**Educational Outcomes, Goals, and Objectives for Postgraduate Year Two
(PGY2) Pharmacy Residencies in Emergency Medicine**

Overview of PGY2 Pharmacy Residencies in Emergency Medicine

The PGY2 residency in emergency medicine pharmacy is designed to transition PGY1 residency graduates from generalist practice to specialized practice which meets the needs of patients in the emergency department setting. Upon completion of training, graduates are equipped to be fully integrated members of the interdisciplinary emergency medicine team, are able to prioritize responsibilities and utilization of resources, and are able to make complex medication recommendations in this fast-paced environment. Training focuses on developing residents' capability to deal with a wide range of diseases and disorders that occurs in patients in the emergency environment.

Graduates of the program are empowered to treat and appropriately triage the most complex chronic and acute illnesses presented by emergency department patients, including those with multiple disease states and serious complications. They also acquire the experience necessary to exercise leadership for emergency medicine pharmacy practice in the health-care system. Graduates of the emergency medicine pharmacy residency are experienced in teaching other health professionals and those in training to be health professionals.

Explanation of the Contents of This Document:

Each of the document's objectives has been classified according to educational taxonomy (cognitive, affective, or psychomotor) and level of learning. An explanation of the taxonomies is available elsewhere.[1]

The order in which the required educational outcomes are presented in this document does not suggest relative importance of the outcome, amount of time that should be devoted to teaching the outcome, or sequence for teaching.

The educational outcomes, goals, and objectives are divided into those that are required and those that are elective. The required outcomes, including all of the goals and objectives falling under them, must be included in the design of all programs. The elective outcomes are provided for those programs that wish to add to the required outcomes. Programs selecting an elective outcome are not required to include all of the goals and objectives falling under that outcome. In

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[1] Nimmo, CM. Developing training materials and programs: creating educational objectives and assessing their attainment. In: Nimmo CM, Guerrero R, Greene SA, Taylor JT, eds. Staff development for pharmacy practice. Bethesda, MD: ASHP; 2000.

addition to the potential elective outcomes contained in this document, programs are free to create their own elective outcomes with associated goals and objectives. Other sources of elective outcomes may include elective educational outcomes in the list provided for PGY1 pharmacy residencies and educational outcomes for training in other PGY2 areas. Each of the goals falling under the program's selection of program outcomes (required and elective) must be evaluated at least once during the resident's year.

Educational Outcomes (*Outcome*): Educational outcomes are statements of broad categories of the residency graduates' capabilities.

Educational Goals (Goal): Educational goals listed under each educational outcome are broad sweeping statements of abilities.

Educational Objectives (OBJ): Resident achievement of educational goals is determined by assessment of the resident's ability to perform the associated educational objectives below each educational goal.

Instructional Objectives *(IO)*: Instructional objectives are the result of a learning analysis of each of the educational objectives. They are offered as a resource for preceptors encountering difficulty in helping residents achieve a particular educational objective. The instructional objectives falling below the educational objectives suggest knowledge and skills required for successful performance of the educational objective that the resident may not possess upon entering the residency year. Instructional objectives are teaching tools only. They are not required in any way nor are they meant to be evaluated.

Outcome R1: Demonstrate leadership and practice management skills.
Goal R1.1:   Exhibit essential personal skills of a practice leader.
      OBJ R1.1.1:   (Characterization) Practice self-managed continuing professional development with the goal of improving the quality of one's own performance through self-assessment and personal change.
            IO   State the criteria for judging one's performance of tasks that are critical in one's own practice.
            IO   Explain the role of participation in pharmacy professional organization meetings in the ongoing development of expertise in the specialized area of pharmacy practice.
            IO   Explain the importance of staying current with pertinent literature.
      OBJ R1.1.2:   (Characterization) Demonstrate commitment to the professional practice of emergency medicine pharmacy through active participation in the activities of local, state, and/or national professional organizations concerned with the health care of patients.
            IO   Compare and contrast the variety of professional associations within emergency medicine practice and their relevance to emergency medicine pharmacy practice.
            IO   Explain the importance of contributing to the work of pharmacy professional organizations in advancing the visibility of the pharmacist's role in the pharmaceutical care of patients.
      OBJ R1.1.3:   (Synthesis) Devise an effective plan for balancing professional and personal life.
            IO   Explain the importance of balancing professional and personal life.
            IO   Explain potential negative consequences of failure to achieve balance in professional and personal life.
            IO   Explain various approaches advocated for achieving balance in one's life.
      OBJ R1.1.4:   (Characterization) Display integrity in professional relationships and actions.
            IO   Explain ethical dilemmas that may confront the pharmacy specialist.
            IO   Explain the system of ethical reasoning employed in arriving at a particular ethical decision.
            IO   Explain ethical principles embodied in the American Pharmacists Association Code of Ethics for Pharmacists.
            IO   Explain the implications of the Belmont Report[2] for ethical decision-making in pharmacy.
      OBJ R1.1.5:   (Application) Adhere to the requirements of the organization's policy in all interactions with the pharmaceutical industry.

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[2] The Belmont Report.: Ethical Principles for the Protection of Human Subjects of Research. Report from the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (resource on the World Wide Web). URL: http.//ohsr.od.nih.gov/guidelines/guidelines.html. Office of Human Subjects Research, National Institutes of Health. 1979 April 18,   Available from Internet. Accessed 2007April 2.

  IO *Explain the potential conflicts inherent in the objectives of one's health care organization and the objectives of a pharmaceutical industry representative.*

OBJ R1.1.6: (Synthesis) Initiate and maintain a systematic approach to documenting professional activities and accomplishments.

OBJ R1.1.7: (Evaluation) Appraise each job responsibility for its relative importance to overall job requirements and prioritize appropriately.

Goal R1.2: Assist the organization in achieving compliance with accreditation, legal, regulatory, and safety requirements related to the use of medications (e.g., Joint Commission requirements; ASHP standards, statements, and guidelines; state and federal laws regulating pharmacy practice; OSHA regulations).

OBJ R1.2.1: (Evaluation) Determine appropriate activities and documentation needed to meet accreditation, legal, regulatory, and safety requirements for pharmacy.

  IO *Explain the influence of accreditation, legal, regulatory, and safety requirements on clinical practice.*

Goal R1.3: Contribute to the management activities in the emergency department setting.

OBJ R1.3.1: (Application) Use effective negotiation skills to resolve conflicts.

OBJ R1.3.2: (Application) Use group participation skills when leading or working as a member of a committee or informal work group.

  IO *Explain how to create an agenda for a meeting.*

  IO *Explain methods for assuring participation by all members of a group.*

  IO *Explain methods for effective group leadership.*

OBJ R1.3.3: (Application) Participate in adherence to regulatory issues affecting emergency pharmacy services.

  IO *Discuss the regulatory agencies that put forth rules and regulations that affect emergency pharmacy operations and services.*

  IO *Explain the importance of continually reassessing adherence to said regulations.*

OBJ R1.3.4: (Application) Participate in budgetary planning for medications and pharmacy services utilized in the emergency department.

  IO *Explain how to review medication utilization reports to identify areas of potential misuse and cost savings.*

  IO *Explain how to review budgetary reports to identify potential areas of cost savings including medications with and without formulary restrictions.*

  IO *Discuss the impact of the pharmacy budget on the justification of emergency pharmacy services.*

  IO *Discuss the impact of the pharmacy budget on the ability to offer and expand emergency pharmacy services.*

OBJ R1.3.5: (Application) If applicable, demonstrate leadership skills when interacting with other emergency pharmacy personnel and related operations including short-term and long-term responsibilities.

