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DIVISION OF ACUTE CARE SURGERY

Infectious Workup and Antimicrobial Stewardship Guideline

Temp >38.5° for > 4hrs AND >24hrs post-admission/post-op
(IF evidence of organ dysfunction, it is permissible to begin immediate work-up)

Target **SUSPECTED** source **BEFORE** investigating additional sources

SUSPECTED PNEUMONIA

New, persistent, or progressive infiltrate

PLUS

any TWO of the following:

- Purulent secretions
- Decline in pulmonary status such as:
  - worsening hypoxemia
  - ventilator compliance
  - elevated inspiratory pressures
- Fever (>38.5)
- Unexplained leukocytosis
- New onset delirium

ETT or Tracheostomy

YES → Perform bronchoscopy w/ BAL

NO → Obtain tracheal aspirate

- Start empiric pneumonia antibiotics (see PAGE 2)
- Consider size of airway and ability to tolerate procedure
- If patient unable to tolerate bronchoscopy, obtain TA

Adjust/De-escalate therapy per culture and sensitivity:
- ≥ 10^4 CFU/mL → narrow spectrum x 7 days (total)
- ≤ 10^4 CFU/mL, negative cultures, or oropharyngeal flora → *see antibiotic de-escalation algorithm on* PAGE 4

SUSPECTED CENTRAL LINE

Central line >72h w/purulence at site

YES → D/C CVC and replace at new site if indicated

NO → STOP

Blood cultures should only be obtained when other potential sources have been ruled out

SUSPECTED UTI

For uncomplicated UTI, use AgileMD Pathway for diagnosis & antibiotic selection (see PAGE 3)

One of the following (unless signs of sepsis):

- Fever >38.5
- Unexplained Hypotension
- New urinary frequency, urgency, dysuria
- Suprapubic pain
- Flank pain
- Spasticity or Autonomic dysreflexia (SCI)
- Unexplained rising leukocytosis

YES → Obtain Urinalysis with Reflexive

NO → STOP — No UA indicated; investigate other sources

> 10 WBC (Repeat UA if >2 squamous cells)*

Start empiric antibiotics (see PAGE 3)

<100,000 CFU/mL with nonspecific UTI symptoms OR culture negative -> discontinue antibiotics

< 10 WBC

Investigate other source

***Significant RBCs may also indicate a contaminated sample**

NOT UTI Symptoms:

- Isolated leukocytosis
- Change in urine color, sediment, smell
- Urinary retention

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OTHER SOURCES

Infectious Considerations

- Delayed abdominal source
- Sinusitis (max-face CT)
- Wound exam
- Rectal exam
- C-diff (if diarrhea & leukocytosis present)
- Source control (of known infection)
- Consider new radiologic imaging
- Acalculous cholecystitis

Non-infectious Causes of Fever

- Sympathetic storm
- Delirium tremens
- VTE
- Phlebitis
- Pancreatitis
- Drug fever
- NMS
- Malignant hyperthermia

Non-infectious Causes of Leukocytosis

- Transfusions
- Splenectomy
- Surgery
- Corticosteroids
- Malignancy
- Leukemia
- Stress-induced *(e.g., seizures, MI)*
- VTEs
- Superficial thrombophlebitis
- Chronic inflammation *(i.e., RA, UC, Crohn's, IBD)*

Empiric Antibiotic Regimens

	CAP*	VAP** or HAP	Intra-abdominal Infection†	Bacteremia††
Empiric Antibiotic	Ceftriaxone + Azithromycin	Linezolid tablet PO/PT§ + Cefepime	Piperacillin/tazobactam	Vancomycin + Cefepime ± Antifungal†
Alternatives ***(if contraindication to above)***	Levofloxacin	Vancomycin + Piperacillin/Tazobactam OR Levofloxacin	Levofloxacin + Metronidazole ± Antifungal†	Vancomycin + Piperacillin/Tazobactam OR Levofloxacin ± Antifungal†
Duration of Therapy†	3-5 days *Patients with non-severe CAP and clinically stable, can d/c on day 3*	7 days	• Source control: 4 days • No source-control: 7 days if clinically stable	• Depends on source & isolated bacteria • ID consult required for *S. aureus* & *Enterococcus* or candidemia

*Community- acquired pneumonia (CAP): pneumonia acquired outside of the hospital setting

**Ventilator-acquired pneumonia (VAP) and Hospital-acquired pneumonia (HAP): pneumonia occurring greater than 48 hours after endotracheal intubation or hospital admission

§Vancomycin is preferred in patients without enteral access or who cannot have crushed medications via enteral tube. Monitor for new or worsening thrombocytopenia (plt<50,000/μL) with linezolid and serotonin syndrome in patients on linezolid and concomitant serotonergic agents. Switch to vancomycin if these adverse events occur.

