

**USC SCHOOL OF PHARMACY  
LAC+USC MEDICAL CENTER  
EMERGENCY MEDICINE / CRITICAL CARE PHARMACY RESIDENCY**

**GOALS AND OBJECTIVES and QUARTERLY SUMMATIVE EVALUATION**

Resident \_\_\_\_\_ Date Completed \_\_\_\_\_ Quarter 1 2 3 4

Time Period of Learning Experience \_\_\_\_\_ Service \_\_\_\_\_

*This form documents resident attainment of goal areas formally taught in the learning experience. Evaluation of goal mastery is based on preceptor judgment of resident performance on the associated terminal objectives listed below each goal.*

*There are two categories of evaluation. The first category is an evaluation of goals designated for formal evaluation. The second category is of goals selected to be formally taught in the learning experience, but not chosen for formal evaluation.*

*Preceptor will provide a narrative commentary for each goal in the first category of evaluation, which is based on current resident performance level and reflects the aggregate resident activity during the rotation. A check mark in the achieved column reflects goal mastery.*

Key: NI = Needs Improvement      SP = Satisfactory Progress      A= Achieved      NA = Not applicable

Goal/Obj.	Description	Narrative Commentary	NI	SP	A
<b>Practice Foundation Skills</b>					
<b>S1</b>	Take personal responsibility for attaining excellence in one's own ability to provide pharmaceutical care in emergency medicine and critical care patients.				
<b>OBJ S1.1</b>	•(Characterization) Display initiative in preventing, identifying, and resolving pharmacy-related patient-care problems.				
<b>OBJ S1.2</b>	•(Organization) Choose daily activities so that they reflect a priority on the delivery of pharmaceutical care.				
<b>OBJ S1.3</b>	•(Application) Choose daily activities so that they reflect the pursuit of expertise in the development of pharmaceutical care problem-solving skills.				
<b>S2</b>	Demonstrate ethical conduct in all activities related to pharmacy practice in emergency medicine and critical care.				

<b>S6</b>	Maintain active involvement in local, state, and national pharmacy organizations relating to emergency medicine and critical care.				
<b>OBJ S6.1</b>	•(Valuing) Demonstrate an awareness of the importance of membership in pharmacy organizations by being actively involved in local, state and national pharmacy association				
<b>S7</b>	Work harmoniously with others on interdisciplinary or multidisciplinary teams.				
<b>OBJ S7.1</b>	• (Synthesis) Contribute the emergency /critical care pharmacy perspective effectively when working on either an interdisciplinary or multidisciplinary team.				
<b>OBJ S7.1.2</b>	• (Comprehension) Explain the functions of each health care profession that might contribute to an interdisciplinary or multidisciplinary team caring for the emergency medicine / critically ill patient.				
<b>OBJ S7.1.3</b>	• (Comprehension) Explain how urgency impacts the communication patterns of teams caring for emergency medicine / critically ill patients.				
<b>OJB S7.1.4</b>	• (Comprehension) Explain situations in which the emergency medicine / critical care pharmacist may need to 'earn' credibility with the emergency medicine and/or critical care 'team'.				
<b>S8</b>	Use an organized system for staying current with pertinent literature In emergency medicine and critical care.				
<b>OBJ S8.1</b>	•(Synthesis) Formulate a system for staying current with pertinent literature				
<b>S9</b>	Communicate clearly when speaking or writing.				
<b>OBJ S9.1</b>	•(Application) Organize all written or oral communication in a logical manner.				
<b>OBJ S9.2</b>	•(Application) Address all communication at the level appropriate for the audience.				
<b>OBJ S9.3</b>	•(Application) Use correct grammar, punctuation, spelling, style, and formatting conventions in preparing all written communications.				
<b>OBJ S9.5</b>	•(Application) Use public speaking skills to speak effectively in large and small group situations.				
<b>OBJ S9.6</b>	•(Application) Use effective strategies for communicating with patients who are non-English speakers or who are impaired (e.g., blind, deaf, cognitively impaired, illiterate).				
<b>S10</b>	Maximize work efficiency through the use of computers				
<b>OBJ S10.1</b>	•(Application) Effectively use computers to increase efficiency in performing practice responsibilities.				
<b>S11</b>	Solve practice problems in emergency medicine and critical care efficiently.				
<b>OBJ S11.1</b>	•(Application) Demonstrate consistent use of a systematic approach to problem solving.				
<b>OBJ S11.2</b>	•(Application) Use consensus building-skills.				
<b>S13</b>	Display compassion for emergency medicine and critical care patients.				
<b>S18</b>	Design and execute investigations of pharmacy practice-related issues in emergency medicine and critical care.				
<b>OBJ S18.1</b>	•(Synthesis) Design investigations of pharmacy practice-related issues.				
<b>OBJ S18.2</b>	•(Application) Execute an investigation into a pharmacy practice-related issue that follows the established design.				
<b>S22</b>	Present oneself as an assertive member of the profession.				
<b>OBJ S22.1</b>	•(Organization) Present pharmacy concerns, solutions, and interests in an assertive manner.				
<b>S23</b>	Manage time effectively to fulfill practice responsibilities in emergency medicine and critical care.				
<b>OBJ S23.1</b>	•(Application) Effectively use time management skills to fulfill practice responsibilities.				