  IO *Discuss the supervisory role of the emergency pharmacist including, but not limited to other pharmacy personnel (i.e. technicians), PGY-1 residents, and pharmacy students.*

  IO *Discuss the role of a supervisory emergency pharmacist in day-to-day operations.*

| | *IO* | *Discuss the role of a supervisory emergency pharmacist in dealing with other pharmacists.* |

OBJ R1.3.6: (Comprehension) Explain the emergency pharmacist's role in the development of plans for the management of mass casualty events at the organizational, local, state, and national levels.

Goal R1.4: Contribute the pharmacy specialist's perspective to an organization's technology and automation systems decisions.

OBJ R1.4.1: (Synthesis) If applicable, participate in the organization's design of its technology and automation systems used in patient care.

IO   Explain the pharmacy specialist's role in contributing to the design of technology systems (e.g., CPOE, PDAs, software, smart pumps) for the organization.

IO   Explain the pharmacy specialist's role in contributing to decisions regarding automation systems.

OBJ R1.4.2: (Synthesis) If applicable, participate in the organization's implementation of its technology and automation systems.

IO   Explain factors to consider when implementing technology and automation systems that affect the care of patients.

OBJ R1.4.3: (Synthesis) Participate in the organization's quality improvement of its technology and automation systems.

IO   Explain the importance of ongoing evaluation of the organization's technology and automation systems.

IO   Explain the pharmacy specialist's role in contributing to the quality improvement of technology systems for the organization.

IO   Explain the pharmacy specialist's role in contributing to the-quality improvement of the organization's automation systems.

Goal R1.5: Exercise practice leadership.

OBJ R1.5.1: (Characterization) Demonstrate a caring attitude to emergency patients' issues, patients, and their representative(s).

IO   Explain the impact of fear, anger, depression, loss, grief, and their opposites on the health professional's approach to patient care.

IO   Explain the impact of significant loss, dismemberment, and traumatic events on the health professional's approach to patient care.

IO   Discuss end of life issues and their implications that are relevant in caring for a critically ill or terminal patient.

IO   Explain the importance of the fact that seemingly unconscious patients may be aware or partially aware of their surroundings.

OBJ R1.5.2: (Characterization) Demonstrate a commitment to advocacy for the optimal care of patients through the assertive and persuasive presentation of patient care issues to members of the health care team, the patient, and/or the patient's representative(s).

OBJ R1.5.3: (Comprehension) Explain the nature of mentoring in pharmacy, its potential connection with achievement, and the importance of willingness to serve as a mentor.

OBJ R1.5.4: (Comprehension) Explain the general processes of establishing and maintaining an emergency medicine pharmacy residency program.
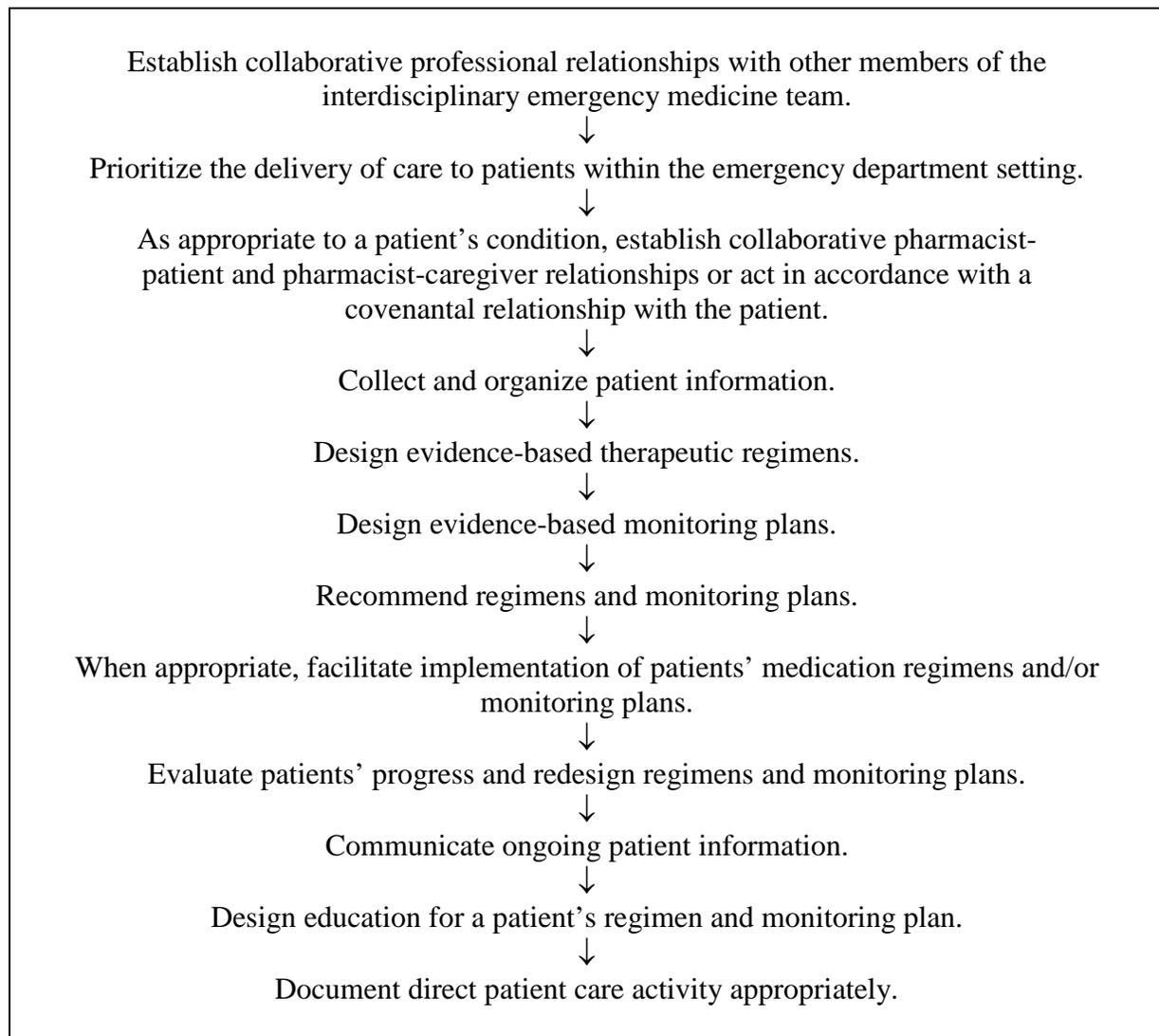
Goal R1.6:   Demonstrate ownership of and responsibility for the welfare of the patient by performing all necessary aspects of the medication-use system.
  OBJ R1.6.1:   (Characterization) Display initiative in preventing, identifying, and resolving pharmacy-related patient-care problems.
  OBJ R1.6.2:   (Application) If appropriate, manage the use and storage of medications.

Outcome R2: Optimize the outcomes of emergency medicine patients by providing evidence-based medication therapy as an integral part of an interdisciplinary team.
(When provided as part of the practice of direct patient care, this outcome always involves a series of integrated, interrelated steps.)

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Establish collaborative professional relationships with other members of the interdisciplinary emergency medicine team.
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Prioritize the delivery of care to patients within the emergency department setting.
↓
As appropriate to a patient's condition, establish collaborative pharmacist-patient and pharmacist-caregiver relationships or act in accordance with a covenantal relationship with the patient.
↓
Collect and organize patient information.
↓
Design evidence-based therapeutic regimens.
↓
Design evidence-based monitoring plans.
↓
Recommend regimens and monitoring plans.
↓
When appropriate, facilitate implementation of patients' medication regimens and/or monitoring plans.
↓
Evaluate patients' progress and redesign regimens and monitoring plans.
↓
Communicate ongoing patient information.
↓
Design education for a patient's regimen and monitoring plan.
↓
Document direct patient care activity appropriately.