†Consider addition of antifungal agent for patients at high-risk for invasive candidiasis (i.e., immunocompromised). Use micafungin for critically ill patients (e.g. septic shock) or fluconazole for non-critically ill patients.

††See ePlex Interpretation Sheet for guidance on narrowing antibiotics based on GenMark's ePlex® results.

^Empyema: 3 weeks; recommend ID consult due to prolonged antibiotics requiring outpatient follow-up.

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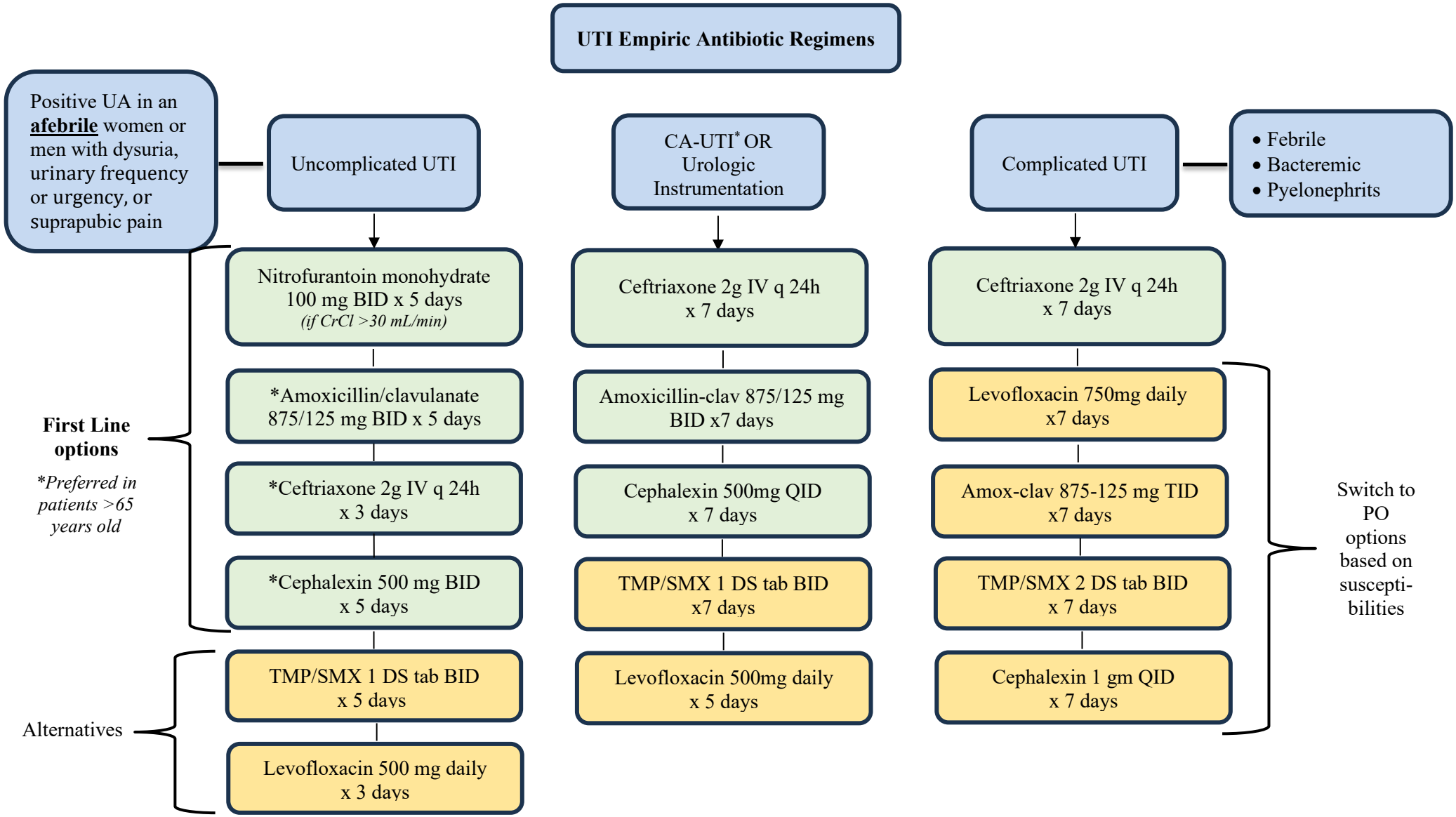