<b>Direct Patient Care</b>				
<b>Providing Quality Patient Care Using a Pharmacy Practice Methodology</b>				
<b>P1</b>	Conduct direct patient-care activities using a consistent approach that reflects the philosophy of pharmaceutical care and that is performed with the efficiency and depth of experience characteristic of an experienced pharmacist in emergency medicine and critical care.			
<b>OBJ P1.1</b>	•(Synthesis) Devise efficient strategies for one's own direct patient-care activities that maximize the delivery of appropriate pharmaceutical care to each patient within a limited time frame.			
<b>OBJ P1.2</b>	•(Synthesis) Formulate solutions to complex patient-care problems that maximize the achievement of pharmaceutical care.			
<b>P2</b>	Design, recommend, monitor, and evaluate patient-specific pharmacotherapy in emergency medicine and critical ill patients.			
<b>OBJ P2A</b>	•Build the information base needed to design a drug therapy regimen.			
<b>OBJ P2A.1</b>	•(Analysis) Collect and organize all patient-specific information needed by the emergency medicine and critical care pharmacist to prevent, detect, and resolve medication-related problems and to make appropriate pharmacotherapy recommendations.			
<b>OBJ P2A.1.1</b>	• (Comprehension) Identify the types of information the emergency medicine and critical care pharmacist requires to prevent, detect, and resolve medication-related problems and to make appropriate pharmacotherapy recommendations.			
<b>OBJ P2A.1.1.1</b>	•(Comprehension) Explain the importance of considering the function of multiple organ systems when collecting information on emergency medicine and critically ill patients.			
<b>OBJ P2A.1.2</b>	•(Comprehension) Explain signs and symptoms, epidemiology, risk factors, pathogenesis, natural history of disease, pathophysiology, clinical course, etiology, and treatment of diseases commonly encountered in the emergency medicine and critical care environment as listed in Appendix A.			
<b>OBJ P2A.1.3</b>	• (Comprehension) Explain the mechanism of action, pharmacokinetics, pharmacodynamics, pharmacoeconomics, usual regimen (dose, schedule, form, route, and method of administration), indications, contraindications, interactions, adverse reactions and therapeutics of medications used in the emergency medicine and critical care environment.			
<b>OBJ P2A.1.4</b>	•(Comprehension) Explain the meaning of the results of diagnostic tests and physiologic monitoring commonly performed in the emergency medicine and critical care environment.			
<b>OBJ P2A.2</b>	•(Analysis) Determine the presence of any of the following pharmacotherapy problems in a emergency medicine and critically ill patient's current medication therapy: 1. medications used with no medical indication 2. medical conditions for which there is no medication prescribed 3. medications prescribed inappropriately for a particular medical condition 4 incomplete immunization regimen (for patients at high-risk) 5. anything inappropriate in the current medication therapy or specialized nutrition support regimen (dose, dosage form, schedule, route of administration, method of administration) 6. presence of therapeutic duplication 7. prescription of medication to which the patient is allergic 8. presence or potential for adverse drug events			