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Goal R2.1:   Establish collaborative professional relationships with other members of the interdisciplinary emergency medicine team.

OBJ R2.1.1: (Synthesis) Implement a strategy that establishes cooperative, collaborative, communicative, and effective working relationships with other members of the interdisciplinary emergency medicine team.

- *IO*   *Explain the professional dynamics of the different services that contribute to care in the emergency department setting.*
- *IO*   *For each of the professions with which one interacts on an interdisciplinary team, explain the profession's view of its role and responsibilities in collaborations on patient-centered care and their expectations of the pharmacist's role in collaborations on patient-centered care.*
- *IO*   *Explain the interpersonal dynamics of each member of the emergency medicine team attending to a specific patient.*
- *IO*   *Explain how urgency affects the communication patterns of teams caring for patients in the emergency department setting.*
- *IO*   *Explain situations in which the emergency pharmacist may need to "earn" credibility with the emergency medicine team.*
- *IO*   *Explain the importance of participating in committees related to emergency medicine.*

Goal R2.2: Prioritize the delivery of care to patients within the emergency department setting.

OBJ R2.2.1: (Synthesis) If given limited time and multiple patient care responsibilities, devise a plan to triage patients on whom to focus.

- *IO*   *Explain factors to consider when determining priority for care among patients who are acutely ill.*
- *IO*   *Explain factors to consider when determining priority for care among patients who are critically ill.*
- *IO*   *Explain how the complexity or severity of patient problems may mandate urgency of care and reorganization of current priorities for care.*

OBJ R2.2.2: (Characterization) Demonstrate the ability to make safe and therapeutically sound decisions in intense situations and medical emergencies where time is at a minimum.

Goal R2.3: As appropriate to a patient's condition, establish collaborative pharmacist -patient and pharmacist-caregiver relationships or act in accordance with a covenantal relationship with the patient.

OBJ R2.3.1: (Synthesis) Formulate a strategy to guide care for a patient in the emergency department and interaction with the patient's family that reflects the acceptance of a covenant with the patient.

- *IO*   *Explain barriers to the formation of the traditional patient/pharmacist professional relationship in the emergency department setting.*
- *IO*   *Explain ways to interact with patients who cannot communicate verbally.*
- *IO*   *Explain the potential for patient awareness among those who seemingly are not conscious.*
- *IO*   *Explain the meaning of cultural competence.*
- *IO*   *Explain the role of cultural competence in achieving an effective health care partnership with patients in the emergency department setting when gathering information, achieving patient adherence, and improving health.*

> *IO   Explain how the strategy for establishing a health care partnership with a patient in an emergency department setting must change as the age category of the patient (i.e., adolescent, adult, geriatric) changes.*
> *IO   Explain the characteristics of the rapport that must be established between the pharmacist and patient in the emergency department setting.*
> *IO   Explain the importance of adjusting one's communication style according to the level of health literacy of the patient.*
> *IO   Explain common situations in the practice of emergency pharmacy which can produce a difficult communications encounter.*
> *IO   Explain effective communications strategies that could be used in a difficult encounter including the use of active listening.*
> *IO   Explain communication strategies that are appropriate for patients who are non-English speakers or who are impaired.*
> *IO   Explain ways in which communication strategy can be modified to accommodate the individual's personal characteristics.*

OBJ R2.3.2   (Synthesis) Implement a strategy that effectively establishes a patient-centered pharmacist-patient and pharmacist-caregiver relationship.

> *IO   Explain the importance of describing to the patient or caregiver the emergency pharmacist's role in his/her care.*
> *IO   Explain potential barriers to relationship development with individual patients (age, mental status, educational level, health literacy).*
> *IO   Explain the views of diverse cultures and religions on the conceptualization of illness, treatment, and of death and dying.*

Goal R2.4:   Collect and analyze pertinent patient information.

OBJ R2.4.1:   (Analysis) Collect and organize all patient-specific information needed to identify, prevent, and resolve medication-related problems in order to provide appropriate evidence-based recommendations across all levels of care within the emergency department setting. (See Appendix for medical problems.)

> *IO   Explain the importance of alternate methods of gathering information about a patient who is not able to communicate.*
> *IO   Explain the importance of assessing multiple organ system function when collecting patient information.*
> *IO   For a given patient population, disease state, and degree of acuity, identify the additional depth and breadth of information the pharmacy specialist requires in the patient information base versus the information base of a generalist.*
> *IO   When appropriate, measure patient vital signs and use appropriate physical assessment skills to build the patient information base.*

OBJ R2.4.2:   (Evaluation) Assess the information base created for an emergency department patient for adequacy to identify problems and design a therapeutic regimen.

> *IO   Explain circumstances in which there may not be sufficient information to make therapeutic recommendations for a patient in the emergency department setting.*
> *IO   Explain criteria for judging sufficiency of patient information for making therapeutic decisions.*

OBJ R2.4.3:　(Analysis) Determine the presence of any of the following problems in a patient's current medication therapy in the emergency department setting:

1. Medication used with no medical indication
2. Patient has acute or chronic (e.g., heart failure) medical conditions for which there is no medication prescribed
3. Medication prescribed inappropriately for a particular medical condition
4. Immunization regimen is incomplete
5. Current medication therapy or regimen contains something inappropriate (dose, dosage form, duration, schedule, route of administration, method of administration)
6. There is therapeutic duplication
7. Medication to which the patient is allergic has been prescribed
8. There are adverse drug or device-related events or potential for such events
9. There are clinically significant drug-drug, drug-disease, drug-nutrient, or drug-laboratory test interactions or potential for such interactions
10. Medical condition is complicated by social, recreational, nonprescription, or nontraditional (e.g., herbal) drug use by the patient
11. Patient not receiving full benefit of prescribed medication therapy (e.g., system error)
12. There are problems arising from the financial impact of medication therapy on the patient
13. Patient lacks understanding of medication therapy
14. Patient not adhering to medication regimen

IO:　Explain why the emergency pharmacist needs to anticipate therapeutic dilemmas and formulate appropriate alternatives.

OBJ R2.4.4:　(Analysis) Prioritize a patient's health care needs in the emergency department setting.

IO　Explain factors to consider when prioritizing the problems of emergency patients.

Goal R2.5:　Design evidence-based therapeutic regimens for patients across all levels of care within the emergency department setting.

OBJ R2.5.1:　(Synthesis) Specify therapeutic goals for a patient incorporating the principles of evidence-based medicine that integrate patient-specific data, disease and medication-specific information, ethics, and, when possible, quality-of-life considerations.

IO　Determine adequacy of available patient information for decision making.

IO　Explain ethical, cultural, and religious issues that may need consideration when setting pharmacotherapeutic goals for emergency patients.

IO　Explain the realistic limits of treatment(s) on outcomes for emergency patients.

IO　Explain how a critically ill/terminal patient's life expectancy or functional outcome might affect the setting of therapeutic goals.

IO　Explain epidemiology, risk factors, etiology, pathophysiology, signs and symptoms, clinical course, and treatment of diseases commonly encountered in the emergency department setting as listed in the appendix.

   IO *Explain the mechanism of action, pharmacoeconomics, pharmacogenomics, indications, contraindications, interactions, adverse reactions, and therapeutics of medications used in the emergency department setting.*

   IO *Explain how altered pharmacokinetics and pharmacodynamics need to be considered in developing dosing regimens for patients in the emergency department setting.*

   IO *Explain the meaning of the results of diagnostic tests and physiologic monitoring commonly performed in the emergency department setting.*

  OBJ R2.5.2: (Synthesis) Design a patient-centered regimen that meets the evidence-based therapeutic goals established for the patient within the emergency department setting; integrates patient-specific information, disease and drug information, ethical issues and, when possible, quality-of-life issues; and considers pharmacoeconomic principles.

