

Improving the Management of Patients with Sepsis

- For patients with severe sepsis/septic shock, **cultures and antibiotic administration should be considered equal in emergent importance to intubation and levophed.** For every hour of delay between the onset of hypotension and administration of antibiotics (defined as antibiotics being “in the patient”), mortality rates rise. *The goal for antibiotic administration is 30-60 minutes from onset of hypotension to administration.*
- If a patient is in shock, one nurse cannot resuscitate the patient according to expected standards; help is needed.
- While the patient is being intubated and given fluid/vasopressors, another nurse should step in and automatically obtain cultures and initiate antibiotics. If you are assigned to care for the patient, ask for help. If you are not assigned to the patient, offer your assistance. Don't be a hero!
- Culture everything you can quickly; if you cannot get cultures quickly, do not delay administration of antibiotics.
- **Do not wait for lines to be inserted to do cultures or start antibiotics.** Obtain peripheral cultures in the absence of an indwelling line.
- To reduce the time for antibiotic administration, administer drugs that have a beta lactam ring first, and give them quickly. Beta lactam antibiotics inhibit bacterial cell wall synthesis. Beta lactam antibiotics include penicillins, cephalosporins and “penems” (imipenem, meropenem). Administer these drugs in a 50 ml minibag as quickly as possible. This will ensure the first antibiotic is “in the patient” as soon as possible. **Piperacillin should be given over 30 minutes.**
- Hang antibiotics that require longer administration time next. These drugs require slower administration to avoid potential ototoxicity, nephrotoxicity or neurotoxicity from high peak serum rises and include:
 - a. Cipro (give over 30 minutes centrally; 60 minutes peripherally due to vein irritation)
 - b. Levofloxacin (give over 60 minutes if dose is ≤ 500 mg or over 90 minutes if > 500 mg).
 - c. Metronidazole (give over 30 minutes)
 - d. Vancomycin, tobramycin, gentamycin (give over 60 minutes)
- If the patient has more than one IV site, different antibiotics can be administered simultaneously; just administer each antibiotic via a different site.
- Do not delay starting antibiotics to get onto “regular dosing schedules”. Times can be staggered over the next day or two if required.