	<p>9. presence or potential for clinically significant drug-drug, drug-disease, drug-nutrient, or drug-laboratory test interactions</p> <p>10. interference with medical therapy by social, recreational, OTC, or nontraditional drug use</p> <p>11. patient not receiving full benefit of prescribed medication therapy</p> <p>12. problems arising from financial impact of medication therapy on the patient</p> <p>13. patient lack of understanding of his/her medication therapy</p> <p>14. patient not adhering to medication regimen</p>				
<b>OBJ P2B</b>	•Design pharmacotherapeutic regimens.				
<b>OBJ P2B.1</b>	•(Analysis) Using an organized collection of patient-specific information, summarize an emergency medicine and critically ill patient's health care needs.				
<b>OBJ P2B.2</b>	•(Synthesis) Specify pharmacotherapeutic goals for an emergency medicine and critically ill patient that integrate patient-specific data, disease-specific and medication-specific information, and ethical and quality-of-life considerations.				
<b>OBJ P2B.3</b>	•(Synthesis) Design a pharmacotherapeutic regimen that meets the pharmacotherapeutic goals established for an emergency medicine and critically ill patient; integrates patient-specific disease and drug information, ethical issues and quality-of-life issues; and considers pharmacoeconomic principles.				
<b>OBJ P2C</b>	•Design monitoring plans for pharmacotherapeutic regimens.				
<b>OBJ P2C.1</b>	•(Synthesis) Design a monitoring plan for the pharmacotherapeutic regimen of an emergency medicine and critically ill patient that effectively evaluates achievement of the patient-specific pharmacotherapeutic goals.				
<b>OBJ P2D</b>	•Recommend pharmacotherapeutic regimens and corresponding monitoring plans.				
<b>OBJ P2D.1</b>	• (Application) Recommend a pharmacotherapeutic regimen and corresponding monitoring plan to prescribers and other health care providers in a way that is systematic, logical, and secures consensus from the prescriber and other health care providers.				
<b>OBJ P2E</b>	•Implement the pharmacotherapeutic regimen and/or corresponding monitoring plan.				
<b>OBJ P2E.1</b>	•(Application) When appropriate, write the orders for a pharmacotherapeutic regimen for an emergency medicine and critically ill patient according to the health system's policies and procedures.				
<b>OBJ P2E.2</b>	•(Application) When appropriate, write the orders for tests required for an emergency medicine and critically ill patient's monitoring plan according to the health system's policies and procedures.				
<b>OBJ P2F</b>	•Redesign pharmacotherapeutic regimens and corresponding monitoring plans based on evaluation of monitoring data.				
<b>OBJ P2F.1</b>	•(Analysis) Accurately interpret the meaning of each parameter measurement for an emergency medicine and critically ill patient.				
<b>OBJ P2F.2</b>	•(Synthesis) Modify an emergency medicine and critically ill patient's pharmacotherapeutic plan as necessary based on evaluation of monitoring data.				
<b>OBJ P2F.3</b>	•(Application) Collect outcome data based on the patient's response to therapy.				
<b>P4</b>	Provide medication-use education to patients and caregivers.				
<b>OBJ P4.2</b>	•(Application) Use effective patient education techniques to provide counseling to patients and				

	caregivers, including information on drug therapy, adverse effects, compliance, appropriate use, handling, and drug administration.				
<b>P5</b>	Ensure continuity of pharmaceutical care to and from the emergency department and intensive care unit settings.				
<b>OBJ P5.1</b>	•(Application) Use a systematic procedure to communicate pertinent pharmacotherapeutic information to and from the emergency department and intensive care unit settings.				
<b>P6</b>	Document pharmaceutical care activities appropriately.				
<b>OBJ P6.1</b>	•(Application) Appropriately select pharmaceutical care activities for documentation.				
<b>OBJ P6.2</b>	•(Application) Use effective communication practices when documenting a pharmaceutical care activity.				
<b>P8</b>	Participate in the health system's process for assessing, managing, and reporting medication errors.				
<b>OBJ P8.1</b>	•(Synthesis) Formulate a plan of care for patients who have experienced a significant medication error.				
<b>P9</b>	Participate in the management of medical emergencies.				
<b>OBJ P9.1</b>	•(Application) Exercise skill as a team member in the management of medical emergencies as exhibited by certification as a provider and instructor in American Heart Association (AHA) Advanced Cardiac Life Support (ACLS).				
<b>OBJ P9.2</b>	•(Application) Exercise skill as a team member in the management of medical emergencies as exhibited by practical knowledge and skill in medical emergencies listed in Appendix A.				
<b>P11</b>	Assume responsibility for the health system's ongoing adherence to its medication-use policies.				
<b>OBJ P11.1</b>	• (Application) Demonstrate leadership in ensuring the health system's adherence to its medication-use policies				
<b>Providing Drug Information and Medication Use Education</b>					
<b>I1</b>	Provide concise, applicable, and timely responses to requests for drug information from health care providers and patients.				
<b>I3</b>	Provide in-service education to physicians, nurses, and other healthcare practitioners.				
<b>OBJ I3.1</b>	•(Synthesis) Design effective in-service education for physicians, nurses, and other practitioners on drug therapy issues.				
<b>OBJ I3.2</b>	•(Application) Use effective educational techniques to deliver in-service education for physicians, nurses, and other practitioners on medication therapy issues.				
<b>Participating in Developing and Evaluating Medication Use Policies</b>					
<b>I4</b>	Participate in the health system's formulary process.				
<b>OBJ I4.1</b>	•(Synthesis) Prepare monographs for pharmacotherapeutic agents used in emergency medicine and critically ill patients to make formulary status recommendations.				
<b>OBJ I4.2</b>	• (Synthesis) Make recommendations for pharmacotherapeutic class decisions based on comparative reviews concerning the emergency medicine and critical care population.				
<b>OBJ I4.3</b>	• (Comprehension) Explain the heightened expectations of a specialist's presentation of formulary recommendations.				
<b>I5</b>	Participate in the medication-use evaluation (MUE) or Quality Assurance (QA) program in a health				

