



Burn Trauma Intensive Care Unit (BTICU, PGY1 Pharmacy Practice Residency)

Preceptors (*primary): Ann Marie B. Prazak*, MS, PharmD, BCPS, BCCCP; Clinical Pharmacist

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Hours: 0700-1530

Pager: (801) 339-8082

Duration: 4 Weeks

Site and Rotation Description

Burn Trauma ICU (BTICU) is a tertiary referral center that receives burn patients from the Intermountain area (including Utah, Wyoming, Idaho, Colorado, Nevada, and Arizona). The BTICU is a unique experience in that these patients range in age from pediatric to geriatrics with medical acuity ranging from intensive care to rehabilitation. The unit consists of 15 ICU beds, a self-contained OR suite, and an outpatient clinic.

The majority of patients cared for in the BTICU have suffered some sort of thermal injury whether from flame, scald, electrical, or chemical source. In addition, the BTICU cares for other types of wound-related problems including Stevens-Johnson syndrome, toxic epidermal necrolysis, frostbite, necrotizing fasciitis, gangrene, and other skin disorders which require surgical management.

BTICU is truly an interdisciplinary team consisting of an attending physician, one resident, one intern, one advanced care practitioner, occasionally a medical student, nursing, pharmacy, nutrition, physical therapy, respiratory therapy, social work, and child life, who rounds daily on each patient.

The pharmacy resident is responsible for providing comprehensive patient care to all patients in the BTICU. The primary focus of this rotation is patient care and for the resident to become the primary pharmacy contact for the team. The resident is expected to attend daily medical rounds with the BTICU team.

Specific emphasis will be placed on infectious disease issues, altered pharmacokinetics of medication, and metabolic abnormalities that occur in burn patients. Other critical care issues that will be encountered will also be addressed depending on the resident's experiences prior to this rotation.

Location: S:\hscgroups\Rx Pharmacists\4 North Interventions\burn unit\ASHP Rotation Descriptions. Owner: Ann Marie B. Prazak. Last updated: 5/30/2018

Role of Pharmacist

The clinical pharmacist serves an integral role in the interdisciplinary team, through providing patient and provider education, aiding in medication selection and dose optimization, answering drug information questions and collaborating with other members of the team to resolve medication-related issues. The pharmacist is expected to complete medication reconciliation, participate in daily interdisciplinary rounds, and serve as the team's primary resource for medication-related information.

Resident Expectations

The activities assigned to this learning experience reflect the activities a pharmacist working in this environment are expected to be able perform. It is not expected that any particular resident be able to fully perform all of the necessary behaviors and actions of a pharmacist that regularly serves in this unit. It is expected that the resident demonstrate proactiveness and accountability in patient care. There is not usually one discrete activity assigned to help achieve an objective and/or goal.

Residents will be provided with a detailed list of objectives associated with each goal assigned to this rotation. Achievement of the goals of the residency is determined through assessment of your ability to perform the associated objectives. The table below demonstrates the relationship between the activities the resident will perform on the learning experience and the goals/objectives assigned to the learning experience.

Preceptor Interaction (daily)

Note times are provided as an example and may vary from day to day

0700-0900	Preceptor available while resident and preceptor work up patients
0900-1000	Pre-rounds with resident (assuming rounds start at 1000)
1000-1530	Daily rounds with resident and team (and preceptor until resident and preceptor comfortable with resident rounding independently)
1000-1530	Preceptor available for topic discussions, reviewing progress notes, patient updates, etc.

Communication

- a. Daily scheduled meeting times: Residents to prioritize questions and problems to discuss during scheduled meeting times as listed above (pre-rounds best time to maximize efficiency in implementing patient care during rounds).
- b. E-mail: Residents are expected to read e-mails at the beginning, middle, and end of each day at a minimum for ongoing communication. This is appropriate for routine, non-urgent questions, and problems; however, most communication is in person verbally since preceptors are always available and usually on the unit.
- c. Office extension: Appropriate for urgent questions pertaining to patient care.

