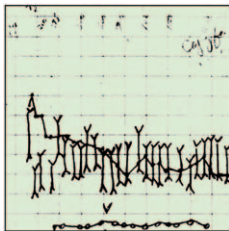


1205 Without Science There Is Little Art in Anesthesiology: Rovenstine Lecture 2015

In this, his last issue as Editor-in-Chief of ANESTHESIOLOGY, James C. Eisenach, M.D., presents his thoughts on how science informs medical practice in an editorial based on the Rovenstine Lecture he presented at the 2015 annual meeting of the American Society of Anesthesiologists. Drawing on the life of Emery A. Rovenstine, M.D., D.Sc., and the writings of Carol Cassella, M.D., and William Shakespeare, Dr. Eisenach muses on the anesthesiologist as a practitioner of the art and science of anesthesia. Art, he reasons, comes from what motivates people to become physicians, compassion and humanity, which are guided into action along the path of science. He concludes that anesthesiologists can only practice the art of medicine effectively if they apply science in their daily practice, pledge to lifelong learning in science, and support young scientific investigators.

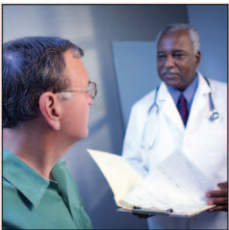
(Summary: M. J. Avram. Image: A. Johnson, Vivo Visuals.)



1218 A 1966 Anesthetic Administered by Robert D. Dripps, M.D., Demonstrated His Experimental Style of Clinical Care (Special Article)

Robert D. Dripps, M.D. (1911 to 1973), is a founder of academic anesthesiology. He is known for advancing the practice of spinal anesthesia through long-term follow-up studies that documented its safety and for a philosophy of practice that considered every patient anesthetic a clinical experiment. The 1966 anesthetic shown in this article is consistent with the clinical style that led to a productive academic career and the development of modern anesthesia. It demonstrates an approach to advancing anesthetic knowledge before the time of clinical trials, but resulted in ethical criticisms that caused Dripps to change his core philosophies and teachings. Dripps' 1971 essay on the ethical, practical, and legal problems with human

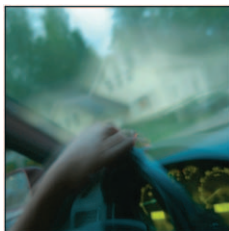
studies cited the 1964 Declaration of Helsinki and described a robust method he was using to obtain informed consents. See the accompanying Editorial View on [page 1208](#). (Summary: M. J. Avram. Image: Courtesy of West Virginia University School of Medicine, Department of Anesthesiology.)



1246 Consent for Anesthesia Clinical Trials on the Day of Surgery: Patient Attitudes and Perceptions

The opportunity to obtain informed consent for anesthesia research is often restricted to the day of surgery. A 26-question survey was distributed to 200 subjects who had provided informed consent to participate in one of two low-risk clinical trials to determine whether they were comfortable providing same-day informed consent. Complete questionnaires were received from 129 subjects. Despite the limitations of the same-day consent process, most of the responding participants reported they understood the purpose, benefits, and risks of the clinical trials. The majority of respondents strongly agreed that approach by a research assistant in the preoperative holding area allowed sufficient time and privacy to review protocols, and few

respondents felt obligated to enroll. Only one subject expressed regret about study participation and 125 (97%) were satisfied with the overall consent process. (Summary: M. J. Avram. Image: ©Thinkstock.)



1396 Driving Performance of Residents after Six Consecutive Overnight Work Shifts (Original Investigations in Education)

The hypothesis that, after six consecutive overnight work shifts, anesthesiology residents will have poorer driving performance and will be involved in more collisions compared to their day-shift work state was tested in 26 residents. Two 55-min high-fidelity driving simulator sessions were conducted, an experimental session immediately after the final shift of six consecutive night shifts and a control session at the beginning of a normal day shift. Driving performance was impaired even after a 14-h night shift that is consistent with the most current Accreditation Council for Graduate Medical Education duty hour standards. These results suggest that changing from a traditional call system to a night-float or night shift system does not protect

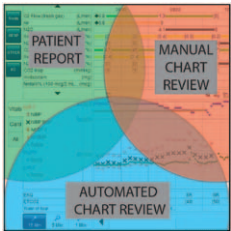
residents from the effect of fatigue on driving performance, even though it may allow residents more sleep during the day. See the accompanying Editorial View on [page 1210](#). (Summary: M. J. Avram. Photo: ©Thinkstock.)