   IO *Explain patient safety concerns that may arise when members of the interdisciplinary team caring for patients in the emergency department setting are required to make complex care decisions under tight time constraints.*

   IO *Explain difficulties in making evidence-based patient care decisions when there is limited or poor quality evidence available.*

   IO *Explain how to integrate efficacy, safety, and cost considerations in a regimen for an emergency patient.*

   IO *Explain limitations on routes of medication administration available for patients in the emergency department setting.*

   IO *Explain reasons for the likelihood that the patient's medication regimen in the emergency department setting could be significantly more complex than the regimens of patients in other areas of the health-system.*

   IO *Explain the difficulty of balancing multiple complex therapies in the medication regimen of a patient in the emergency department setting.*

   IO *Explain the confounding effect of the use of devices (e.g., mechanical ventilation, right heart catheter) on therapy decisions for patients in the emergency department setting.*

 Goal R2.6: Design evidence-based monitoring plans for patients across all levels of care within the emergency department setting.

  OBJ R2.6.1: (Synthesis) Design an evidenced-based monitoring plan for a patient's therapeutic regimen that effectively evaluates achievement of the patient-specific goals in the emergency department setting.

   IO *State monitoring parameters for pharmacotherapy regimens commonly prescribed for patients in the emergency department setting.*

   IO *Explain the relationship between the standard value ranges for parameters and the influence on those ranges by diseases encountered in the environment of the emergency department setting.*

   IO *Explain the limitations of physiological parameters derived from various monitoring devices used in the environment of the emergency department setting.*

    IO Explain issues of monitoring frequency in the design of care plans for patients in the emergency department setting.

Goal R2.7: Recommend regimens and monitoring plans for patients in the emergency department setting.

  OBJ R2.7.1: (Application) Recommend an evidence-based therapeutic regimen and corresponding monitoring plan in a way that is systematic, logical, accurate, timely, and secures consensus from the emergency medicine interdisciplinary team.

    IO Explain various approaches that can be used in different situations with different team constituents to secure consensus for a recommended regimen.

  OBJ R2.7.2: (Application) Discuss the proposed patient-centered, evidence-based therapeutic regimen and corresponding monitoring plan with the patient and/or caregiver in a way that is systematic, logical, accurate, timely, sensitive, and secures consensus from the patient and/or caregiver.

Goal R2.8: When appropriate, facilitate implementation of patients' medication regimens and/or monitoring plans in the emergency department setting.

  OBJ R2.8.1: (Application) When appropriate, order a therapeutic regimen for a patient in the emergency department setting according to the health system's procedures.

    IO Explain requirements for a situation in which it is appropriate for the pharmacist to initiate a medication-therapy regimen.

  OBJ R2.8.2: (Complex Overt Response) When appropriate, exercise skill in the administration or supervision of the administration of a patient's therapeutic regimen.

  OBJ R2.8.3: (Application) When necessary, contribute to the work of the team that secures access for drugs used in a patient's regimen.

    IO Explain patient assistance programs available for medications.

    IO Explain the pharmacy specialist's role (versus other interdisciplinary team members) in securing payer coverage or patient assistance.

    IO Explain circumstances in which it may be appropriate to redesign a patient's medication regimen in order to ensure that a patient will have financially viable access to the prescribed medications.

    IO Explain various approaches used to adjust medication regimens in order to facilitate patient access to medications.

    IO Explain organizational policies and procedures for securing compassionate use medications needed for an individual patient.

  OBJ R2.8.4: (Application) When necessary, use effective education techniques to provide information to caregivers, including information on the disease state, medication therapy, adverse effects, adherence , appropriate use, handling, storage, medication administration, and any other information pertinent to patient specific therapeutic interventions.

  OBJ R2.8.5: (Application) When appropriate, follow organizational procedures to implement (e.g., order tests) the monitoring plan.

Goal R2.9: Evaluate patients' progress and redesign regimens and monitoring plans for patients across all levels of care within the emergency department setting.

OBJ R2.9.1:   (Evaluation) Accurately assess the patient's progress toward the therapeutic goal(s).

IO   Explain the need to consider multiple organ system dysfunction when interpreting a group of individual parameter measurements.

IO   Explain the importance of the analysis of repeated measurements of emergency patients.

IO   Determine instances in the emergency department setting in which there is urgency in communicating the results of monitoring to the prescriber.

IO   Explain the types of medication errors and adverse drug events that might occur in the high pressure environment of the emergency department setting.

OBJ R2.9.2:   (Synthesis) Redesign an evidence-based therapeutic plan for patients across all levels of care within the emergency department setting as necessary based on evaluation of monitoring data and therapeutic outcomes.

OBJ R2.9.3:   (Application) Collect outcomes data based on the patient's response to therapy.

IO   Explain the impact of having outcomes data that demonstrates significant reductions in adverse drug events leading to cost savings when pharmacists participate on emergency medicine multidisciplinary teams.

IO   Explain the importance of follow-up on the impact of empiric recommendations made in the emergency department setting on patient outcomes across the continuum of care by following them peripherally after admission to the hospital and through discharge.

Goal R2.10:   Communicate ongoing patient information.

OBJ R2.10.1:   (Application) When given a patient who is transitioning out of the emergency department setting, communicate pertinent pharmacotherapeutic information to the receiving health care professionals.

Goal R2.11:   Design education for a patient's regimen and monitoring plan.

OBJ R2.11.1:   (Analysis) Accurately identify what education will be essential to the patient's or caregiver's understanding of the therapeutic regimen and monitoring plan; how to adhere to it; and the importance of adherence.

OBJ R2.11.2:   (Synthesis) Design an effective and efficient plan for meeting the educational needs of the patient, including information on medication therapy, adverse effects, adherence, appropriate use, handling, and medication administration.

Goal R2.12:   Document direct patient care activities appropriately.

OBJ R2.12.1:   (Analysis) Appropriately select direct patient-care activities for documentation.

IO   Explain the organization's policies and procedures for patient-care activities that must be documented.

OBJ R2.12.2:   (Application) Write timely and authoritative consults and notes according to the organization's policies and procedures.

IO   Explain the organization's policies and procedures for documenting direct patient-care activities.

IO   Explain the content and format of progress notes.

Outcome R3: Demonstrate excellence in the provision of training, including preceptorship, or educational activities for health care professionals and health care professionals in training.

Goal R3.1:   Provide effective education or training to health care professionals and health care professionals in training.

   OBJ R3.1.1:   (Synthesis) Use effective educational techniques in the design of an educational/training activity.

   IO   Identify emerging issues in pharmacotherapy suitable for interdisciplinary educational sessions.

   IO   Explain the differences in effective educational strategies and appropriate content when teaching colleagues, residents, students, and health professionals in other disciplines.

   IO   Explain the concept of learning styles and its influence on the design of instruction.

   IO   Write appropriately worded educational objectives.

   IO   Explain how different instructional delivery systems (e.g., demonstration, written materials, video) foster different types of learning.

   IO   Explain effective teaching approaches for the various types of learning (e.g., imparting information, teaching psychomotor skills, inculcation of new attitudes).

   OBJ R3.1.2:   (Synthesis) Design an assessment strategy that appropriately measures the specified objectives for education or training and fits the learning situation.

   IO   Explain appropriate assessment techniques for assessing the learning outcomes of educational or training programs.

   OBJ R3.1.3:   (Application) Use skill in the four preceptor roles employed in practice-based teaching (direct instruction, modeling, coaching, and facilitation).[3]

   IO   Explain the stages of learning that are associated with each of the preceptor roles.

   OBJ R3.1.4:   (Application) Use skill in case-based teaching.

   IO   Explain how to select or create a case that is suitable for teaching the goal concepts and decision-making skills.

