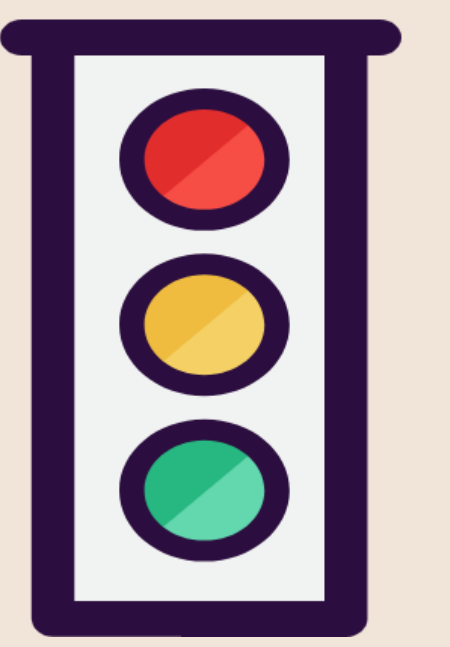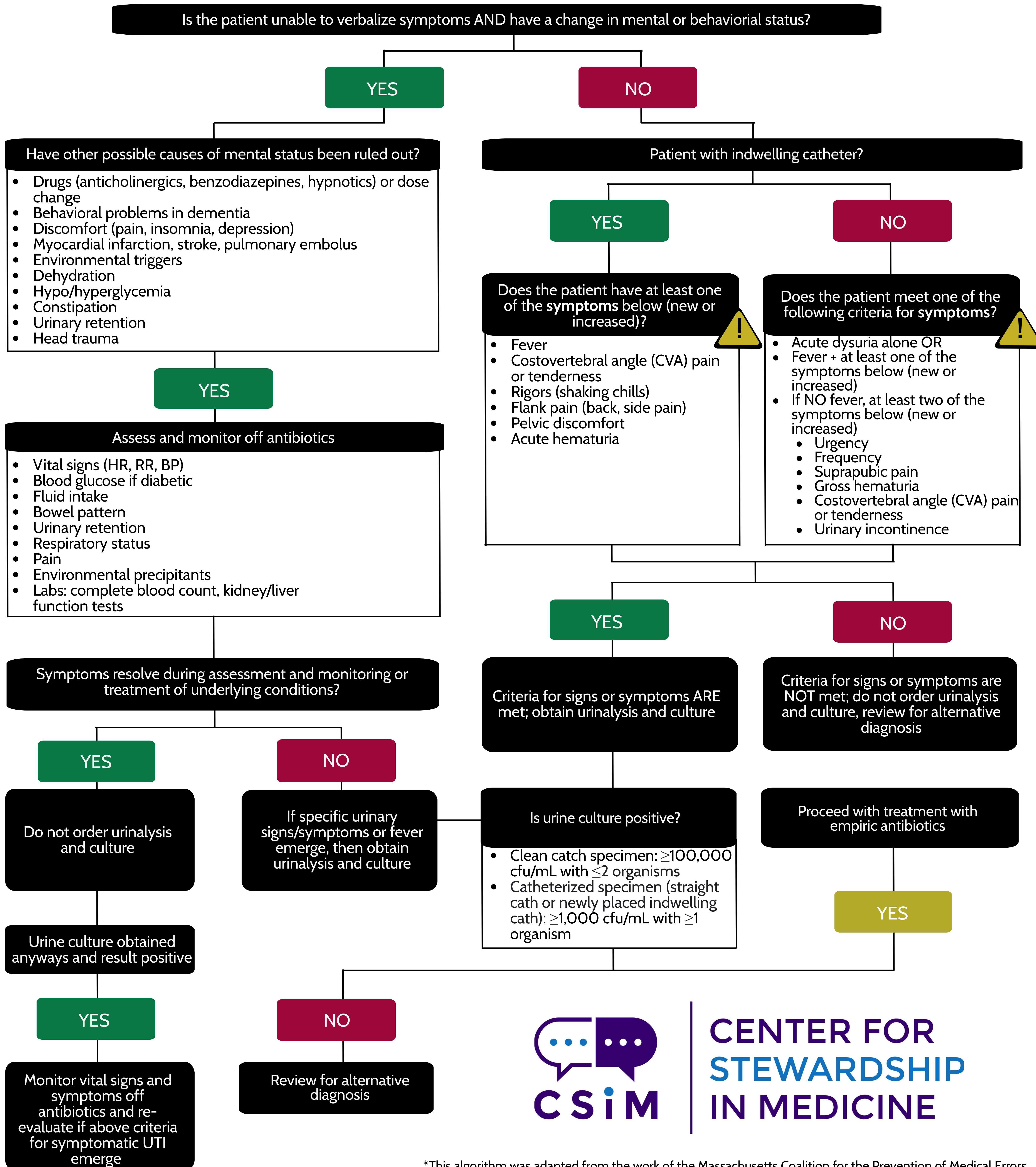# Evaluation and Management of Urinary Tract Infections (UTI) Algorithm

Diagnosis of UTI requires clinical signs and symptoms of UTI and a positive culture.
This algorithm is not intended for patients that meet sepsis criteria.

Is the patient unable to verbalize symptoms AND have a change in mental or behaviorial status?

- **YES**
- **NO**

YES branch

Have other possible causes of mental status been ruled out?

- Drugs (anticholinergics, benzodiazepines, hypnotics) or dose change
- Behavioral problems in dementia
- Discomfort (pain, insomnia, depression)
- Myocardial infarction, stroke, pulmonary embolus
- Environmental triggers
- Dehydration
- Hypo/hyperglycemia
- Constipation
- Urinary retention
- Head trauma

YES

Assess and monitor off antibiotics

- Vital signs (HR, RR, BP)
- Blood glucose if diabetic
- Fluid intake
- Bowel pattern
- Urinary retention
- Respiratory status
- Pain
- Environmental precipitants
- Labs: complete blood count, kidney/liver function tests

Symptoms resolve during assessment and monitoring or treatment of underlying conditions?

- **YES**
- **NO**

YES → Do not order urinalysis and culture

Urine culture obtained anyways and result positive

- **YES**
- **NO**

YES → Monitor vital signs and symptoms off antibiotics and re-evaluate if above criteria for symptomatic UTI emerge

NO → Review for alternative diagnosis

NO → If specific urinary signs/symptoms or fever emerge, then obtain urinalysis and culture

NO branch

Patient with indwelling catheter?

- **YES**
- **NO**

YES

Does the patient have at least one of the symptoms below (new or increased)? ⚠️

- Fever
- Costovertebral angle (CVA) pain or tenderness
- Rigors (shaking chills)
- Flank pain (back, side pain)
- Pelvic discomfort
- Acute hematuria

NO

Does the patient meet one of the following criteria for symptoms? ⚠️

- Acute dysuria alone OR
- Fever + at least one of the symptoms below (new or increased)
- If NO fever, at least two of the symptoms below (new or increased)
  - Urgency
  - Frequency
  - Suprapubic pain
  - Gross hematuria
  - Costovertebral angle (CVA) pain or tenderness
  - Urinary incontinence

- **YES**
- **NO**

YES → Criteria for signs or symptoms ARE met; obtain urinalysis and culture

Is urine culture positive?

- Clean catch specimen: ≥100,000 cfu/mL with ≤2 organisms
- Catheterized specimen (straight cath or newly placed indwelling cath): ≥1,000 cfu/mL with ≥1 organism

NO → Criteria for signs or symptoms are NOT met; do not order urinalysis and culture, review for alternative diagnosis

Proceed with treatment with empiric antibiotics

YES