- d. Pager: Residents will carry personal pager and be available to be contacted by preceptor. Preceptor will carry unit pager and be primary mode of contact if pharmacist is not on the unit.
- e. Personal phone number: Provided to resident at time of learning experience for issues that arise and the preceptor is not reachable by other means.

Expected progression of resident responsibility on this learning experience:

Length of time preceptor spends in each of the phases will be customized based upon resident's abilities and timing of the learning experience during the residency training year. IF the resident is in the second clinical ICU rotation, expectations are moved up 1 week for all clinical activities. Expectations for projects and presentations will be that they will need fewer edits and will have better accuracy and focus for the stated audience.

Day 1: Resident will arrive on-time, prepared, professional in word and dress, and focused on exceptional patient care. Preceptor will orient resident to the unit, health care professionals, and workflow. Preceptor will review learning activities and expectations with resident. Resident will describe to the preceptor prior experiences and baseline strengths, progress to date, areas of excellence and areas needing improvement, and three goals for the rotation.

Week 1: Resident will start by working up at least ½ of the BTICU patients and progress to work up all patients by the end of the week. Resident must present patients to preceptor daily and include recommendations for common issues for at least 50% of patients. Resident will use Pubmed and reputable sources to identify relevant literature and evaluate literature to provide at least 3 evidence-based recommendations. Preceptor will attend and participate in team rounds with resident, modeling pharmacist's role on the health care team. Resident will learn process for documenting pertinent pharmacist-related issues in electronic medical records. Resident will find and use medication management policies as pertinent to current patients. Resident will effectively interact with team so that they are asking questions of resident by name by end of week. Resident will review patient education with preceptor to ensure accuracy before providing information to patient. Resident will select an article for journal club to be presented the last week of rotation.

Week 2: Resident will work up all BTICU patients and bordering patients by the end of the week. Preceptor is still on the unit and available for questions. Preceptor will continue modeling behaviors. Daily patient discussions with preceptor will continue, and resident will include recommendations for common issues for at least 90% of patients, showing incorporation of learning from week 1. Preceptor is to attend team rounds with resident, but encourage and coach the resident to take on more responsibilities as the pharmacist on the team (preceptor sitting at a very short distance away with team able to see preceptor). Resident will write pertinent notes, and preceptor will provide feedback. The team should begin asking questions of the resident independent of the preceptor by the end of week 2. Resident will begin to provide evening pass-off to the swing pharmacist. Resident will independently provide patient education with coaching from the preceptor. Resident will show progress of a draft of handout for journal club to preceptor by end of week 2.

Weeks 3: Resident is expected to work up all patients prior to rounds and identify all common medication issues and some complex issues. Resident is expected to retain and build on knowledge and skill in developing an evidence-based practice. Resident will continue to discuss identified problems with preceptor daily. Resident will develop therapeutic plans for each patient each day. Resident will fully integrate into the team and round independently without team able to see preceptor (but possibly sitting somewhere to be able to listen and provide direct, specific feedback). Resident is expected to identify modifications in plans based on changing patient status, follow-up on changes discussed during rounds, monitor drug levels, and write pertinent, accurate notes. Resident will pass-off to the swing and weekend pharmacists. Resident will provide a final draft of the handout for journal club to be presented in week 4.

Week 4: Resident will continue to work up all patients, identifying all common issues and additional complex issues. Resident will discuss therapeutic plans with preceptor daily, including monitoring plans for safety and efficacy. Resident will round independently the last week and should function at the level of an independent clinician by the last day of rotation. Resident will continue evening and weekend pass-off. Resident will complete rotation evaluations in PharmAcademic by Wednesday of the last week of rotation. Resident will present journal club to preceptor and available members of BTICU team by the last day of rotation.

