CCSAP 2020 Book 2 (*Issues in Critical Care Practice)*
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Continuing Pharmacy Education Credit: The American College of Clinical Pharmacy is accredited by the Accreditation Council for Pharmacy Education (ACPE) as a provider of continuing pharmacy education (CPE).

CCSAP Target Audience: The target audience for *Issues in Critical Care Practice* is not just the critical care pharmacist, but also any pharmacist caring for patients whose management may be complicated by concomitant critical illness.

Module I (6.0 CPE); UAN 0217-0000-20-041-H01-P

Chapter: Drug Dosing in Special Populations: Obesity and Geriatrics
Learning Objectives
1. Compare and contrast the pharmacokinetic variability in patients with extreme obesity with that in individuals with normal body habitus.
2. Develop a strategy for dosing medications when information in the available literature is limited.
3. For patients with extreme obesity, develop a dosing strategy for sedatives, analgesics, vasopressors, anticoagulants, and antimicrobials.
4. Compare and contrast the pharmacokinetic variability in older adult patients with that in non-older adult patients.
5. Evaluate medication-specific considerations for older adult patients who are prescribed sedatives, analgesics, antipsychotics, anticoagulants, GI medications, or antimicrobials.

Chapter: Prognostication/Critical Care Scoring Systems

Learning Objectives
1. Evaluate patients by scales used in the ICU for multiple patient populations.
2. Apply knowledge of the development and progression of scales used in ICU populations.
3. Justify application of the scales in the treatment of individual patients.

Module II (7.0 CPE); UAN 0217-0000-20-042-H01-P

Chapter: Monitoring During Extracorporeal Membrane Oxygenation
Learning Objectives

1. Evaluate extracorporeal membrane oxygenation (ECMO) as a mechanism to provide advanced organ support in critically ill patients.
2. Develop a strategy for hemodynamic monitoring during ECMO to identify common complications.
3. Assess the limitations of standard oxygenation monitoring parameters when applied to ECMO and effective ways to interpret them during ECMO.
4. Design an effective anticoagulation monitoring plan for use during ECMO considering the limitations of standard anticoagulation monitoring tools.

Chapter: Practicing Evidence-Based Medicine and Clinical Pathway Development
Learning Objectives
1. Apply knowledge of the evolution of evidence-based medicine (EBM) to evaluate current trials and published data.
2. Assess primary evidence appraisal techniques and existing limitations.
3. Devise methods for lifelong learning and EBM application.
4. Evaluate care delivery tools and steps to develop an evidence-based clinical pathway.
5. Justify strategies for implementing a clinical pathway and potential barriers to adoption and sustainability.

Chapter: Medication Use and Performance Metrics
Learning Objectives
1. Justify the critical care pharmacist's role in planning medication use evaluations (MUEs) in critical care areas and enacting recommended actions or changes.
2. Evaluate ways which a critical care pharmacist can plan for a MUE incorporating a multidisciplinary approach.
3. Justify the role of the MUE in clinically relevant and cost-effective medication optimization in the ICU.
4. Develop performance use metrics that advocate the pharmacist's role in bedside patient care.

Module III (4.0 CPE); UAN 0217-0000-20-043-H01-P

Interactive Case: Interactive Case: The Pharmacists' Patient Care Process in the ICU
Learning Objectives
1. Justify the necessary steps of the Pharmacists' Patient Care Process (PPCP) used to deliver patient care in any practice setting.
2. Discover differences in the delivery of patient care using the PPCP between critical care pharmacists and pharmacists in other practice areas.
3. Assess the role of the different technologies available in the ICU to facilitate use of the PPCP.
4. Develop strategies for implementing the PPCP in the critical care setting.

Interactive Case: Organ Donation and Donor Management
Learning Objectives
1. Evaluate a patient to determine eligibility as a donor candidate.

2. Design a therapeutic plan to manage circulation and perfusion considering donor-specific factors.
3. Distinguish properties of available hormone replacement therapies used in donor management.
4. Design pharmacotherapy (electrolyte replacement, glucose management, anti-infectives, anticoagulants, and neuromuscular blocking agents) for a donor candidate in the ICU.

Interactive Case: Recorded Webcast: Pharmacogenomics in the ICU
Learning Objectives
1. Distinguish between various applications of PGx drug therapy practice guided by CPIC.
2. Identify resources available to aid in interpretation of PGx results.
3. Evaluate different methods of incorporating PGx results into the electronic medical record and their impact on patient care activities.
4. Justify the role of PGx in ICU pharmacy services including protocolization vs. individualization.