: none"> 1. Mechanism of injury 2. Pathophysiology 3. Clinical manifestations and assessment 4. Treatment, interventions, nursing care 5. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 6. Signs and symptoms of potential decompensation—life threatening 7. Complications (occurrences)—identify by using of institution-specific data 8. Nutrition 9. Discharge planning 10. Performance improvement
4. Discuss nursing interventions to meet the spiritual, cultural, and psychosocial needs of the trauma patient and family.	<ul style="list-style-type: none"> A. Assessment and plan for the patient and family <ul style="list-style-type: none"> 1. Spiritual 2. Cultural 3. Psychosocial
<i>Rehabilitative Phase</i>	
1. Discuss rehabilitation issues in relation to traumatic injuries.	<ul style="list-style-type: none"> A. Rehabilitation goals B. Strategies to reduce self-care deficits <ul style="list-style-type: none"> 1. Positioning 2. Therapies 3. Pain management C. Community and financial resources D. Equipment and assistive devices E. Discharge planning <ul style="list-style-type: none"> 1. Interdisciplinary team members 2. Begins on admission 3. Goals F. Americans with Disabilities Act
2. Analyze the standard approach to determine rehabilitation outcome measurements.	<ul style="list-style-type: none"> A. Functional Independence Measurement Score <ul style="list-style-type: none"> 1. Meaning 2. Importance B. Post discharge outcomes C. Additional scoring methods

PREVENTION STRATEGIES

Objectives	Content
1. Identify strategies for trauma prevention	A. Pre-injury 1. Community outreach 2. Education 3. Registry data B. Post-injury 1. Patient/family education 2. Substance abuse counseling 3. Resources 4. Registry data

PEDIATRIC CONSIDERATIONS*

Objectives	Content
<p>Suggested Teaching Method: Use a case study that demonstrates the utilization of data from the trauma registry, the performance improvement process, and patient outcomes.</p> <p>Note:* This specific course content can be presented as a separate focus or integrated throughout the course curriculum.</p>	
1. Define the pediatric population in relation to age and guardianship issues.	<ul style="list-style-type: none"> A. PTSF age definition B. Institution-specific age definition C. Guardianship issues
2. Relate the common causes of mortality and morbidity to mechanisms of injury in the pediatric trauma patient.	<ul style="list-style-type: none"> A. Pediatric mechanism of injury/Kinematics <ul style="list-style-type: none"> 1. Blunt 2. Penetrating 3. Injuries due to burns or cold 4. Hazardous environment
3. Outline a basic pediatric trauma nursing assessment in collaboration with the ATLS® standardized approach.	<ul style="list-style-type: none"> A. Primary Survey <ul style="list-style-type: none"> 1. Airway 2. Breathing 3. Circulation 4. Disability 5. Exposure B. Secondary Survey <ul style="list-style-type: none"> 1. AMPLE history with mechanism of injury: Allergies, Medications, Past illnesses/Pregnancy, Last meal, Events/Environment 2. Physical exam of: <ul style="list-style-type: none"> a. Head and Maxillofacial b. Cervical Spine and Neck c. Chest d. Abdomen e. Peritoneum, Rectum, Vagina f. Musculoskeletal <ul style="list-style-type: none"> 1) Extremities 2) Pelvis g. Neurologic <ul style="list-style-type: none"> 1) Spine 2) Cord 3) Central Nervous System h. Skin integrity C. Tertiary Nursing Assessment <ul style="list-style-type: none"> 1. Replication of primary and secondary surveys 2. Ongoing evaluation of response to interventions 3. Recognition of subtle signs and symptoms of decompensation 4. End points of resuscitation
4. Describe the pathophysiology, clinical manifestations, and medical and nursing management of systems trauma for the pediatric patient during the acute phase of care, including issues for discharge planning (<i>See A-H</i>).	<ul style="list-style-type: none"> A. Head trauma <ul style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment

PEDIATRIC CONSIDERATIONS*

Objectives	Content
<p>5. Identify significant performance improvement data that affects current practice in trauma care.</p>	<ol style="list-style-type: none"> 5. Treatment, interventions, and nursing care 6. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation—life threatening 8. Complications (occurrences)—identify by using institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement <p>B. Maxillofacial Trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care 6. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation—life threatening 8. Complications (occurrences)—identify by using institution specific data 9. Nutrition 10. Discharge planning 11. Performance improvement <p>C. Spinal cord injury</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care 6. Pain management <ol style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation---life threatening 8. Complications (occurrences)—identify by using of institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement <p>D. Chest Trauma</p> <ol style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care

