

## Preventing Medical Errors Part Two: Devices SD Post-Test

- 1) Examples of a medical device design defect include all except:
  - a) A ventilator that requires navigation through layers of menus to change modes
  - b) A monitor display that is easy to see
  - c) An alarm that is easy to ignore
  - d) A ventilator port that permits easy misconnection
  
- 2) Human Factor Engineering (HFE) is a study of the interactions between humans, machines, & complex systems. The specific goals of HFE include all except:
  - a) Reduced need for training
  - b) Reduced reliance on user manuals
  - c) More effective alarms
  - d) More difficult repair & maintenance
  
- 3) The steps to take when a medical device has been found to be defective include all except:
  - a) Take the device from service
  - b) Put the device & all its parts back in its packaging & write down its number
  - c) Put some kind of notification on the device
  - d) Notify the patient's family
  
- 4) Increasing the liter flow on a patient's nasal cannula does not improve SPO<sub>2</sub> because the nasopharynx was packed with surgical gauze. Prevention of this type of adverse event would include all except:
  - a) Use of dissolvable surgical gauze
  - b) A comprehensive report on transfer
  - c) Documentation of nasal packing
  - d) Physical assessment of the patient

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- 5) A patient was struck in the head by an oxygen cylinder during an MRI. Prevention of this type of adverse event would include all except:
- a) Prominent signage
  - b) Comprehensive staff training
  - c) Ferrous oxygen transport cylinders
  - d) Medical gas wall outlets
- 6) A patient who was being bagged had worsening hypoxemia because the manual resuscitator was plugged into an air outlet instead of an O<sub>2</sub> outlet. Procedures to be implemented to prevent this type of event would include all of the following except:
- a) O<sub>2</sub> flowmeters disconnected & stored when not in use
  - b) All gas tubing should be labeled for applications
  - c) Trace tubing to its source before use
  - d) Flow restriction device instead of air flowmeter for treatments
- 7) Sentinel event contributing factors that were not caused by mechanical ventilator malfunction include all except:
- a) Alarm on or set correctly
  - b) Alarm off or set incorrectly
  - c) No alarm for certain disconnects
  - d) Alarm not audible in all areas
- 8) A mechanically ventilated patient in an intermediate unit became disconnected from the ventilator & expired. The ventilator alarms were correctly set & functioning. Contributing factors included all except:
- a) The patient was located far from the nursing station in a corner room
  - b) An RCP was not assigned full-time to this unit
  - c) The caregivers were familiar with mechanical ventilation
  - d) The ventilator had alarmed frequently

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9) Preventative steps to take for the event listed in the previous question would include all except:

- a) Continuous ECG monitoring of all mechanically ventilated patients
- b) Continuous mechanical ventilation only in units with a dedicated RCP
- c) Clinical training on mechanical ventilation for caregivers
- d) Immediate response to alarms & monitors

10) The responsibilities of RCPs to prevent medical device events include all except:

- a) Assure competency on all devices
- b) Routine monitoring of device function
- c) Document & report adverse events to the Center for Devices and Radiological Health
- d) Report any potential risks