1230 Effects of Volatile Anesthetics on Mortality and Postoperative Pulmonary and Other Complications in Patients Undergoing Surgery: A Systematic Review and Meta-analysis

The type of anesthesia could affect pulmonary and other complications. The hypothesis that, compared to total intravenous anesthesia, use of volatile anesthetics during general anesthesia is associated with reduced mortality and reduced incidence of postoperative pulmonary and other complications in non-cardiac and cardiac surgery patient populations was tested in a systematic review and meta-analysis of randomized controlled trials comparing the effects of volatile anesthetics with total intravenous anesthesia on patient outcomes. Outcome data from 4,840 patients in 45 trials enrolling patients undergoing

cardiac surgery and from 1,876 patients in 20 trials enrolling patients undergoing noncardiac surgery were included in the analysis. General anesthesia with volatile anesthetics was associated with reduced mortality and lower risk of pulmonary and other complications in cardiac, but not in noncardiac, surgery. See the accompanying Editorial View on [page 1213](#). (Summary: M. J. Avram. Image: J. P. Rathmell.)



1265 Convergent Validity of Three Methods for Measuring Postoperative Complications

The convergent validity of patient-reported outcomes and medical record review in detecting postoperative complications after a wide variety of surgical procedures was determined for 1,578 adult patients who completed a questionnaire that included a question asking what complications they experienced while in the hospital recovering from their procedure. An automated computer algorithm reviewed the patients' electronic medical records and a subset of the patients was selected for manual chart review. Patient report of postprocedure complications had low-to-moderate positive agreement and excellent negative agreement with automated chart review and with manual chart review. Agreement was not improved when patient

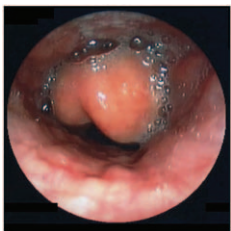
report and automated chart review were combined into a composite assay. Much of the discordance occurred because patients reported events that occurred before procedures or after hospital discharges as postoperative in-hospital complications. (Summary: M. J. Avram. Image: J. P. Rathmell.)



1296 Proteomic Profiling Reveals Adaptive Responses to Surgical Myocardial Ischemia-Reperfusion in Hibernating Arctic Ground Squirrels Compared to Rats

Mammalian hibernation is characterized by prolonged bouts of winter torpor. Entry into and exit from torpor is akin to ischemia-reperfusion (I/R), in that blood flow is greatly reduced and then restored. The hypothesis that experimental I/R injury will produce less severe myocardial injury and dysfunction in hibernating arctic ground squirrels than in a nonhibernator (rat) was tested using a clinically relevant I/R model. Hibernating arctic ground squirrels had significantly attenuated myocardial injury, as assessed by plasma troponin I concentrations, myocardial apoptosis, and left ventricular contractile function. A precisely controlled fuel shift from myocardial carbohydrate to fatty acid metabolism in hibernating arctic ground squirrels appears to be orchestrated through down-regulation of key metabolic enzymes associated with glycolysis, the tricarboxylic acid cycle, ketolysis, and branched-chain amino acid catabolism, and increased expression of enzymes involved in fatty acid catabolism.

See the accompanying Editorial View on [page 1215](#). (Summary: M. J. Avram. Image: ©Thinkstock.)



1404 Epiglottitis: It Hasn't Gone Away (Clinical Concepts and Commentary)

Although bacterial epiglottitis used to be a common disease, it is now much less so. Before introduction of the *Haemophilus influenzae* vaccination, epiglottitis was most often seen in children 3 to 5 yr of age, but now it is more commonly seen in adults. Since introduction of the *Haemophilus* vaccine, group A β -hemolytic *Streptococci* are more often responsible for infections causing epiglottitis. Noninfectious causes may include trauma from foreign objects, inhalation, and chemical burns and it is also associated with systemic disease or negative reactions to chemotherapy. Because epiglottitis presents differently in children and adults, this Clinical Concepts and Commentary discusses clinical presentation, diagnosis, management, and anesthetic considerations for both children and adults. It ends with a discussion of complications of the disease. (Summary: M. J. Avram. Image: 藤澤孝志 [own work], CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=26772948>.)