Disease States

Common disease states in which the resident may (depending on variable patient population) be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience including, but not limited to:

- Shock and related problems (cardiogenic, septic, hypovolemic/hemorrhagic)
- Renal disorders: AKI, acid-base imbalance, fluid and electrolyte disorders
- Endocrine disorders: hyperglycemia
- Psychiatric disorders: ICU psychosis, sleep disturbances, PTSD
- Infectious Diseases: pneumonia, wound infection; PK/PD
- Nutrition: Enteral, Parenteral, nutrition considerations
- Analgesia, sedation, delirium, NMBA's (RSI, ICU paralysis)
- VTE prophylaxis
- Stress-ulcer prophylaxis
- Bowel regimens
- Necrotizing Fasciitis
- Fournier's gangrene
- TENS/SJS
- Purpura Fulminans

- Vaccinations (tetanus/diphtheria, influenza, pneumococcal, pediatric considerations (i.e. catch up schedules)
- Burn related disorders
 - Basics of burn management
 - Fluid Resuscitation
 - PK/PD
 - Wound Care
 - Topical agents
 - Coverings/dressings
 - Inhalation injury
 - Hypermetabolic syndrome
 - Electrical burns
 - Chemical Burns
 - Frost Bite
 - Pediatric burns

Evaluation Strategy

Residents will be provided with verbal feedback on a frequent (at least every other day, possibly several times daily) basis. PharmAcademic will be used for documentation of scheduled evaluations. For all evaluations completed in PharmAcademic, the resident and the preceptor will independently complete the assigned evaluation and save as draft. The resident and the preceptor will then compare and discuss the evaluations. This discussion will provide feedback both on performance of the activities and the accuracy of the resident’s self-assessment skills. Evaluations will be signed in PharmAcademic following this discussion.

What type of evaluation	Who	When
Midpoint	Preceptor, Resident	End of Week 2
Summative	Preceptor	End of learning experience
Summative, Self-evaluation	Resident	End of learning experience
Preceptor, Learning Experience Evaluation	Resident	End of learning experience

Goals and Objectives

The goals selected to be taught and evaluated during this learning experience include:

- Goal R1.1 In collaboration with the health care team, provide safe and effective patient care to a diverse range of patients, including those with multiple co-morbidities, high-risk medication regimens, and multiple medications following a consistent patient care process.
- Goal R1.2 Ensure continuity of care during patient transitions between care settings (ICU-1)
- Goal R1.3 Prepare, dispense, and manage medications to support safe and effective drug therapy for patients (Acute-2/ICU-2)
- Goal R3.1 Demonstrate leadership skills
- Goal R3.2 Demonstrate management skills (Acute-2/ICU-2)
- Goal R4.1 Provide effective medication and practice-related education to patients, caregivers, health care professionals, students, and the public (individuals and groups) (Acute-2/ICU-2)

<p>R1.1.1 Interact effectively with health care teams to manage patients' medication therapy (ICU-1, Acute-2/ICU-2)</p>	<p>Direct Instruction Coaching Facilitating Modeling</p>	<p>ICU-1 and Acute/ICU-2: The resident will: 1. Actively participate in daily inpatient rounds; 2. Collaborate with BTICU team (i.e. physicians, advanced care practitioners, and nurses) and interact with patients to resolve medication-related issues; 3. Answer drug information questions from the BTICU staff; 4. Become the team's primary source of information for medication-related matters; 5. Document medication reconciliations and vaccine screenings and discuss pertinent findings with team; and 6. Provide a nursing in-service on a topic recommended by the BTICU nursing staff.</p> <p>Acute/ICU-2: In addition to the above, the resident will independently identify time-sensitive issues and communicate them to the team to resolve them prior to interdisciplinary rounds. The resident will communicate directly with the team in a concise manner, providing rationale as appropriate.</p>
<p>R1.1.3 Collect information on which to base safe and effective medication therapy (ICU-1, Acute-2/ICU-2)</p>	<p>Direct Instruction Coaching Facilitating Modeling</p>	<p>ICU-1 and Acute/ICU-2: Data collection includes labs, system-based organ assessment of all organ systems, drug levels, ventilator settings, nutrition care, antibiotic choice and duration, and all other current medications (analyzed for appropriate dosing based on organ function). The resident will collect pertinent data from the electronic medical record and document this data in the handoff tool. Data may initially be found in the transferring, outside facility documents in the patient's paper chart. The resident will also perform a bedside assessment of critically ill patients to obtain additional information. The resident will integrate pertinent patient data during daily pre- and post-rounds discussions with the preceptor and during interdisciplinary rounds with the team.</p> <p>The resident will review patient profiles multiple times daily to identify the presence of all appropriate therapies and absence of necessary therapies using data collected from electronic medical record (and if applicable, paper chart). Common problems the resident may be exposed</p>

