* Presumptive/therapeutic ABO therapy
  + tx regimens for documented or presumed infections
* Prophylactic therapy
  + Should be as short as possible
  + Goal is to prevent infections in high risk pts or procedures
  + Timing of therapy is VERY important
    - Usually ABO administered 1 hr before surgery
* 1st generation cephalosporin (i.e. Cefazolin) mainstay for prophylaxis in most surgical procedures
* Vanco limited to pts w/ documented hx of life-threatening lactam hypersensitivity or in pts whom the risk of infections w/ organisms resistant to cefazolin is high
* SSI occur in 3-6% of pts
  + Prolong hospitalization by an average of 7 days
  + 3rd most frequent cause of nosocomial infections
  + 2 categories
    - Incisional
      * Superficial
      * Deep
    - Organ/space
  + Must occur w/in 30 days of surgery
    - If prosthetic implant involved a deep incisional or organ/space infection can be reported up to 1 year
* Risk factors
  + Depends on procedure and patient related factors
  + NRC classification system risk depends on
    - Microbiology of surgical site
    - Presence of pre-existing infection
    - Likelihood of contaminating previously sterile tissue
    - Events during and after surgery
  + Pts’ NRC procedure classification is the primary determinant if ABO prophylaxis is needed
  + Disease State/ Patient Related RF
    - Preexisting distal infections
    - DM
    - Smoking
    - HIV
    - Hep C
    - Malnutrition
    - Obesity
    - Nares colonized w/ S. aureus
    - Age
    - Length of preoperative hospital stay
* Most important when choosing ABO prophylaxis therapy is the bacteriology of surgical site
  + Organisms acquired in 2 ways
    - Endogenously
      * From pt’s own flora
    - Exogenously
      * Contamination during surgery
  + Most common organisms
    - S. aureus
    - Coagulase (-) Staph
    - Enterococci
    - E. Coli
    - Pseudomonas
    - Candida & MRSA becoming more prevalent
      * Candida infections depends on:
        + Sex (F > M)
        + Length of ICU stay
        + Duration of central venous cath
* Important that:
  + Agents delivered to surgical site prior to first incision (optimal time 30 to 59 minutes before)
  + Cidal ABO conc. should be maintained at site throughout surgery
  + Barriers to good timing
    - ABO’s ordered after pt arrival in OR
    - Delayed ABO prep & delivery’
    - ABO’s that require long infusion times
* **GI surgery**
  + Clean or clean-contaminated
  + SSI rates <5%
  + Bowel perforation or peritonitis has risk of SSI >30% ABO should be therapeutic not prophylactic
* **Gastroduodenal Surgery**
  + ABO prophylaxis of benefit in high risk pop.
    - DOC = single dose IV Cefazolin
* **Hepatobiliary Sx**
  + Bile contamination increase risk of SSI
  + Most frequent organisms
    - E.Coli
    - KLebsiella
    - Enterococci
  + DOC = single dose Cefazolin
  + Allergy to Cefazolin = cipro or levo
* **Appendectomy**
  + DOC = Cefoxitin or Cefotetan due to both gram (+) and gram (-) activity
  + Allergy: Metronidazole in combo with gent
* **Colorectal**
  + Contaminated 🡪 SSI rate 15-30%
  + Anaerobes and gram(-) aerobes
  + Reduce bacterial load w/ preoperative bowel prep
  + RF for SSI
    - > 60 years old
    - Hypoalbuminemia
    - Poor preoperative bowel prep
    - Steroid therapy
    - Surgery longer than 3.5 hours
  + DOC regimen = 1g neomycin + 1g erythromycin PO at 19, 18, and 9 hours before surgery
    - Complete bowel prep before ABO regimen started
  + If pt No PO use cefoxitin or cefotetan
* **GI endoscopy**
  + Recommend for high risk only
    - Prosthetic heart valve
    - Hx of endocarditis
    - Heart disease
    - Liver cirrhosis
  + DOC = single dose cefazolin 30 min prior to procedure
* **Urologic surgery**
  + Preoperative bacteremia most important RF
  + E. Coli most frequent organism
  + DOC = 1st or 2nd generation cephalosporin
* **OB/GYN Surgery**
  + C-section
    - Prophylactic ABO given to prevent endometritis
    - DOC = cefazolin single 2g dose
  + Hysterectomy
    - Vaginal
      * DOC = cefazolin
      * Allergy: single dose Metronidazole or doxycycline
    - Abdominal
      * DOC = single dose cefazolin
      * Allergy: metronidazole
* **Head/ Neck Surgery**
  + DOC = 2g dose of cefazolin
  + Cancer resection sx DOC = 24 hrs of clindamycin
  + Clean-contaminated oncologic sx DOC = clindamycin + gent
* **Cardiothoracic Sx**
  + RF
    - Obesity
    - Renal insufficiency
    - Connective tissue disease
    - Reexploration for bleeding
  + Skin flora predominate organisms
  + DOC = cefazolin
    - Must consider pt weight & timing of administration for dosing
      * Pts >80kg = 2g dose no later than 60 min before first incision
  + Pulmonary resection/ Pleuropulmonary infection
    - DOC = 48 hours of cefuroxime
* **Vascular Sx**
  + DOC = 24 hours cefazolin
  + Allergy: 24 hours cipro
* **Orthopedic Sx**
  + Prophylactic ABO therapy really only indicated when prosthetics are implanted
  + Staph most frequent organism
    - DOC = cefazolin
    - Joint replacement/ hip fracture prophylactic duration is 24 hours
  + open (compound) fractures
    - DOC = cefazolin + aminoglycoside
* **Neuro Sx**
  + Must consider penetration into site of action (CSF)
    - DOC = surprise! (not really) cefazolin
* Nonpharmalogical interventions
* Intraoperative maintenance of normothermia Core body temp can fall 1 – 1.5 degrees Celsius
  + Intraoperative hypothermia associated with
    - Impaired immune fxn
    - Decreased blood flow to surgical site
    - Decreased tissue oxygen tension
    - Increased risk of SSI
  + IV fluid warming
  + Warming Blankets
  + Provision of supplemental oxygen in perioperative period
  + Aggressive perioperative glucose control