Surgical Critical Care Update PRE TEST

1. What are the leapfrog requirements for ICU attending coverage?
    a. ICU in-house physicians 24 hours per day
    b. Non-intensivist in-house physician coverage 24 hours per day
    c. Access to intensivists 24 hours per day
    d. ICU designated mid-level providers 24 hours per day

2. What ICU outcome is suggested by the evidence to improve with ICU intensivist night coverage?
    a. Rate of pneumonia
    b. Number of blood transfusions
    c. ICU length of stay
    d. Ventilator free days

3. The use of information technology and decision support in burns has been effective at which of the following:

    a. **Reducing resuscitation volumes**
    b. Decreasing hospital stay
    c. Decreasing medical errors
    d. Improving operating room times

4. A 25-year-old women reports feeling faint POD 1 after an appendectomy. Her HR is 175, regular and narrow complex, this is most likely
    A. Sinus tachycardia
    B. Atrial fibrillation
    C. Atrioventricular nodal re-entry tachycardia
    D. Multfocal atrial taccycardia (MAT)

5. 2nd degree heart block, Type 1 is characterized by,
    a. Complete dissociation between the P-wave and the QRS, with a stable P-P interval
    b. Progressive lengthening of the PR interval until the QRS wave is dropped
    c. A sudden non conducted P-wave (dropped QRS), without a change in the PR interval
    d. A PR interval >0.2 seconds

6. Of the following, which is the best indicator of adequate resuscitation from shock?
a) Normal mental status
b) Normal blood pressure
c) Normal mixed venous oxygen saturation
d) Normal pH

7. A 78 yo woman is found unresponsive by her family. Her BP is 75/35, HR 120, RR 20, temp 35.7^{o}C. Physical examination reveals that she is arousable and mumbles incomprehensible words. On examination, she has no jugular venous distention, clear lungs and a distended, but soft abdomen. The most important FIRST step in her care is:

a) send cultures
b) **initiate fluid resuscitation**
c) intubation
d) obtain chest a radiograph

8. The diagnosis of a *C. difficile* infection:

(A) Is based on clinical findings alone

(B) Is uncommon in the hospitalized patient

(C) Is based upon positive tests for the *C. difficile* antigen and toxin

(D) Is decreasing in incidence

9. Antibiotic treatment options for *C. difficile* infection include all of the following except:

(A) Oral fidaxomicin

(B) Vancomycin enemas

(C) Intravenous metronidazole

(D) Intravenous levofloxacin

10. In which of the following patient scenarios, would the use of a prothrombin complex concentrate be MORE appropriate than the use of FFP?

a. **Reversal of an INR of 6.0 in a 74-year-old female with a history of atrial fibrillation and congestive heart failure**.

b. A 26-year-old male with a traumatic brain injury and an INR 1.5 (from acute traumatic coagulopathy) who requires placement of an intracranial pressure monitor.

c. A 36-year-old female with a severe pelvic fracture and an INR of 2.1 from acute traumatic coagulopathy with continued hemorrhage despite blood transfusions.

d. A 54-year-old female with septic shock from perforated diverticulitis and an INR of 2.2

11. Q2. A 65 year old male who takes Pradaxa (Dabigatran) for his intermittent atrial fibrillation presents to your hospital with a large flank hematoma following a fall. A CT scan demonstrates extension of this hematoma into the retroperitoneum with evidence of active extravasation. How would you BEST reverse his anticoagulation?

a. Administration of weight-based dosed Prothrombin Complex Concentrate

b. Administration of Fresh Frozen Plasma
c. Administration of Activated Factor VIIa
d. Hemodialysis

12. Erythropoietin (EPO) would be indicated in which one of the following ICU patients?.
a. 85 year old male with a history of coronary stent placement and a hemoglobin of 8.3 g/dL
b. A 47 year old female with Chronic Kidney Disease grade 5 and a hemoglobin of 7.9 g/dL
c. 22 year old male with a hemoglobin of 6.7 g/dL, pulse of 120 and a BP of 104/76
d. 28 year old female with a hemoglobin of 8.1 and a severe traumatic brain injury

13. The appropriate prep when placing a central venous catheter is
A. Betadine
B. Tincture of iodine
C. Alcohol
D**. Chlorhexidine**

14. Which of the following is NOT used to survey for a "Ventilator Associated Event?"
A. Worsening oxygenation as evidence by increases in daily minimum Fi02 ≥ 0.20
B. **New infiltrate noted on chest x-ray**
C. Worsening oxygenation as evidence by increases in daily minimum PEEP values of ≥ 3cmH20
D. Period of stability or improvement on the ventilator defined by ≥ calendar days of stable or decreasing FiO2 or PEEP.