	system.				
<b>I6</b>	Understand the process for developing or revising policies for assessment, management, prevention, and reporting adverse drug reactions.				
<b>OBJ I6.1</b>	•(Comprehension) Explain factors to consider when developing or revising policies for assessing, managing, preventing, and reporting adverse drug reactions (ADRs).				
<b>Practice Management</b>					
<b>M3</b>	Understand documentation strategies that can be utilized to justify emergency medicine and critical care pharmacy services.				
<b>OBJ M3.1</b>	•(Comprehension) Explain documentation strategies that can be utilized to justify emergency medicine and critical care pharmacy services.				
<b>M4</b>	Develop a program to enhance emergency department (or critical care) pharmacy services, implement the program and monitor its progress.				
<b>OBJ M4.1</b>	•(Synthesis) Develop an effective proposal for a new emergency medicine pharmacy service				
<b>OBJ M4.2</b>	•(Synthesis) Formulate strategies that result in the effective implementation of a new emergency medicine pharmacy service				
<b>M6</b>	Evaluate and make appropriate modifications to existing drug distribution systems in emergency medicine and critical care environments.				
<b>OBJ M6.1</b>	•(Evaluation) Appraise the effectiveness of an existing drug distribution system in a particular emergency medicine and critical care environment.				
<b>OBJ M6.1.1</b>	•(Synthesis) Write a new or revise an existing departmental policy and/or procedure to rectify deficiencies in a particular emergency medicine and critical care drug distribution system.				
<b>M7</b>	Provide instruction to pharmacy technicians, pharmacy students, pharmacy residents, or pharmacists.				
<b>OBJ M7.2</b>	•(Application) Use effective educational techniques to deliver instruction to pharmacy technicians, pharmacy students, pharmacy residents or pharmacists.				
<b>M8</b>	Perform prospective and retrospective financial clinical outcomes analyses in emergency medicine patients to support formulary recommendations, therapeutic guideline development, or patient-specific decisions				
<b>OBJ M8.1</b>	•(Comprehension) Explain several methods used to monitor and evaluate the cost of therapy.				
<b>OBJ M8.2</b>	•(Evaluation) Contribute to a prospective financial/clinical outcomes analysis.				
<b>OBJ M8.3</b>	•(Evaluation) Contribute to a retrospective financial/clinical outcomes analysis.				

COMMENTS	NEEDS ATTENTION

**PLAN:**

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Program Director Signature

Resident's Signature

## Appendix A

Didactic discussions, reading assignments, case presentations, written assignments, and direct patient care experience will allow the resident to understand and appreciate the implications of medication therapy on the following areas of emphasis:

<b>A. Shock and related problems</b>	<b>E. Neurology</b>
1. Cardiogenic	1. Status epilepticus
2. Septic	2. Intracranial hypertension
3. Hypovolemic/hemorrhagic	3. Head trauma
4. Anaphylactic	4. Myasthenia gravis
5. Neurogenic (spinal)	5. Cerebrovascular accidents
6. Multiple system dysfunction syndrome (MODS)	6. Coma - metabolic, anoxic, traumatic, infectious
7. Management of heat stroke	7. Spinal cord injury
8. Management of hypothermia	8. Critical illness polyneuropathy
9. Metabolic response to shock/trauma and potential effects on drug kinetics	
	<b>F. Gastrointestinal</b>
<b>B. Pulmonary</b>	1. Stress ulceration
1. Adult respiratory distress syndrome	2. Bleeding varices
2. Acute ventilatory failure	3. Acute upper and lower GI bleeding
3. Aspiration pneumonia	4. Pancreatitis
4. Status asthmaticus	5. Fistulas
5. Pulmonary embolism	
6. Pneumothorax and hemothorax	<b>G. Hepatic</b>
7. Drug-induced lung disease	1. Liver failure
	2. Hepatorenal syndrome
<b>C. Cardiovascular</b>	3. Portal hypertension/portal systemic encephalopathy
	4. Hepatitis
1. Arrhythmias/dysrhythmias	
2. Cardiogenic pulmonary edema/congestive heart failure	<b>H. Dermatology</b>
3. Acute myocardial infarction	1. Burns
	2. Severe hypersensitivity reactions
4. Hypertensive emergencies, urgencies and uncontrolled hypertension	
5. Unstable angina	<b>I. Immunology</b>
6. Myocardial contusion	1. Acute, hyperacute, and chronic transplant rejection
7. Deep vein thrombosis	2. Graft-versus-host disease
	3. Auto-immune disease (e.g., lupus)
<b>D. Renal</b>	
1. Acute renal failure (e.g. acute, acute on chronic)	<b>J. Endocrine</b>
2. Chronic renal failure	1. Acute adrenal insufficiency
3. Acid-base imbalance	2. Diabetic ketoacidosis/Nonketotic coma
4. Fluid and electrolyte disorders	3. Thyroid storm/ICU hypothyroid states
5. Diabetes insipidus	4. Pheochromocytoma
6. Syndrome of inappropriate antidiuretic hormone (SIADH)	5. Hyperparathyroid-states
7. Rhabdomyolysis	6. Hypoglycemia



3. Acute upper and lower GI bleeding
4. Pancreatitis
5. Fistulas

#### **G. Hepatic**

1. Liver failure
2. Hepatorenal syndrome
3. Portal hypertension/portal systemic encephalopathy
4. Hepatitis

#### **H. Dermatology**

1. Burns
2. Severe hypersensitivity reactions

#### **I. Immunology**

1. Acute, hyperacute, and chronic transplant rejection
2. Graft-versus-host disease
3. Auto-immune disease (e.g., lupus)

#### **J. Endocrine**

1. Acute adrenal insufficiency
2. Diabetic ketoacidosis/Nonketotic coma
3. Thyroid storm/ICU hypothyroid states
4. Pheochromocytoma
5. Hyperparathyroid-states
6. Hypoglycemia

#### **K. Hematology**

1. Disseminated intravascular coagulopathy
2. Drug-induced blood dyscrasias
3. Sickle cell crisis

#### **L. Infectious Diseases**

1. Meningitis/Encephalitis
2. Nosocomial infection
3. Intraabdominal abscess
4. Infections in the immunocompromised host
5. Pneumonia/bronchitis
6. Endocarditis
7. Acquired immune deficiency syndrome
8. Sepsis
9. Systemic inflammatory response syndrome
10. Pyelonephritis
11. Wound infection

#### **M. Pediatrics/Neonatology (optional)**

1. Pediatric emergencies/neonatal resuscitation
2. Pediatric and neonatal infections
3. Congenital heart disease (cardiac defects)
4. Hemolytic-uremic syndrome
5. Extracorporeal membrane oxygenation (ECMO)

#### **N. Psychiatry**

1. ICU psychosis

2. Drug-induced psychosis
3. Neuroleptic malignant syndrome
4. Substance abuse /alcohol withdrawal syndromes
5. Agitation/anxiety

**O. Analgesia/Anesthesia**

1. Acute and chronic pain
2. Opioid tolerance, withdrawal, and addiction
3. Malignant hyperthermia
4. Paralyzation and sedation

**P. Toxicologic emergencies**

1. Approach to the poisoned patient
2. Assessment and management of commonly encountered overdoses
  - a. Medications
    - i. acetaminophen
    - ii. aspirin
    - iii. cocaine, PCP, heroine
    - iv. antidepressants and antipsychotics
    - v. cardiovascular medications (e.g.: CCB, BB, Dig, Clonidine)
  - b. Heavy metals
  - c. Cyanide, carbon monoxide
  - d. Reptile and marine envenomations
  - e. Plant toxicology
  - f. Others
3. Triage and decision making in the poisoned patient
4. Role of the poison center