		<p>to include medication with no indication; absence of medication necessary for acute or chronic disease state management; inappropriate prescription of medication; inappropriate dosing, dosage form, schedule, or route/method of administration; therapeutic duplication; medication prescribed to which patient is allergic; adverse drug reactions, etc. The resident will create a general problem list from evaluation of patient data and medication profile.</p> <p>Acute/ICU-2: In addition to the above, the resident will independently obtain records from transferring facilities. The resident will also perform a detailed chart review and patient (and family interviews, as appropriate) to identify information to be used in formulating a patient-specific care plan.</p>
R1.1.4 Analyze and assess information on which to base safe and effective medication therapy (ICU-1)	Direct Instruction Coaching Facilitating Modeling	<p>The resident will use current electronic medical record tools to aggregate data to design a therapeutic plan that summarizes the patient's health care needs. The resident will be exposed to a variety of disease states and relevant literature through topic discussions led by preceptors, independent topic research, journal clubs, and daily patient discussions. The resident will also lead discussions with preceptors on a variety of BTICU topics to demonstrate knowledge of literature that can be incorporated into evidence-based therapeutic goals and monitoring plans. Daily interdisciplinary rounds will expose the resident to discussions related to the social, ethical, and quality of life considerations for each patient when appropriate. In addition, the resident will present a formal journal club to the preceptors. Through synthesis of information obtained in these activities, the resident will identify specific evidence-based therapeutic goals for each patient.</p>
R1.1.5 Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans) (ICU-1)	Direct Instruction Coaching Facilitating Modeling	<p>Based on the identified evidence-based therapeutic goals, the resident will design a medication regimen for each patient using the information outlined in Obj. R1.1.3. The resident will re-evaluate the appropriateness of this regimen multiple times per day as the patients' clinical status changes, such as need for modification due to organ dysfunction. The resident will document therapeutic goals and medication regimens in the pharmacist handoff in the electronic medical record, and discuss appropriate monitoring with the BTICU team.</p> <p>The resident will communicate effectively with the team regarding any necessary modification to the therapeutic regimen or monitoring plan. The resident will re-design previous plans and regimens throughout the day. The resident will communicate pertinent items to the team and take responsibility for changing plans/regimens in a timely manner.</p>

<p>R1.1.6 Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions (ICU-1, Acute-2/ICU-2)</p>	<p>Direct Instruction Coaching Facilitating Modeling</p>	<p>ICU-1 and Acute-2/ICU-2: The resident will participate in interdisciplinary rounds daily. The resident will present and implement the regimens created from earlier review of the patient-specific data, evidence-based literature, and direct discussion with preceptor prior to rounds. The resident will become proficient in speaking with confidence and efficiency to the medical team. The resident is also expected to be an excellent listener and collaborate on patient-specific care plans and regimens. The resident will be a facilitator of patient care and be respectful and personable at all times. The resident should gain the confidence of their team over the course of the rotation through daily interaction. The resident will gain perspective of the various ways to solve patient-care issues based on interpretation of patient data, literature, and various experiences from members of the BTICU team. The resident will implement regimens and monitoring plans according to the organization's policies and procedures. After proper training and demonstrating competency, the resident will replace electrolytes per the BTICU pharmacist-driven electrolyte protocol. The resident will discuss with the team and ensure that appropriate labs are ordered for monitoring electrolytes with the BTICU pharmacist-driven electrolyte protocol. The resident will inform the team of the appropriate enoxaparin dose based on the BTICU regression equation (applies to patients with a burn injury only). The resident will also ensure anti-Xa monitoring for enoxaparin is performed according to the BTICU protocol.</p> <p>The resident will re-evaluate the patient's electronic medical record to assess degrees and trends of organ dysfunction and reassess the appropriateness of the medication regimen multiple times daily to determine any necessary changes in the therapeutic monitoring plan. The resident will communicate effectively with the team regarding any necessary modification of the regimen. The resident will re-design previous plans and regimens throughout the day. The resident will communicate pertinent items to the team and take responsibility for changing plans/regimens in a timely manner.</p>
<p>R1.1.8 Demonstrate responsibility to patients (ICU-1, Acute-2/ICU-2)</p>	<p>Coaching Facilitating Modeling</p>	<p>ICU-1 and Acute-2/ICU-2: During the medication reconciliation process and when questions arise, the resident will provide education to patients and caregivers on medication therapy, adverse effects, compliance, appropriate use, handling, and medication administration. Resident will ensure that all activities are completed with a focus of patient-centered care and collaborate with other members of the interdisciplinary team to achieve this goal. During normal BTICU rotation hours, the resident will participate in medical emergencies (Rapid response team (RRT) and C-arrest) with the preceptor.</p>

