Pharmacy Joe's Critical Care Pharmacy Academy Masterclass (pharmacyjoe.com)

ICU Rounds: Before, During, and After

- 1 Objectives
  - 1.1 List the essential health care practitioners that should be available on ICU rounds
  - 1.2 Outline a process to use before, during, and after rounds
  - 1.3 Select parts of the rounding processes described to incorporate into daily practice
- 2 Before Rounds a.k.a "Pre-Rounding"
  - 2.1 Patient Observation
    - 2.1.1 Do pre-rounding in front of the patient when possible
    - 2.1.2 How sick do they look?
    - 2.1.3 Intubated?
    - 2.1.4 SCDs on?
    - 2.1.5 Tube feedings active?
    - 2.1.6 Better collaboration with nurse or physician
  - 2.2 Rounding Tools
    - 2.2.1 General philosophy
    - 2.2.2 What I write on my rounding tool
      - 2.2.2.1 Room, Name, Wt, Age, Gender
      - 2.2.2.2 ClCr
      - 2.2.2.3 Reason for admission
      - 2.2.2.4 VAP
        - 2.2.2.4.1 If expected to be vented >24 hours
      - 2.2.2.5 SUP
        - 2.2.2.5.1 Coagulopathy (INR >2 or aPTT >45s)
        - 2.2.2.5.2 Full-dose anticoagulation
        - 2.2.2.5.3 Vasopressor dose >10 mcg/min
        - 2.2.2.5.4 NSAID or glucocorticoid use
        - 2.2.2.5.5 Mechanical ventilation > 24 hours
        - 2.2.2.5.6 Multi-system organ failure
        - 2.2.2.5.7 History of peptic ulcer disease
        - 2.2.2.5.8 Acute renal failure
        - 2.2.2.5.9 H2RA vs PPI
        - 2.2.2.5.10 Enteral nutrition as prophylaxis?
        - 2.2.2.5.11 Evaluate for discontinuation daily and ESPECIALLY on transfer from ICU
      - 2.2.2.6 VTE
        - 2.2.2.6.1 All ICU patients are at high risk of VTE
        - 2.2.2.6.2 SCDs
        - 2.2.2.6.3 Low dose heparin or enoxaparin
        - 2.2.2.6.4 Platelets must be at least 50,000
        - 2.2.2.6.5 Heparin bid vs tid
        - 2.2.2.6.6 Epidurals
          - 2.2.2.6.6.1 Check with your anesthesia department for local guidelines
          - 2.2.2.6.6.2 ASRA recommends a minimum of 2 hours between placement and VTE prophyalxis, FDA recommends 4 hours
      - 2.2.2.7 Antibiotic days
      - 2.2.2.8 Therapeutic drug monitoring (heparin, vancomycin, aminoglycosides, phenytoin, etc...)
      - 2.2.2.9 Recommendations
      - 2.2.2.10 Pharmacy Problem List
        - 2.2.2.10.1 RICHMAN
          - 2.2.2.10.1.1 Respiratory
          - 2.2.2.10.1.2 Infectious
          - 2.2.2.10.1.3 Cardiac
          - 2.2.2.10.1.4 Hematologic
          - 2.2.2.10.1.5 Metabolic
          - 2.2.2.10.1.6 Alimentary
          - 2.2.2.10.1.7 Neurologic
        - 2.2.2.10.2 Alternatives (head-to-toe)
    - 2.2.3 An alternative tool: FASTHUG MAIDENS
      - 2.2.3.1 Feeding
      - 2.2.3.2 Analgesia
      - 2.2.3.3 Sedation
      - 2.2.3.4 Thromboprophylaxis
      - 2.2.3.5 Hypoactive or Hyperactive delirium (sometimes Head of bed elevation)
      - 2.2.3.6 stress Ulcer prophyalxis
      - 2.2.3.7 Glucose control
      - 2.2.3.8 Medication reconciliation
      - 2.2.3.9 Antibiotics
      - 2.2.3.10 Indications for medications
      - 2.2.3.11 Drug dosing
      - 2.2.3.12 Electrolytes, hematology, and other laboratory tests
      - 2.2.3.13 No drug interactions, allergies, duplication, or side effects
      - 2.2.3.14 Stop dates
  - 2.3 5 Step pre-rounding process
    - 2.3.1 1. Who is the patient and why are they here?
      - 2.3.1.1 Focus on the History of present illness & Assessment/Plan of the ICU physician
      - 2.3.1.2 Other documents to review
        - 2.3.1.2.1 History & Physical
        - 2.3.1.2.2 Consult notes
        - 2.3.1.2.3 Progress notes
        - 2.3.1.2.4 Nursing notes
    - 2.3.2 2. Review home medications
      - 2.3.2.1 Is Medication Reconciliation complete?
