

Patient positioning and the accuracy of pulmonary artery pressure measurements

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摘要

Abstract

The measurement of pulmonary artery pressure (PAP) is a common nursing practice in hemodynamic monitoring of patients in the emergency room and intensive care unit. Several researchers have proposed that PAP should be measured with the patient in a supine position with legs horizontal in order to promote a relaxed state. The most widely used reference point is the phlebostatic axis, which is located at the intersection of the fourth intercostal space and the midchest level. However, this positioning requirement is in conflict with one of the goals of nursing care, which is to achieve comfortable positioning of the patient without compromising respiratory or cardiovascular function. In addition, since frequent readings are necessary, critically ill patients can lose valuable sleep time. The existing literature still fails to justify the validity of the phlebostatic axis as an external reference point for leveling the pressure transducer. In addition, findings on the accuracy of readings obtained in the supine, Fowler's and lateral recumbent positions are also in conflict. This paper reviewed research related to measurement of PAP in the supine, various Fowler's, and lateral positions in order to clarify the major factors which might have resulted in the conflicts in data on PAP measurements. Suggestions are also provided for nurse clinicians to obtain more accurate PAP measurements.