*CA-UTI: Transurethral, suprapubic, or intermittent catheterization within prior 48h **WITH** fever (Tmax >38.5°C), unexplained hypotension or rising leukocytosis, new urinary frequency, urgency, or dysuria, suprapubic or flank pain, spasticity or autonomic dysreflexia (SCI)

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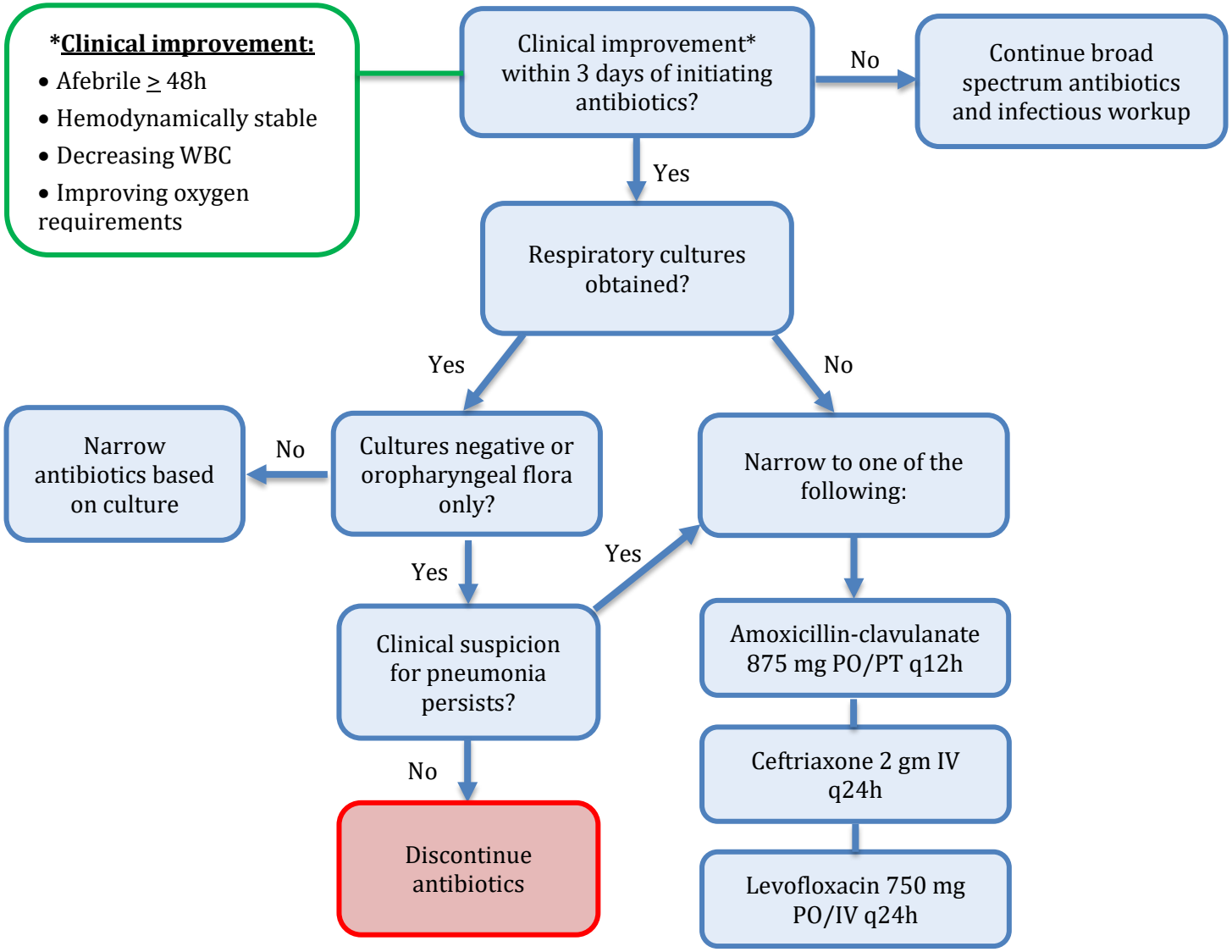
De-Escalation Strategies for HAP and VAP



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