   IO   Explain the importance of identifying the key teaching points for a case before attempting to construct it.

   IO   Explain factors to consider when deciding the patient data to present in a case.

   OBJ R3.1.5:   (Application) Use public speaking skills to speak effectively to a large group.

   IO   Explain techniques that can be used to enhance audience interest.

   IO   Explain techniques that can be used to enhance audience understanding of one's topic.

   IO   Explain speaker habits that distract the audience.

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[3]   Nimmo, CM. Developing training materials and programs: creating educational objectives and assessing their attainment. In: Nimmo CM, Guerrero R, Greene SA, Taylor JT, eds. Staff development for pharmacy practice. Bethesda, MD: ASHP; 2000.

Outcome R4: Demonstrate the skills necessary to conduct an emergency medicine pharmacy research project.

Goal R4.1:   Conduct a research project as related to emergency medicine using effective project management skills.

    OBJ R4.1.1:   (Analysis) Identify a topic of significance for an emergency medicine pharmacy research project.

        IO   Explain the types of resident projects (e.g., prospective, retrospective, clinical trials) that will meet residency program project requirements and timeframe.

        IO   Explain how one determines if a potential project topic is of significance in one's particular practice setting.

        IO   Explain how to conduct an efficient and effective literature search for a project.

        IO   Explain how to generate a research question(s) to be answered by an investigation.

    OBJ R4.1.2:   (Synthesis) Formulate a feasible design for an emergency medicine pharmacy research project.

        IO   Explain the elements of a project proposal.

        IO   Explain how to identify those individuals who will be affected by the conduct of the project and strategies for gaining their cooperation.

        IO   Explain how to determine a timeline with suitable milestones that will result in project completion by an agreed upon date.

        IO   Explain the ethics of research on human subjects and the role of the Institutional Review Board (IRB).

        IO   Explain various methods for constructing data collection tools.

    OBJ R4.1.3:   (Application) Secure any necessary approvals, including IRB and funding, for one's design of a project.

        IO   Explain how to identify those key stakeholders who must approve a particular project.

        IO   Explain the components that make up a budget for a project.

        IO   Explain the role of the organization's IRB in the approval process.

    OBJ R4.1.4:   (Synthesis) Implement an emergency medicine pharmacy research project as specified in its design.

        IO   Explain strategies for keeping one's work on a project at a pace that matches with the projected timeline.

        IO   When given a particular approved residency project, explain methods for organizing and maintaining project materials and documentation of the project's ongoing implementation.

        IO   Explain methods for data analysis.

    OBJ R4.1.5:   (Synthesis) Effectively present the results of an emergency medicine pharmacy research project.

    OBJ R4.1.6:   (Synthesis) Successfully employ accepted manuscript style to prepare a final report of an emergency medicine pharmacy research project.

        IO   When given a particular residency project ready for presentation, explain the type of manuscript style appropriate to the project and criteria to be met when using that style.

OBJ R4.1.7:   (Evaluation) Accurately assess the impact, including sustainability if applicable, of the residency project.

Outcome R5: Develop an evidence-based approach when providing emergency medicine medication-related information.

Goal R5.1:   Provide concise, applicable, comprehensive, and timely responses to formalized requests for drug information pertaining to emergency medicine from patients, health care providers, and the public.

OBJ R5.1.1:   (Analysis) Discriminate between the requesters' statement of need and the actual drug information need by asking for appropriate additional information.
IO   Explain the characteristics of a clearly stated clinical question.

OBJ R5.1.2:   (Synthesis) Formulate a systematic, efficient, and thorough procedure for retrieving drug information.
IO   Explain the strengths and weaknesses of manual and electronic methods of retrieving biomedical literature.
IO   State sources of evidence-based meta-analysis reviews.
IO   Compare the characteristics of each of the available resources for biomedical literature.

OBJ R5.1.3:   (Analysis) Determine from all retrieved biomedical literature the appropriate information to evaluate.

OBJ R5.1.4:   (Evaluation) Evaluate the usefulness of biomedical literature gathered.
IO   Assess the potential for bias of the author or preparer of all forms of drug information.
IO   Determine whether a study's methodology is adequate to support its conclusions.
IO   Determine whether the endpoint established for a study is appropriate.
IO   Explain methods used to test study end point (e.g., pulmonary function studies).
IO   Explain the effects of various methods of patient selection (e.g., volunteers, patients, or patients with different disease severity) on study outcomes.
IO   Explain the effects of various methods of blinding (e.g., double-blind, single-blind, open-research designs) on study outcomes.
IO   Explain the effects of various methods of drug assay and quality assurance procedures (e.g., high performance liquid chromatography, assay coefficient of variations) on study outcomes.
IO   Explain the types of pharmacotherapy studies (e.g., kinetic, economic, dynamic) and the kind(s) of data analysis appropriate for each.
IO   Explain how the choice of statistical methods used for data analysis (e.g., t test, analysis of variance) affects the interpretation of study results and conclusions.
IO   Determine if a study's findings are clinically significant.
IO   Explain the strengths and limitations of different study designs.

OBJ R5.1.5:   (Evaluation) Determine whether a study's conclusions are supported by the study results.

    IO *Explain how data from a study can be applied to expanded patient populations.*

OBJ R5.1.6: (Synthesis) Formulate responses to drug information requests based on analysis of the literature.

OBJ R5.1.7: (Synthesis) Provide appropriate responses to drug information questions that require the pharmacist to draw upon his or her knowledge base.

OBJ R5.1.8: (Evaluation) Assess the effectiveness of drug information recommendations.

    IO *Explain all factors that must be assessed to determine the effectiveness of a response.*

Goal R5.2: Develop a core library of references appropriate for emergency medicine pharmacy practice.

OBJ R5.2.1: (Application) Use a knowledge of standard emergency medicine related resources to develop and maintain a core library of primary, secondary, and tertiary references appropriate for emergency medicine pharmacy practice, education, and research

Outcome R6: Participate in the management of medical emergencies.

Goal R6.1: Participate in the management of medical emergencies.

OBJ R6.1.1: (Application) Exercise skill as a team member in the management of medical emergencies as exhibited by certification in Advanced Cardiac Life Support, Pediatric Advanced Life Support, Advanced Trauma Life Support, Advanced Burn Life Support, or Advanced HazMat Life Support.

    IO *Explain the essential role of the emergency pharmacist in the setting of a medical emergency.*

    IO *Explain the potential for medication errors in the setting of a medical emergency.*

    IO *Explain the essential role of the emergency pharmacist when using high-risk medications or when performing high-risk procedures.*

    IO *Explain patient safety concerns that may arise when members of the interdisciplinary team caring for patients in the emergency department setting are required to make complex care decisions under tight time constraints.*

OBJ R6.1.2: (Synthesis) Exercise skill as a team member in the management of a medical emergency according to the organization's policies and procedures.

    IO *Explain appropriate medication therapy in medical emergency situations.*

    IO *Explain unique considerations when preparing and dispensing medications and calculating doses during a medical emergency.*

OBJ R6.1.3: (Complex Overt Response) When administration is allowed by the organization, exercise skill in the administration of emergency medications.

Outcome E1: Perform quality improvement activities aimed at enhancing the safety and effectiveness of medication-use processes in the emergency department setting.

Goal E1.1:   Identify opportunities for improvement of aspects of the medication-use process in the emergency department setting.

    OBJ E1.1.1:   (Comprehension) Explain the medication-use processes and patients' vulnerability to medication errors and/or adverse drug events (ADEs) in the emergency department setting.

    OBJ E1.1.2:   (Analysis) Analyze the structure and process and measure outcomes of the medication-use processes in the emergency department setting.

    OBJ E1.1.3:   (Evaluation) Identify potential opportunities for improvement in the medication-use processes in the emergency department setting by comparing the medication-use system to relevant best practices.