Goal R1.2 Ensure continuity of care during patient transitions between care settings		
R1.2.1 Manage transitions of care effectively (ICU-1)	Direct Instruction Coaching Facilitating Modeling	Resident will obtain information from patients, outside providers, healthcare facilities and pharmacies as appropriate when patients are transferred from other healthcare facilities Resident will communicate with pharmacists and providers from other services as appropriate if patient transitions between care teams Resident will ensure appropriate information is provided and communicated to care facilities, patients, and family members as appropriate upon discharge from the BTICU Resident will ensure essential information is documented in the electronic medical record prior to discharge in order to be available if needed for future admissions.
Goal R1.3 Prepare, dispense, and manage medications to support safe and effective drug therapy for patients		
R1.3.2 Manage aspects of the medication-use process related to formulary management (Acute-2/ICU-2)	Direct Instruction Coaching Facilitating Modeling	Resident will respond to drug information requests from the medical team in a timely manner. Resident will relay information to the medical team about inpatient formulary restrictions and process for obtaining restricted medications. Resident will inform the medical team of medication shortages and recommend alternative therapies when available. Resident will assist the team in determining whether high-risk or high-cost medications are necessary and recommend alternatives when appropriate. Resident will assist with identifying solutions for medication waste issues (if they arise).
Goal R3.1 Demonstrate leadership skills		
R3.1.1 Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership (ICU-1)	Coaching Facilitating Modeling	The resident will participate in daily interdisciplinary rounds to serve as the medication expert of the team. The resident is expected to collaborate with other members of the team with open and effective communication, and gain the team's confidence through professional and respectful interaction at all times.
R3.1.2 Apply a process of on-going self-evaluation and personal performance improvement (Acute-2/ICU-2)	Coaching Facilitating	Resident will complete self-assessments on a regular basis and apply feedback from preceptors to subsequent clinical activities. Resident will self-identify areas of weakness and knowledge deficits to allow for targeted education and ensure competence.

Goal R3.2 Demonstrate management skills		
R3.2.4 Manages one's own practice effectively (Acute-2/ICU-2)	Coaching Facilitating Modeling	By the final week of rotation, resident is expected to workup all patients and round independently with the BTICU team. Preceptor will be present on the unit for any questions or issues that arise, but the resident is expected to function as the primary pharmacist for the team.
Goal R4.1 Provide effective medication and practice-related education to patients, caregivers, health care professionals, students, and the public (individuals and groups)		
R4.1.1 Design effective educational activities (Acute-2/ICU-2)	Direct Instruction Coaching Facilitating Modeling	As discussed in R1.1.8, resident is expected to educate patients and caregivers as appropriate during the medication reconciliation process and throughout the duration of care as indicated. Resident will provide a nursing in-service on a topic recommended by the BTICU nursing staff as stated in R1.1.1
The resident <i>may</i> complete a small project while on rotation in the BTICU. The choice of project will depend on the interests of the resident and the needs of the BTICU.		