

Brief Reviews

Edited by J. S. Gravenstein, MD

Development of a new closed-loop system for controlling a mivacurium induced neuromuscular blockade.

A neural network proved effective in patients under general anesthesia in controlling the infusion of mivacurium for the duration of the operation.

Geldner G, Schwarz U, Ruoff M, Romeiser J, Lendi M, Schütz, Georgieff M: *Anaesthesist* 1999; 48: 157–162

Training guidelines in transesophageal echocardiography for anesthesiologists.

The proposed training calls for 40 hours of instruction, 200 TEE examinations, 50 of which during cardiac surgical procedures, 1 year of regular use of TEE, completion of training in anesthesia, and a 1 to 2 hour oral examination.

Loick HM, Greim C-A, Roewer N, van Aken H: *Anaesthesiologie & Intensivmedizin* 1999; 2 (40): 67–71

Heart-rate turbulence after ventricular premature beats as a predictor of mortality after acute myocardial infarction.

That the absence of heart rate turbulence (the fluctuations of sinus-rhythm cycle length after a single ventricular premature beat) as recorded on a Holter monitor and assessed quantitatively by time till onset and slope, represents an ominous sign was demonstrated in a prospective study of patients who had suffered a myocardial infarction months earlier.

Schmidt G, Malik M, Barthel P, Schneider R, Ulm K, Rointzky L, Camm AJ, Bigger JT Jr, Schömig A: *The Lancet* 1999; 353: 1390–1396

Relationship between fasting plasma glucose and glycosylated hemoglobin Potential for false-positive diagnoses of Type 2 diabetes using new diagnostic criteria.

Patients with fasting plasma glucose concentration less than 7.8 mmol/L (140 mg/dL) should not be diagnosed as having diabetes unless their glycosylation was abnormally high (HbA1c) more than 1% above normal limits for assay used.

Davidson MB, Schriger DL, Peters AL, Lorber B: *JAMA* 1999; 281: 1203–1210

Preoperative serum potassium levels in perioperative outcomes in cardiac surgery patients.

In a multicenter study of 2,402 patients undergoing elective coronary artery bypass grafting, a preoperative serum potassium level of less than 3.5 mmol/L was a predictor of serious perioperative arrhythmias with an odds ratio (OR) of 2.2, of intraoperative arrhythmias with an OR of 2.0, and of postoperative atrial fibrillation/flutter with an OR of 1.7.

Wahr JA, Parks R, Boisvert D, Comunale M, Fabian J, Ramsay J, Mangano DT: *JAMA* 1999; 281 (23): 2203–2210

Chronic hyponatremic encephalopathy in postmenopausal women.

Chronic serum sodium levels below 130 mmol/L (mean of 111 mmol/L) was observed in 53 women with central nervous system symptoms, but correction of such hyponatremia with intravenous sodium chloride rather than by the restriction of fluids markedly improved outcome.

Ayus JC, Arieff AI: *JAMA* 1999; 281: 2299–2304

Safety and efficacy of target controlled infusion (Diprifusor) vs manually controlled infusion of propofol for anaesthesia.

In a multicenter study a microprocessor controlled infusion device comprising pharmacokinetic and dynamic algorithms was found to provide a slower induction with less drug but comparable total doses and recovery times obtained with manually adjusted infusions of propofol.

Anaesth Intensive Care 1999; 27: 260–264

Pulmonary artery catheters impregnated with chlorhexidine.

The FDA alerts the profession of reports of reactions to chlorhexidine-impregnated intravascular catheters which may trigger immediate systemic hypersensitivity reactions causing tachycardia, hypotension and complaints of chest pain, sometimes resulting in death.

<http://www.fda.gov/cdrh/chlorhex.html>

Use of point-of-care test in identification of patients who can benefit from desmopressin during cardiac surgery: a randomized controlled trial.

The hemoSTATUS which assess platelet function by analysing the effect of platelet-activating factor on the kaolin-activated clotting time was found to identify patients at increased risk of excessive bleeding after cardiac operations.

Despotis GJ, Levine V, Saleem R, Sptnagel E, Joist JH: *Lancet* 1999; 342: 106–110

Cost-effectiveness of antiseptic-impregnated central venous catheters for the prevention of catheter-related bloodstream infection.

Chlorhexidine-silver sulfadiazine-impregnated central venous catheters in patients at risk for catheter related infections were shown to reduce the rate of infection, the incidence of deaths and resulted in cost savings ranging from \$68 to \$391.

Veenstra DL, Saint S, Sullivan SD: *JAMA* 1999; 282 (6): 554–560

Failure of exhalation during ventilation with the Draeger Oxylog 2000 ventilator.

During helicopter transports, high airway pressures and failure to exhale was detected by alert personnel monitoring capnometers, peak airway pressure and chest excursion of three patients requiring mechanical ventilation using Draeger Oxylog 2000 equipment with faulty valves, suggesting the need to carefully check ventilator circuits before use.

Morris R, Macken L, Tall G: Anaesth Intensive Care 1999; 27 (4): 400–405

Potential application and value of simulator training in anesthesia.

This German overview buttressed by 34 useful references describes the application of simulators in the training of anesthesia and emergency medical personnel, with emphasis on human factors and the recognition that the instructor still plays an important role in training programs that make use of this new tool.

Lussi C, Grapengeter M, Schuttler J: Anaesthesist 1999; 48: 433–438