    OBJ E1.1.4:   (Synthesis) Formulate effective strategies for communicating formulary restrictions to emergency medicine providers.
-       *IO   Explain types of communication to disseminate formulary information.*
-       *IO   Identify instances when formulary changes should be communicated immediately.*

    OBJ E1.1.5:   (Evaluation) When presented with a drug shortage, identify appropriate alternative medications.
-       *IO   State resources for identifying medications in short supply.*
-       *IO   Explain the organization's system for communicating information regarding drug shortages.*
-       *IO   Explain a strategy for making optimal choices for alternative medications.*

    OBJ E1.1.6:   (Evaluation) When the needs of a particular patient warrant, determine if a non-formulary medication should be considered for therapy.
-       *IO   Identify the appropriate literature that supports the use of a non-formulary medication in a clinical situation.*
-       *IO   Explain the organization's system for approving, obtaining, and handling non-formulary medication used by patients.*

    OBJ E1.1.7:   (Synthesis) Contribute to the work of an organizational committee or work group concerned with the improvement of medication-use policies and procedures.

    OBJ E1.1.8:   (Application) Participate in the organization's system for reporting medication errors and adverse drug events (ADEs).

Goal E1.2:   Design and implement quality improvement changes to the medication-use processes in the emergency department setting.

    OBJ E1.2.1:   (Synthesis) Lead the identification of need for, development of, implementation of, and evaluation of an evidence-based treatment guideline/protocol related to individual and/or population-based care of patients within the emergency department setting.

    OBJ E1.2.2:   (Synthesis) Design and implement pilot interventions to change problematic or potentially problematic aspects of the medication-use processes with the objective of improving quality in the emergency department setting.

Goal E1.3:   Interpret emergency department patient medication orders.
    OBJ E1.3.1:   (Evaluation) Assess the appropriateness of the needs of an emergency patient's medication order following existing standards of practice and the organization's policies and procedures.
    OBJ E1.3.2:   (Synthesis) Make recommendations for the needs of an emergency patient's medication requirements following existing standards of practice and the organization's policies and procedures.

Goal E1.4:   Participate in the health system's formulary process for pharmacotherapeutic agents used in the emergency department setting.
    OBJ E1.4.1:   (Synthesis) Prepare monographs for pharmacotherapeutic agents used in the emergency department setting to make formulary status recommendations.
    OBJ E1.4.2:   (Synthesis) Make recommendations for pharmacotherapeutic class decisions based on comparative reviews concerning the patient populations within the emergency department setting.
    OBJ E1.4.3:   (Comprehension) Explain the heightened expectations of a specialist's presentation of formulary recommendations.

Goal E1.5:   Design and implement quality improvement changes to the organization's medication-use system.
    OBJ E1.5.1:   (Comprehension) Explain the process for developing, implementing, and maintaining a formulary system.
       IO   *Identify the components of a formulary system.*
       IO   *Explain the approval process for establishing a formulary.*
       IO   *Explain the role of committees in addressing formulary issues.*
       IO   *Explain how formularies are revised and maintained.*
       IO   *Explain procedures regarding exceptions to the formulary.*
       IO   *Explain the process of making additions and deletions to the formulary including those resulting from drug shortages.*
       IO   *Explain how to customize an existing drug monograph for use at your site (e.g, the FIX)*
       IO   *Explain effective methods of communicating changes to the formulary including those resulting from drug shortages.*
    OBJ E1.5.2:   (Evaluation) Make a medication-use policy recommendation based on a comparative review (e.g., drug class review, drug monograph).
       IO   *State the elements of a comparative review.*
       IO   *State sources to consult in the preparation of a comparative review.*
       IO   *Explain the importance of including consideration of medication-use safety in the preparation of a comparative review.*
    OBJ E1.5.3:   (Synthesis) Participate in the identification of need for, development of, implementation of, and evaluation of an evidence-based treatment guideline/protocol related to individual and population-based patient care.
       IO   *Define treatment guidelines and protocols.*
       IO   *Explain the indications/rationale for using guidelines and protocols.*
       IO   *Explain guidelines/protocols as they relate to: patient care activities; provider networks; provider incentives; cost and reimbursement controls; utilization management; quality measurement; consumer incentives; accreditation; and benefit analysis (if applicable).*

    IO Explain the use of evidence-based medicine in the development of treatment guidelines/protocols.
    IO Explain the process by which criteria for treatment guidelines/protocols are developed.
    IO Explain effective strategies for gaining necessary commitment and approval for use of a treatment guideline/protocol.
    IO Explain the importance of providing outcome information to the prescriber/provider as support for evaluative decisions on program continuance or revision.
    IO Explain methods for assessing the effectiveness/impact of guidelines and protocols.
    IO Explain the importance of assessing the clinical, economic and humanistic outcomes of treatment guidelines/protocols related to patient care.
  OBJ E1.5.4: (Synthesis) Design and implement pilot interventions to change problematic or potentially problematic aspects of the medication-use system with the objective of improving quality.
    IO Explain the importance of continually reassessing medication-use policies.
    IO Exercise skill in the revision of a policy or procedure when necessitated by the implementation of a change in a medication-use process.
Goal E1.6: Manage the operation of an emergency department pharmacy service.
  OBJ E1.6.1.: (Application) Maintain the medication distribution system within the emergency department setting.
    IO Maintain the established system for securing service supplies (e.g., patient education materials, clinic supplies).

Outcome E2: Demonstrate additional leadership and practice management skills.
Goal E2.1: Exhibit additional personal skills of a practice leader.
  OBJ E2.1.1: (Complex Overt Response) Speak clearly and distinctly in grammatically correct English or the alternate primary language of the practice site.
  OBJ E2.1.2: (Application) Use listening skills effectively in performing job functions.
    IO Explain the use of body language in listening to others.
    IO Explain verbal techniques to enhance listening to others.
  OBJ E2.1.3: (Application) Use correct grammar, punctuation, spelling, style, and formatting conventions in preparing all written communications.
  OBJ E2.1.4: (Analysis) When communicating, use an understanding of effectiveness, efficiency, customary practice and the recipient's preferences to determine the appropriate method of communication, medium and organizational style.
    IO Accurately identify the primary theme or purpose of one's written or oral communication.
    IO Accurately determine what information will provide credible background to support or justify the primary theme of one's written or oral communication.
    IO Properly sequence ideas in written and oral communication.
    IO Accurately determine the depth of communication appropriate to one's audience.

IO   *Accurately determine words and terms that are appropriate to one's audience.*

IO   *Accurately determine one's audience's needs.*

IO   *Accurately identify the length of communication that is appropriate to the situation.*

IO   *Explain the importance of assessing the listener's understanding of the message conveyed.*

IO   *Explain how to assess the level of health literacy of a patient.*

IO   *State sources of patient information that are adjusted for various levels of health literacy.*

IO   *Explain techniques for persuasive communications.*

IO   *Explain guidelines for the preparation of statements to be distributed to the media.*

Goal E2.2:   Contribute to the emergency medicine practice area's leadership and management activities.

OBJ E2.2.1:   (Synthesis) Develop an effective proposal for a new emergency pharmacy service.

IO   *Discuss clinical, humanistic, and economic outcome strategies that can be utilized to justify emergency pharmacist services.*

IO   *Explain issues underlying the need to document outcomes of emergency pharmacist services.*

IO   *Explain documentation strategies that can be utilized to justify emergency pharmacy services.*

OBJ E2.2.2:   (Synthesis) If applicable, formulate strategies that result in the effective implementation of a new emergency pharmacy service.

Outcome E3: Demonstrate skills required to function in an academic setting.

Goal E3.1:   Understand faculty roles and responsibilities.

