

## **Appendix A: Reason for call (situation cue) – Evaluation criteria**

### **Acute Confusion – evaluation of the differential diagnosis [1:2]**

1. Fluid and electrolyte disturbances – asked about or ordered laboratory tests for sodium or calcium.
2. Infections – asked about any of: fever, evidence of infection, WBC; ordered WBC or cultures; ordered antibiotic treatment.
3. Drug or alcohol toxicity/withdrawal – asked about substance abuse.
4. Metabolic disorders (hypoglycemia, thyroid, B12, uremia, liver failure) – asked about history of thyroid disease or renal/liver failure; asked about or ordered one of the laboratory tests for glucose, TSH, Creatinine, liver functions, B12.
5. Low perfusion states / hypoxemia – asked explicitly about signs of shock or oxygen saturation.
6. Postoperative states – asked about recent surgery.
7. Medications – asked about any of: opioids, sleep medications, antipsychotic, antihistamines, lithium, antiepileptic and antidepressants. Acute or subacute brain lesions – requested brain CT or MRI.
8. Requested a physician to come and evaluate the patient in person.

### **Persistent fever / fever while on antibiotics – evaluation of the differential diagnosis [3'4]**

1. Healthcare associated infection – asked about any of: urinary catheter, indwelling intravenous lines, recent hospitalization or antibiotic treatment (C. difficile colitis was excluded from the evaluation - see methods), decubitus ulcer.
2. Wrong antibiotics – requested a broad spectrum antibiotics (merely asking about culture results was not considered an “adequate” management).
3. Antibiotics not reaching its site – asked about the presence of anatomical problems in the urinary tract or ordered an imaging study of the urinary tract.
4. Noninfectious – asked about/mentioned any of: drug fever, cancer, connective tissue disease, hematoma, pancreatitis, pulmonary embolus, myocardial infarction, ischemic colitis.
5. Requested a physician would come and evaluate the patient in person.

### **Elevated Potassium (Hyperkalemia) - evaluation of the differential diagnosis [5'6]**

1. Renal insufficiency – asked about a history of kidney disease or ordered renal function tests.
2. Medication – asked about any of:
  - a. ACE inhibitors and angiotensin receptor blockers.
  - b. Potassium-sparing diuretics (e.g., Amiloride and Spironolactone).
  - c. NSAIDs such as Ibuprofen, Naproxen, or Celecoxib.
  - d. The calcineurin inhibitor immunosuppressants Cyclosporin and Tacrolimus.

- e. Trimethoprim.
  - f. Pentamidine.
3. Mineralocorticoid deficiency or resistance. Asked about the presence of any of:
- a. Addison's disease.
  - b. Aldosterone deficiency.
  - c. Some form of congenital adrenal hyperplasia.
  - d. Type IV renal tubular acidosis.
  - e. Gordon's syndrome.
4. Tissue destruction – asked about any of: rhabdomyolysis, burns or tumor lysis syndrome.
5. Massive blood transfusion or massive hemolysis.
6. Shifts/transport out of cells asked about any of: acidosis (i.e., pH), beta-blocker therapy, digoxin overdose, or the paralyzing agent succinylcholine.
7. Excess intake – asked about KCL treatment.
8. Requested a physician would come and evaluate the patient in person.

**Suspected PE – evaluation of the diagnostic work-up [7]**

1. Ordered any of: D-Dimer, CT Angiography, V/Q (Ventilation/Perfusion Scan), Ultrasound, pulmonary angiography, or requested a physician would come and evaluate the patient in person.

### **Request for sleep medication – evaluation of the diagnostic work-up [8]**

1. Made sure there was no liver, renal or respiratory failure.
2. Refrained from benzodiazepines (which are contraindicated in liver failure).
3. Made sure there were no interacting medications (i.e., other sedative hypnotic medications).

### **Treatment for the patient's active problem (background cue) – Evaluation criteria**

#### **Hyponatremia/elevated WBC in an acutely confused patient [3, 9]**

1. Repeat laboratory work-up and notification of the results.
2. Fluid restriction.
3. I.V. saline.
4. Central nervous system infection – asked about/ordered any of: nuchal rigidity, ordered a lumbar puncture (LP) or a head CT and then an LP.
5. Evaluation or orders for infection – ordered any of: chest X-ray, urinalysis, blood cultures, and antibiotic treatment.

#### **Nosocomial fever/fever post back surgery [10:11]**

1. Change antibiotics (any change in antibiotics treatment).
2. MRI/CT of the back.
3. Asked about any evidence of infection at the surgical site.

**Hyperkalemia due to Tacrolimus [12]**

1. Requested Tacrolimus levels.
2. Discontinued/reduced Tacrolimus dose.
3. Requested nephrological consultation.

**Hypertension due to Clonidine withdrawal/ fluid overload [13,14]**

1. Re-instituted Clonidine treatment.
2. Stopped fluid treatment.
3. Ordered treatment with a diuretic medication.

**Request for sleep medication in a patient requiring CPAP treatment[15]**

1. Re-instituted CPAP treatment.

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