      - 2.3.2.2 Will holding home meds cause a problem?
        - 2.3.2.2.1 Beta blockers
        - 2.3.2.2.2 Clonidine
        - 2.3.2.2.3 Opioids
        - 2.3.2.2.4 Benzodiazepines
        - 2.3.2.2.5 Antidepressants
        - 2.3.2.2.6 Anti-rejection
        - 2.3.2.2.7 Anti-retroviral
      - 2.3.2.3 Could home meds have caused admission?
    - 2.3.3 3. Review Additional Data
      - 2.3.3.1 Labs
      - 2.3.3.2 Cultures
      - 2.3.3.3 Imaging
      - 2.3.3.4 EKG
    - 2.3.4 4. Review Bedside Flowsheet
      - 2.3.4.1 Respiratory Requirements
        - 2.3.4.1.1 FIO2
          - 2.3.4.1.1.1 40% is minimum
        - 2.3.4.1.2 Mode of oxygenation
          - 2.3.4.1.2.1 Room air
          - 2.3.4.1.2.2 Nasal Canula
          - 2.3.4.1.2.3 BiPAP
          - 2.3.4.1.2.4 Endotracheal
        - 2.3.4.1.3 PEEP
          - 2.3.4.1.3.1 5 is minimum
      - 2.3.4.2 Sedation Scale
      - 2.3.4.3 Glasgow Score
      - 2.3.4.4 Vital signs
      - 2.3.4.5 Current infusions
        - 2.3.4.5.1 Dosing & number of sedatives vs sedation score
        - 2.3.4.5.2 Dosing & number of vasopressors vs vital signs
      - 2.3.4.6 Input & Output
        - 2.3.4.6.1 At least 0.5 mL/kg/min urine output
        - 2.3.4.6.2 Oliguria
        - 2.3.4.6.3 Anuria
    - 2.3.5 5. Review current medications
      - 2.3.5.1 Do this last to avoid the guessing game trap
      - 2.3.5.2 It is easier to recognize medication related problems if you have evaluated everything else first
        - 2.3.5.2.1 SCr normal but no urine output
        - 2.3.5.2.2 Agitated patient on venlafaxine at home
        - 2.3.5.2.3 Septic shock from abdominal source but only on levofloxacin/metronidazole
        - 2.3.5.2.4 Difficult to sedate patient on buprenorphine at home
        - 2.3.5.2.5 Propofol only (no analgesia) in a patient with significant surgery
  - 2.4 Who to see first?
    - 2.4.1 Quickly walk the unit before starting to find the sickest patient(s)
      - 2.4.1.1 On CRRT
      - 2.4.1.2 Numerous IV pumps running
      - 2.4.1.3 Code cart pre-emptively placed outside room by nursing staff
      - 2.4.1.4 Collaborate with the charge nurse: "Who is the sickest patient in the unit?"
  - 2.5 How long to spend per patient?
    - 2.5.1 20-30 minutes for a new patient
    - 2.5.2 10-15 minutes for an existing patient
    - 2.5.3 Utilize residents and students as "pharmacist extenders"
    - 2.5.4 HAVE AN ABBREVIATED PROCESS
- 3 During Rounds
  - 3.1 Strongly reommended Best Practices from Critical Care Medicine 2013 article: A Systematic Review of Evidence-Informed Practices for Patient Care Rounds in the ICU
    - 3.1.1 Implement multidisciplinary rounds (including at least a medical doctor, registered nurse, and pharmacist)
    - 3.1.2 Standardize location, time, and team composition
    - 3.1.3 Define explicit roles for each HCP participating on rounds
    - 3.1.4 Develop and implement structured tool (best practices checklist)
    - 3.1.5 Reduce nonessential time wasting activities
    - 3.1.6 Minimize unnecessary interruptions
    - 3.1.7 Focus discussions on development of daily goals and document all discussed goals in health record
  - 3.2 Structure of my ICU rounds
    - 3.2.1 Team
      - 3.2.1.1 Physician
      - 3.2.1.2 Besdie nurse
      - 3.2.1.3 Pharmacist
      - 3.2.1.4 Charge nurse
      - 3.2.1.5 Respiratory therapist
      - 3.2.1.6 Dietician
      - 3.2.1.7 Spiritual care
    - 3.2.2 Location - outside of room 1
    - 3.2.3 Time - 10am
    - 3.2.4 Roles for each discipline
      - 3.2.4.1 Physician - breiefly presents the patient
      - 3.2.4.2 Bedside nurse - describes overnight events
      - 3.2.4.3 Physician or nurse - review systems using RICHMAN
        - 3.2.4.3.1 Respiratory
        - 3.2.4.3.2 Infectious
        - 3.2.4.3.3 Cardiac
        - 3.2.4.3.4 Hematologic
        - 3.2.4.3.5 Neurologic
        - 3.2.4.3.6 Alimentary
        - 3.2.4.3.7 Metabolic
      - 3.2.4.4 Each discipline is expected to offer any recommendations or ask any appropriate questions as the systems are reviewed and before moving to the next patient
  - 3.3 Role for the pharmacist on rounds
    - 3.3.1 Tailor your role to the unique circumstances of your practice
      - 3.3.1.1 Nutrition services present?
