

***Anesthesiology Rounds***  
**November 2003**

**Pulmonary artery catheters: Do we still use them?**  
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**Objectives:**

- Understand some of the important limitations to pulmonary artery catheter (PAC) utilization as a therapeutic tool.
- Acquire a better understanding of recent clinical trials evaluating PAC utilization.
- Define which patient populations would possibly benefit from PAC utilization and review the literature that supports the utilization of the PAC in certain subgroups.

**Answer the following questions (only one right answer)**

1. Pulmonary artery catheter (PAC) use has been repeatedly shown to decrease mortality in which patient population?
  - a) Patients undergoing aortic and vascular surgery.
  - b) Patients in septic shock who had “supraphysiologic” hemodynamic manipulations.
  - c) Patients with congestive heart failure.
  - d) None of the above.
2. Which of the following statements best summarizes current mainstream thinking on PAC use?
  - a) Most patients with a low ejection fraction, coronary artery disease and undergoing vascular surgery should have a PAC inserted.
  - b) PAC use must be individualized on a case-by-case basis and not be routinely used.
  - c) Supraphysiologic hemodynamic manipulation, when done with the use of a PAC, can possibly prevent renal failure in a subset of patients.
  - d) The use of PACs has decreased significantly over the years because of poor training concerning their installation and interpretation.

3. The knowledge gained from a PAC can be offset or nullified by which of the following?
- a) Improper calibration and leveling of transducers.
  - b) Improper interpretation of waveforms and pressure readings.
  - c) Improper analysis of the hemodynamic data gathered by PAC use.
  - d) Infectious and mechanical complications.
  - e) All of the above.
4. Which of the following statements is the most appropriate to describe the role of the PAC today?
- a) Is easily replaceable by other currently available technologies that are far less invasive, readily available, and simpler to use.
  - b) The PAC is a well-understood clinical tool that is useful in managing routine volume resuscitation in a wide range of patient populations undergoing major surgery.
  - c) The PAC is a relatively complex tool that requires a detailed understanding of normal and pathological physiology. It needs to be used with meticulous attention to details, to possibly gain clinical benefit in a small group of patients.
  - d) PAC use is not supported by the literature and should be banned.

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