OBJ E3.1.1:   (Comprehension) Explain variations in the expectations of different colleges/schools of pharmacy for teaching, practice, research, and service.

IO   *Discuss how the different missions of public versus private colleges/schools of pharmacy can impact the role of faculty members.*

IO   *Discuss maintaining a balance between teaching, practice, research and service.*

IO   *Discuss the relationships between scholarly activity and teaching, practice, research and service.*

OBJ E3.1.2:   (Analysis) Explain the role and influence of faculty in the academic environment.

IO   *Explain the responsibilities of faculty in governance structure (e.g. the faculty senate, committee service).*

IO   *Describe the responsibilities of faculty (e.g. curriculum development and committee service) related to teaching, practice, research, and service roles.*

OBJ E3.1.3:   (Comprehension) Describe the academic environment.

IO   *Describe how the decisions by university and college administration impact the faculty.*

| | IO | Discuss outside forces (e.g. change in the profession, funding source, accreditation requirements) that impact administrator and faculty roles. |

       OBJ E3.1.4:   (Comprehension) Describe the types and ranks of faculty appointments.

> *IO*   *Explain the various types of appointments (e.g. non-tenure, tenure-track, and tenured faculty).*
>
> *IO*   *Differentiate among the various ranks of faculty (e.g. instructor, assistant professor, associate professor, full professor).*
>
> *IO*   *Discuss the role and implications of part-time and adjunct faculty as schools continue to expand and faculty shortages occur.*

       OBJ E3.1.5:   (Comprehension) Discuss the promotion and tenure process for each type of appointment.

> *IO*   *Identify the types of activities that are considered in the promotion process.*
>
> *IO*   *Identify the types of activities that are considered for tenure.*

       OBJ E3.1.6:   (Application) Identify resources available to help develop academic skills.

> *IO*   *Explain the role of academic-related professional organizations (e.g. AACP) in faculty professional development.*
>
> *IO*   *Identify resources to help develop teaching skills and a teaching philosophy.*

       OBJ E3.1.7:   (Comprehension) Explain the characteristics of a typical affiliation agreement between a college of pharmacy and a practice site (e.g., health system, hospital, clinic, retail pharmacy).

> *IO*   *Explain how the political environments of either a college or a practice site may affect the other.*

Goal E3.2:   Exercise teaching skills essential to pharmacy faculty.

       OBJ E3.2.1:   (Synthesis) Develop an instructional design for a class session, module, or course.

> *IO*   *Create a teaching philosophy statement.*
>
> *IO*   *Construct a student-centered syllabus.*
>
> *IO*   *Construct educational objectives for a class session, module, or course that is appropriate to the audience.*
>
> *IO*   *Identify appropriate instructional strategies for the class session, module, or course to achieve the objectives.*
>
> *IO*   *Consider assessment tools that measure student achievement of the educational objectives.*

       OBJ E3.2.2:   (Synthesis) Prepare and deliver didactic instruction on a topic relevant to the specialized area of pharmacy residency training.

> *IO*   *Identify educational technology that could be used for a class session, module, or course (e.g., streaming media, course management software, audience response systems).*
>
> *IO*   *Create instructional materials appropriate for the topic and audience.*
>
> *IO*   *Identify strategies to effectively teach learners with a variety of learning styles and needs.*
>
> *IO*   *Given feedback from teaching evaluations (e.g. student and or peer), devise a plan to incorporate improvements in future instruction.*

OBJ E3.2.3:   (Application) Develop and deliver cases for workshops and exercises for laboratory experiences.
IO   Identify the appropriate level of case-based teachings for small group instruction.
IO   Identify appropriate exercises for laboratory experiences.
IO   Provide appropriate and timely feedback to improve performance.
OBJ E3.2.4:   (Application) Serve as a preceptor or co-preceptor utilizing the four roles employed in practice-based teaching (direct instruction, modeling, coaching and facilitation).
IO   Assess the learner's skill level to determine the appropriate preceptor strategy for providing practice-based teaching.
IO   Given performance-based criteria, identify ways to provide constructive feedback to learners.
IO   Develop strategies to promote professional behavior.
IO   Identify strategies to effectively teach learners with a variety of learning styles and needs in the practice setting.
IO   Given a diverse learner population, identify strategies to interact with all groups with equity and respect.
OBJ E3.2.5:   (Analysis) Develop a teaching experience for a practice setting (e.g., introductory or advanced pharmacy experience).
IO   Create educational goals and objectives to be achieved.
IO   Develop activities that will allow achievement of identified educational goals and objectives.
IO   Identify how and when feedback should be provided.
IO   Identify other preceptors for the experience, if appropriate.
IO   Determine training that might be needed for the preceptors to deliver student education.
IO   Identify potential challenges of precepting and providing patient care services simultaneously.
OBJ E3.2.6:   (Synthesis) Design an assessment strategy that appropriately measures the specified educational objectives for the class session, module, course, or rotation.
IO   Explain the meaning of formative and summative evaluation.
IO   Identify appropriate techniques for assessing learning outcomes in various educational settings [e.g., written examinations, oral examinations, practical examinations, Objective Structured Clinical Examination (OSCE)].
IO   Develop examination questions to assess the knowledge, skills, attitudes and behaviors that are appropriate to the learner's level and topic.
IO   Discuss the various methods for administering examination questions (e.g., computerized testing, paper testing).
IO   Explain programmatic and curricular assessment.
OBJ E3.2.7:   (Synthesis) Create a teaching portfolio.
IO   Define the concept of a teaching portfolio and describe its primary purpose
IO   Outline the steps in building a teaching portfolio.

   IO *Develop a personal teaching philosophy to guide one's teaching efforts and facilitate student learning.*

OBJ E3.2.8: (Evaluation) Compare and contrast methods to prevent and respond to academic and profession dishonesty.

   IO *Evaluate physical and attitudinal methods to prevent academic dishonesty.*
   IO *Discuss methods of responding to incidents of academic dishonesty.*
   IO *Discuss the role of academic honor committees in cases of academic dishonesty.*
   IO *Identify examples and methods to address unprofessional behavior in learners.*

OBJ E3.2.9: (Comprehension) Explain the relevance of copyright laws to developing teaching materials.

   IO *Discuss copyright regulations as related to reproducing materials for teaching purposes.*
   IO *Discuss copyright regulations as related to linking and citing on-line materials.*

Outcome E4: Demonstrate understanding of the role of the emergency pharmacist in management of toxicology patients.

Goal E4.1: Describe the role of the poison center or medical toxicologist in the care of the toxicology patient.

OBJ E4.1.1: (Comprehension) Explain the collaboration between the medical toxicologist, poison center and emergency department.

   IO *Explain the role of poison centers in the care of toxicology patients.*
   IO *Explain the role of the medical toxicologist in the care of toxicology patients.*
   IO *Explain specific situations in which the emergency pharmacist / poison center education may optimize patient care.*
   IO *Explain the pharmacy training requirements for board certification in clinical toxicology.*

Goal E4.2: Demonstrate the ability to provide appropriate evidenced based recommendations for the patient in need of toxicologic intervention in the emergency department setting.

OBJ E4.2.1: (Analysis) Assess the patient in need of toxicologic intervention in the emergency department setting.

