Visual Estimation of Perioperative Blood Loss: Can it be Improved by an Educational Presentation?

Cheryl J. Mordis, M.D.; Benjamin Workman, M.D.
Henry Ford Health System/Wayne State University Sc

Learner Audience: The estimation of blood loss has long been a matter of debate in the operating room. An estimation is, recently, a mandatory component of any procedural record - both inside and outside the operating rooms. Personnel working in these environments need to learn to determine estimated blood loss (EBL).

Background: Clinical experience is believed to be the best determinant of an accurate estimation. Studies do not support this belief. Studies report discrepancies in estimations between anesthesiologists and surgeons. There has been no formal teaching in this area at our institution until this study.

Hypothesis: We believe that formal education in the visual estimation of perioperative blood loss will improve its accuracy.

Method Designs: A mock operating room with known amounts of shed human blood was set up. Participants were asked provide EBL at each of six stations. They then viewed a powerpoint presentation which described principles of estimating blood loss. The subjects then re-estimated blood loss at the six stations.
Subjects were also asked to make a decision of blood transfusion, or not, in a case presentation. This question emphasized the importance of visual estimation of blood loss. It elevated the cognitive level of understanding from merely determining an answer to analyzing whether it was appropriate to give blood - both a life saving and potentially life threatening act.

Outcome: The per cent error in blood loss estimation decreased significantly in five of the six stations following the educational presentation.

Discussion surrounding the question of blood transfusion was lively. Many subjects changed the answer to this question after the education.