**Pre-intervention Test**

***Clinical Cases***

***Please answer the following questions. Please mark the most appropriate choice(s) for each question. There may be more than one correct answer per question.***

**Case I:**

You are the Intensivist on-call at a community hospital. You think that one of your critically ill patients may benefit from a higher level of care. The patient was accepted by our ICU. The patient is currently intubated and mechanically ventilated (AC/PC, tidal volume 450, positive end-expiratory pressure (PEEP) 12, peak inspiratory pressure (PIP) 33). He is on the following drips: Norepinephrine, epinephrine, propofol, morphine, cisatracurium. The patient has a left femoral central line, and a radial arterial line. He also had a transvenous pacemaker placed through the right internal jugular vein. It is a stormy day with lots of snow and a helicopter is unavailable due to these weather conditions. You are requesting a critical care transport ambulance.

1. Can this patient be immediately accepted for critical care ambulance transfer?

* Yes, as long as the accepting facility is less than 100 miles away
* Yes, if weather permits
* **No, review by the EMS/ambulance on-call physician is required**
* No, the patient is paralyzed and therefore cannot be transported by ground ambulance

1. If this patient was accepted, which of the following medication(s) are not pre-approved (i.e., covered by standard protocols) for critical care ambulance transport *or* would need to be provided by the sending facility?

* **Epinephrine gtt.**
* Propofol gtt.
* Morphine gtt.
* **Cisatracurium gtt.**

1. Are the patient’s current ventilator settings within the acceptable range as defined in the our Medical Control Authority’s critical care transport protocols?

* Yes, as critical care ambulances are equipped with a transport ventilator with multiple capabilities
* **Only if the patient is “stable” on the current ventilator settings**
* **PEEP is greater than 10 and requires review by the EMS/ambulance on-call physician**
* Pressure controlled ventilation is not available in the Critical care ambulance

1. Which of the following indwelling lines/devices need(s) to be discontinued prior to transfer?

* One of the central lines
* The arterial line
* The pacemaker
* **None**

**Case II:**

You are the ICU fellow responsible for outside hospital (OSH) transfers today. You receive a transfer request from a smaller hospital. However, since you do not have any beds available, you have to decline. Five hours later, the Emergency Department (ED) pages you, asking you to evaluate a patient for admission to your ICU. In the ED, you realize that this is the patient the OSH had called you about earlier today; apparently, they had transferred the patient despite you having declined to accept the transfer.

1. Are you required to see this patient?

* No, you had discussed the patient with the OSH and explained that you are unable to accommodate their request
* Legally-speaking no, but you see the patient anyways because “it’s the right thing to do”
* **Yes, it is required by EMTALA**
* It depends on your hospital’s policy

2. The patient’s clinical status mandates ICU level care. There are still no ICU beds available. Which of the following options are legally and practically feasible?

* Admit patient to a general care floor bed
* Transfer patient to a long-term acute care facility
* **Transfer patient to an ICU at another facility**
* **Board the patient in the ED until a bed opens up**

**Case III:**

A patient is currently en route to your facility from an OSH. He is disoriented and is being treated for presumed pneumonia. He has been on multiple antibiotics and the sending facility had provided the paramedics with a bag of ampicillin-sulbactam and instructed them to start this medication 1.5 hours after leaving the OSH. You are meeting the paramedics and the patient in your ICU. They had just started the infusion a few minutes ago. Just prior to transfer from the ambulance stretcher to the ICU bed, the patient becomes tachycardic and hypotensive. You suspect an anaphylactic reaction. You stop the antibiotic infusion, order epinephrine, diphenhydramine and methylprednisolone. However, the patient dies. It turns out that the patient had an allergy to penicillins documented at the OSH.

1. Who is, legally, most responsible for the administration of the antibiotic despite the patient’s allergy?

* **The sending facility’s physicians – they were the only health care providers involved who knew about the allergy, since the patient was already disoriented at the time of transfer and could not volunteer this information**
* The paramedics – they should not have relied on the “no known allergies” documented on their transfer documents
* You, since the patient was still receiving the antibiotic through one of his IVs while he was already on your hospital’s property
* The EMS Medical Director only – the paramedics acted under his medical license

1. The paramedics had already administered one dose of diphenhydramine 50 mg IV while in the elevator because they were concerned about an allergic reaction. They were authorized to do so by…

* **Standard EMS anaphylaxis protocol**
* Verbal order from the EMS/ambulance on-call physician
* You will have to sign off on it
* The sending facility’s physician will have to approve the right medication, dose and route of administration

***Non-case Based Questions***

***Please answer the following questions. Please mark the most appropriate choice(s) for each question. There may be more than one correct answer per question.***

1. You are transferring a patient from your ICU to a tertiary care center by ground ambulance. The patient has a small pneumothorax, but is stable on the ventilator. You wonder if the patient needs a chest tube.

* Patients with chest tubes cannot be transported by ground ambulance
* **If in doubt, place the chest tube now, as the paramedics are only trained to perform needle decompression**
* The paramedics will monitor the patient closely, should he require a chest tube, they can place one en route to the receiving hospital
* Patients with pneumothoraces are generally not considered stable enough for transport

1. When is the right time to transfer a patient, from a transportation medicine perspective?

* **The patient should be as stable as possible**
* **Transfer should be considered even before all other therapeutic options available have been exhausted, as most transporting agencies are unable to provide the same level of care as a hospital ICU**
* Patients should only be transferred if absolutely necessary and after all therapy options have been exhausted, as the risks associated with transfers usually outweigh the benefits
* Transfers lead to fragmentation of care, therefore, every critically ill patient should be transferred to a tertiary care center as early as possible

1. You would like to transfer a patient from your ICU to a tertiary care center. The patient’s condition requires review by the EMS/ambulance on-call physician who thinks that the patient is not stable enough for a standard critical care transport ambulance. What are your options?

* **The patient could be a good candidate for transfer by helicopter**
* **You or another qualified member of your hospital staff may accompany the patient in the critical care ambulance**
* The patient will need to be completely stabilized prior to any transfer attempts
* Only you, and not the EMS/ambulance on-call physician, determine whether a patient is stable enough for transfer

1. You would like to transfer a patient with rapid atrial fibrillation to another hospital and you wonder whether you can send this patient on a diltiazem drip. You are waiting for a call back from the EMS/ambulance on-call physician, where could you find this information in the meantime?

* Printed copy of local EMS protocols that is available in your local Emergency Department, as required by state law
* **EMS protocols on the Medical Control Authority’s website**
* Website of the State EMS Medical Director
* Website of the National Association of EMS Physicians