   IO *Explain the general approach to treating toxicology patients.*
   IO *Explain common toxidromes and their use in the initial assessment of patient.*
   IO *Explain the initial options for decontamination for patients presenting to the emergency department setting.*
   IO *Explain resources available from which to gather patient information related to toxic ingestions.*
   IO *Explain medical references to gather information related to toxic ingestions.*
   IO *Explain the most common exposures as specified by the American Academy of Clinical Toxicology (AACT).*

OBJ E4.2.2:   (Synthesis) Participate in the management of a patient in need of toxicologic intervention in the emergency department setting.
- *IO   Explain recommended physiologic monitoring and diagnostic testing options for specific ingestions.*
- *IO   Explain how to interpret physiologic monitoring, laboratory data, and diagnostic testing results for specific ingestions.*
- *IO   Explain the mechanism of action of toxins in acute and chronic poisoning.*

OBJ E4.2.3:   (Analysis) Prioritize and specify appropriate pharmacologic and supportive measures for the management of a patients in need of toxicologic intervention in the emergency department setting.
- *IO   Explain the time sensitivity of antidotal therapy for specific toxins.*
- *IO   Explain the role of patient-specific data in determination of antidotal or other supportive treatment of toxicology patients.*
- *IO   Explain the mechanism of action of antidotal therapy in treating toxicologic exposures.*
- *IO   Explain the dosing and appropriate administration of common antidotes.*
- *IO   Explain appropriate monitoring during common antidote administration.*
- *IO   Explain exposures common to various geographic locations (i.e. envenomations in the south and west) and specific practice settings (rural vs urban vs industrial).*
- *IO   Explain an evidence based plan for the care of poisoned patients while in the emergency department setting.*

Outcome E5:   Contribute the emergency pharmacist's perspective to planning for and/or management of mass casualty events.

Goal E5:1:   Participate in the planning and implementation of plans for the management of mass casualty events.

OBJ E5.1.1:   (Synthesis) Participate in the development or revision of the emergency medicine elements of organizational plans for the management of mass casualty events.
- *IO   Explain the essential emergency medicine-related components of an organization's plan for the management of mass casualty events.*
- *IO   Explain who should be involved in the development of an organization's plan for the management of mass casualty events.*

OBJ E5.1.2:   (Application) Exercise skill in the delivery of staff training as specified in the organization's emergency preparedness plans.

OBJ E5.1.3:   (Application) Provide services and programs as specified in the organization's emergency preparedness plan.

Appendix

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

A. Cardiovascular
   1. Acute Aortic Dissection*
   2. Acute Coronary Syndromes*
   3. Acute Decompensated Heart Failure/Congestive Heart Failure Exacerbations*
   4. Arrhythmias*
   5. Hypertensive Emergencies*
   6. Pericardial Tamponade*
   7. Ventricular Assist Devices
B. Dermatology
   1. Erythema Multiforms
   2. Poison Ivy
   3. Rash
   4. Stevens Johnson Syndrome/Toxic Epidermal Necrolysis*
   5. Tinea*
C. Ears, Nose, and Throat
   1. Epiglotitis*
   2. Epistaxis*
   3. Otitis*
   4. Peritonsilar abscess*
   5. Pharyngitis*
D. Endocrine/Metabolic
   1. Acid-base Disorders*
   2. Adrenal Crises/Insufficiency
   3. Diabetic ketoacidosis/Hyperosmolar Hyperglycemic State*
   4. Fluid and Electrolytes*
   5. Hypoglycemia/Hyperglycemia*
   6. Syndrome of Inappropriate Antidiuretic Hormone Secretion
   7. Thyroid Disorders*
E. Environmental Emergencies/Bioterrorism and Mass Casualty
   1. Altitude Illness
   2. Bites/Stings/Envenomations
   3. Carbon Monoxide Exposure
   4. Decontamination/ Advanced HAZMAT Life Support
   5. Electrical Injury/Lightning
   6. Emergency Preparedness
   7. National Incident Management System
   8. Drowning/Near Drowning
   9. Occupational Exposures
   10. Poisonous Plants
   11. Thermoregulation

F. Gastrointestinal
1. Acute appendicitis*
2. Chrohns/Diverticulitis/Ulcerative Cholitis
3. Cholecystitis/Cholangitis/Pancreatitis*
4. Constipation (Acute/Chronic)
5. Diarrhea*
6. GERD/Gastritis/Peptic Ulcer Disease*
7. Gastrointestinal Bleeding*
8. Nausea/Vomiting*
9. Obstruction
G. Gout
1. Acute Exacerbation*
H. Hematology
1. Anemia
2. Acquired Bleeding Disorders/Hemolytic Anemia
3. Blood Loss and Replacement
4. Clotting Disorders
5. Coagulopathies
6. Drug-induced Hematologic Disorders
7. Hemophilias and von Willebrand Disease
8. Platelet Disorders
9. Sickle Cell
10. Thromboembolic Disease
11. Thrombosis
I. Hepatic
1. Complications of Cirrhosis
2. Hepatic Failure
3. Jaundice
J. Infectious Diseases
1. CNS Infections*
2. Endocarditis*
3. Infections in the Immunocompromised Host*
4. Intra-abdominal Infections*
5. Needle Stick Injuries*
6. Pulmonary Infections*
7. Sepsis*
8. Sexually Transmitted Diseases*
9. Skin and Soft Tissue Infections*
10. Surgical Prophylaxis
11. Travel Related Illness (Food, Vector, Water borne)
12. Unexplained Fever
13. Urinary Tract Infections*
14. Vaccinations*
15. Vermin*
16. Viral
17. Wound Infections/Human or Animal Bites*

K. <u>Neurology</u>
1. Altered Mental Status*
2. Ataxia and Gait Disturbances
3. Headache*
4. Intracranial Hemorrhage*
5. Intracranial Pressure Management
6. Ischemic Stroke*
7. Seizures*
8. Trigeminal neuralgia
9. Vertigo*
L. <u>Obstetrics and Gynecology</u>
1. Ectopic Pregnancy*
2. Emergencies (Prenatal/Perinatal/Delivery/Postpartum)
3. Hyperemesis*
4. Miscarriage/Spontaneous Abortion
5. Preeclampsia/Eclampsia/HELLP*
6. Vaginal Bleeding
M. <u>Ocular/Ophthalmology</u>
1. Conjunctivitis*
2. Emergencies
3. Foreign body
N. <u>Pain Management</u>
1. Acute Pain*
2. Acute Exacerbation of Chronic Pain
3. Sedation (Moderate/Deep/Procedural)*
O. <u>Pediatric and Neonatal</u>
1. Age-specific Dosing Recommendations*
2. Febrile Seizure*
3. Pertussis
4. RSV*
P. <u>Pulmonary</u>
1. Asthma Emergencies*
2. Acute Chronic Obstructive Pulmonary Disorder Exacerbation*
3. Drug-induced Pulmonary Disease
4. Pulmonary Embolism
5. Respiratory Distress
Q. <u>Psychosocial</u>
1. Acute Agitation/Psychosis*
2. Behavioral/Effective Disorders
3. Substance Abuse/Withdrawal*
R. <u>Renal and Genitourinary</u>
1. Acute Renal Failure*
2. Emergencies in Renal Failure and Dialysis Patients
3. Rhabdomyolysis
4. Urolithiasis
S. <u>Resuscitation and Life Support</u>

1. Anaphylaxis/Acute Allergic Reactions/Angioedema*
2. Basic Life Support/Advanced Cardiac Life Support/Pediatric Advanced Life Support*
3. Alternate Routes for Medication Administration (IV, IO, Nasal)*
4. Rapid Sequence Intubation/Post Intubation Management*
5. Shock States*
6. Ventilator Management

T. <u>Toxicology</u>
1. Approach to Toxicology Patient*
2. Antidotes*
3. Decontamination*
4. Toxidromes*

U. <u>Trauma</u>
1. Advanced Trauma Life Support*
2. Alleged/Sexual Assault*
3. Closed Head Injury/Traumatic Brain Injury*
4. Initial Burn/Trauma Management and Stabilization/Advanced Burn Life Support
5. Neonates
6. Pediatrics
7. Pregnancy
8. Spinal Cord Injury*
9. Wound Management

*Denotes a required topic

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