PEDIATRIC CONSIDERATIONS*

Objectives	Content
	<ul style="list-style-type: none"> 6. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation—life-threatening 8. Complications (occurrences)—identify by using institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement E. Abdominal trauma <ul style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care 6. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation—life-threatening 8. Complications (occurrences)—identify by using institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement F. Genitourinary trauma <ul style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care 6. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation 8. Complications (occurrences)—identify by using of institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement G. Musculoskeletal <ul style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care 6. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches

PEDIATRIC CONSIDERATIONS*

Objectives	Content
	<ul style="list-style-type: none"> b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation 8. Complications (occurrences)—identify by using institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement H. Injuries due to burns or cold <ul style="list-style-type: none"> 1. Mechanism of injury 2. Growth and development implications 3. Pathophysiology 4. Clinical manifestations and assessment 5. Treatment, interventions, and nursing care 6. Pain management <ul style="list-style-type: none"> a. Pharmacologic and non-pharmacologic approaches b. Age-specific interventions c. Outcome evaluation 7. Signs and symptoms of potential decompensation 8. Complications (occurrences)—identify by using institution-specific data 9. Nutrition 10. Discharge planning 11. Performance improvement
<p>6. Discuss nursing interventions to meet the developmental, emotional, cultural, psychosocial, and spiritual needs of the child and family.</p>	<ul style="list-style-type: none"> A. Assessment and plan for the patient and family <ul style="list-style-type: none"> 1. Spiritual 2. Cultural 3. Psychosocial

GERIATRIC CONSIDERATIONS	
Objectives	Content
<p>Suggested Teaching Method: Use a case study technique method that demonstrates the utilization of data from the trauma registry, performance improvement process, and patient outcomes.</p> <p>Note:* This specific course content can be presented as a separate focus or integrated throughout the course curriculum.</p>	
1. Define the geriatric trauma patient based on physiologic changes related to the aging process.	<ul style="list-style-type: none"> A. Definition of geriatric patient B. Systematic review of physiologic changes C. Pre-Injury Assessment <ul style="list-style-type: none"> 1. Physiologic 2. Social 3. Environmental 4. Mental status
2. Describe the common causes of injury and prevention strategy in the geriatric trauma population.	<ul style="list-style-type: none"> A. Common mechanism of injury B. Prevention Strategies
3. Define the legal issues related to geriatric trauma patients.	<ul style="list-style-type: none"> A. Guardianship B. Consent C. Advanced directives

OBSTETRICAL CONSIDERATIONS	
Objectives	Content
1. Describe the normal physiologic changes of pregnancy and how the changes relate to clinical management of traumatic injury.	<ul style="list-style-type: none"> A. Anatomic and physiologic changes of pregnancy B. Mechanism of injury during pregnancy C. Assessment, diagnosis, and management D. Common complications

ABUSE	
Objectives	Content
1. Describe the patterns of injury that are suggestive of abuse.	A. Common injuries B. Patterns of injury
2. Identify screening and reporting responsibilities in abuse situations.	A. Substance abuse B. Child abuse 1. Types 2. Warning signs 3. Legal responsibilities
3. Identify the nurse's role in the assessment and reporting of suspected abuse and neglect.	C. Domestic abuse 1. Types 2. Warning signs 3. Legal responsibilities D. Geriatric abuse E. Social work role

CRISIS INTERVENTION	
Objectives	Content
1. Describe strategies of crisis intervention for the patient, family and caregiver.	A. Stages of coping B. Interventions C. Stress management techniques D. Critical Incident Stress Management (CISM) E. Post-Traumatic Stress Disorder

ETHICAL CONSIDERATIONS	
Objectives	Content
1. Describe a decision making process that may be used to address ethical issues.	A. Role of ethics committee B. Responsibility of caregivers C. End-of-life decisions

ORGAN PROCUREMENT	
Objectives	Content
1. Define the process of evaluation for organ and tissue donation.	<ul style="list-style-type: none"> A. Request law B. Brain death: institution-specific C. Non-heart beating donors D. Role of organ procurement organization

ESSENTIAL TRAUMA-SPECIFIC SKILLS
<ul style="list-style-type: none"> ▪ Pre-hospital packaging ▪ Spine immobilization ▪ Trauma nursing assessment using the ATLS® approach ▪ Documentation ▪ Unit specific skills including orientation and competency

SUGGESTED REFERENCE(S)
<p>Reference: Bayley, E.W. & Turcke, S.A. (Eds), 1998. <i>A Comprehensive Curriculum for Trauma Nursing, 2nd Edition.</i></p>