Note to Participants: There are interactive pop-up questions throughout this lecture. If you choose to pause the lecture and return at a later time, a natural break time would be after answering the interactive questions. (You are able to pause at any time and the presentation will “remember” where you were. It’s just a more natural time to pause after the interactive questions.) For your convenience, this outline reflects where/when within the lecture the interactive questions occur.

This lecture has 91 slides and is 131 minutes in duration.

I. Invasive and noninvasive monitoring
   A. Visual assessment and inventory of patient and bedside equipment
   B. Mobilizing the ICU patient
   C. Invasive monitoring and techniques
      1. Continuous monitoring of arterial blood pressure
      2. Femoral line
      3. PA catheter/Swan-Ganz
      4. Permanent pacemaker and/or ICD
      5. LifeVest wearable defibrillator
      6. Chest tube drain
      7. Extracorporeal membrane oxygenation
      8. Intra-aortic balloon pump (IABP)
      9. Left ventricular assist device (LVAD)
     10. Hemodialysis
     11. Intracranial pressure monitoring

Interactive Questions — slide 27 @ 39 minutes

II. Procedures
   A. Angioplasty and stents
   B. CABG procedures
   C. Median sternotomy
   D. Abdominal aortic aneurysmectomy

III. Ventilation: Mechanical and noninvasive
   A. Noninvasive ventilation
      1. CPAP
      2. BiPAP

Interactive Questions — slide 39 @ 60 minutes

B. Ventilators
   1. The ICU patient
   2. Reading a ventilator
   3. Indications for mechanical ventilation
4. Ventilation controls
5. Ventilation techniques
6. Complications of mechanical ventilation
7. Weaning
   a. When to begin
   b. What to watch for during
   c. How to wean
   d. Factors in weaning
8. Other considerations
   a. Corking
   b. Passy-Muir speaking valve
   c. Suctioning

Interactive Questions — slide 60 @ 98 minutes

IV. Oxygen delivery
A. Monitoring
   1. Pulse oximetry
   2. Monitoring probes
B. Oxygen storage
   1. Portable unit
   2. Cylinder
   3. Portable O₂ concentrator
C. Methods of delivery
   1. Ambu bag
      a. Documenting FiO₂
   2. Nasal cannula
      a. O₂ concentrations of patients using a nasal cannula
      b. High flow nasal cannula
   3. Oxymizer
   4. Face mask
   5. Venturi system
   6. Partial non-rebreather mask
   7. Transtracheal oxygen
D. Oxygen algorithm

Interactive Questions — slide 89 @ 129 minutes
Bibliography

Articles


**Textbooks/Reports**


**Suggested websites for more information:**

- American Heart Association: Common tests for arrhythmias. [www.heart.org/conditions/arrhythmia](http://www.heart.org/conditions/arrhythmia)
- ECG references collected by emergency medicine registrar Ed Burns. [www.lifeinthefastlane.com/ecg-library](http://www.lifeinthefastlane.com/ecg-library)
- Publications on ECGs. [www.12leadecg.com](http://www.12leadecg.com)

**Images**

*Slide 12:*

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