      - 3.3.1.2 Computer system ensures medication renewals are addressed?
      - 3.3.1.3 Head of bed elevation consistently evaluated by other practitioners?
    - 3.3.2 Monitor all medication use
      - 3.3.2.1 Safety
        - 3.3.2.1.1 Toxicity
        - 3.3.2.1.2 Allergy
        - 3.3.2.1.3 Drug interactions
        - 3.3.2.1.4 Adverse drug events
        - 3.3.2.1.5 Renal / hepatic dose adjustment
      - 3.3.2.2 Efficacy
        - 3.3.2.2.1 Therapeutic drug monitoring when possible (vancomycin, aminoglycosides, phenytoin, etc...)
      - 3.3.2.3 Cost-effectiveness / stewardship
    - 3.3.3 Provide drug information
      - 3.3.3.1 Compatibility
      - 3.3.3.2 Monitoring guidelines
      - 3.3.3.3 Answer specific questions
      - 3.3.3.4 Provide education for other disciplines
  - 3.4 When and how to present your recommendations
    - 3.4.1 The most effective time to give recommendations to a provider is when they are trying to solve the patient's problems
      - 3.4.1.1 Be elbow-to-elbow with the providers as they are "seeing the patient" and determining orders
      - 3.4.1.2 Getting the best recommendation accepted at the beginning of care is so much easier than trying to change therapy later
    - 3.4.2 Present "basic" recommendations like prophyalxis issues outside of rounds
      - 3.4.2.1 Place an 'unofficial' note in a spot that you know is within a physician's workflow (I use a sticky note on the nurse's flowsheet)
      - 3.4.2.2 Why?
        - 3.4.2.2.1 Saves rounding time
        - 3.4.2.2.2 Avoids "embarrassing" the MD about something simple that was overlooked
        - 3.4.2.2.3 Allows you to double check during rounds that the recommendation was accepted
    - 3.4.3 During rounds, make recommendations when the relevant system is being discussed
      - 3.4.3.1 Stress ulcer recommendations during "Alimentary"
      - 3.4.3.2 Antibiotic changes during "Infectious"
    - 3.4.4 Difuse potentially adversarial situations
      - 3.4.4.1 Has the physician "seen" the patient yet?
        - 3.4.4.1.1 "I know you haven't seen the patient yet…"
      - 3.4.4.2 What are the goals of care (curative vs palliative)?
        - 3.4.4.2.1 Pharmacist as a "blind golf caddy"
          - 3.4.4.2.1.1 For controlling agitation I ask: Can we intubate this patient if we give too many sedatives? This helps me decide which sedatives I should use and which I should avoid.
          - 3.4.4.2.1.2 For weaning off long-term fentanyl infusions I ask: Is the fentanyl infusion the only thing keeping the patient in the ICU? This helps me choose how aggressively to wean the fentanyl.
          - 3.4.4.2.1.3 Do you think the patient might have necrotizing fasciitis? Helps decide whether to add a dose of clindamycin to decrease toxin production before the patient goes to the OR for source control.
          - 3.4.4.2.1.4 How to approach recommendations when care is futile
- 4 After Rounds
  - 4.1 Prioritize which problems to solve first
  - 4.2 Have a system to ensure that tasks are recorded & completed
    - 4.2.1 Reminders
    - 4.2.2 Reviewing pre-rounding tools
  - 4.3 Follow-up as needed
    - 4.3.1 Did the physician change orders as discussed?
    - 4.3.2 Does the bedside nurse need additional education on how to use or monitor a medication?
    - 4.3.3 Monitor for safety / efficacy
    - 4.3.4 TDM
  - 4.4 Evaluate patients further if pre-rounding time was limited