15. Which of the following antibiotics has/have activity against gram negatives?
a. Tedizolid
b. Telavancin
c. Teflaro
d. All of the above

16. Which of the following are true concerning CNS infections?
a. Steroids should not be administered in the setting of bacterial meningitis due to an increased risk of secondary infections.
b. Viral meningitis should be empirically treated with acyclovir
c. Brain biopsy is needed for diagnosis of viral encephalitis
d. Surgical treatment of brain abscess is recommended in combination with antibiotics as initial therapy for a cerebellar abscess of 2cm.

17. When comparing intermittent daily hemodialysis to continuous venovenous hemofiltration (CVVH), CVVH:
a. Cost more on a daily basis
b. Reduces 30 day mortality
c. **Provides a constant GFR**

d. Leads to hypothermia

18. Which of the following organisms is *LEAST* likely to require a prolonged course of antibiotics for the treatment of ventilator-associated pneumonia (VAP)?

a. Acinetobacter
b. Pseudomonas
c. Hemophilus
d. Stenotrophomonas

19. Which of the following is *NOT* considered a best practice for the prevention of ventilator-associated pneumonia?

a. Daily drug sedation holiday
b. Gastrointestinal and deep venous thrombosis prophylaxis
c. Maintain hemoglobin > 10 g/dL
d. Elevation of head-of-bed

20. The Berlin definition of Severe ARDS includes assessment of which of the following?

A. **Oxygenation: $PaO_2/FiO_2 \leq 100$ mmHg**
B. Minute Ventilation: $VE_{CORR} \geq 10$L/min
C. Radiographs: CXR with all 4 quadrants showing pulmonary edema
D. Ventilator pressures: $P_{plat} > 25$ cm H_2O
E. Compliance: $C_{RS} \leq 40$ mL/cm H_2O

21. Which of the following is not true regarding High Frequency Oscillatory Ventilation (HFOV)?

A. **Early initiation of HFOV in ARDS is associated with increased survival.**
B. Decreasing Hertz (decreasing frequency) will increase minute ventilation.
C. Improvements in oxygenation may be seen within six hours of therapy.
D. Sedation and neuromuscular blockade use are increased with HFOV.

22. A 57 year-old male develops rapid atrial fibrillation on post-op day 3 following a cadaveric renal transplant. His urine output has been appropriate post-op and he has received adequate resuscitative fluids. He is started and maintained on Diltiazem which is able to control his rate. Over the next four days, the patient's urine output begins to drop and the patient's creatinine begins to rise. Accompanying this are hyperkalemia, transaminitis, and confusion. His heart rate and blood pressure remain normal. His medications include: Tacrolimus, Mycophenolate

mofetil, prednisone, nephrocaps, insulin, bisacodyl, and hydrocodone/acetominophen. Which of the following will aid the most in making the diagnosis?

A. Check a Tacrolimus level
B. Obtain a CT Scan
C. Obtain peripheral blood cultures, urine cultures, and start broad-spectrum antibiotics
D. Discontinue pain medication and follow laboratory values

23. A 25 year-old male who received a bilateral lung transplant for cystic fibrosis 6 months ago presents with fevers, cough, increased work of breathing, and bilateral patchy infiltrates on CXR. He is started on broad-spectrum antibiotics (including antifungals, and antivirals) and is admitted for monitoring. Over the next 2 days, the patient continues to deteriorate and requires emergent endotracheal intubation. A repeat chest x-ray shows worsening patchy infiltrates. By this point, the patient is afebrile, hemodynamically stable, and has a normal white blood cell count. What is the next diagnostic step in managing this patient?

A. Obtain a CT scan
B. Bronchoscopy
C. Percutaneous lung biopsy
D. Insert a pulmonary artery catheter

24. Which of the following statements is FALSE regarding subclavian artery injuries:

a. Subclavian artery injuries are rare, occurring in less than 5% of all penetrating chest and neck injuries.
b. The mortality rate associated with this injury is also low, with the vast majority surviving to hospital and eventually to hospital discharge.
c. There is a concomitant venous injury in approximately 20% of cases.
d. Subclavian artery injury is rare after blunt trauma.

25. Which of the following are acceptable operative management options for an actively bleeding Subclavian Artery injury?
a. PTFE or Dacron interposition graft
b. Reversed saphenous vein graft
c. Ligation
d. Damage control shunting
e. All of the above