Management of bleeding and coagulopathy following major trauma: an updated European guideline

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ABSTRACT

***Introduction**: Evidence-based recommendations are needed to guide the acute management of the bleeding trauma patient. When these recommendations are implemented patient outcomes may be improved.* ***Methods**: The multidisciplinary Task Force for Advanced Bleeding Care in Trauma was formed in 2005 with the aim of developing a guideline for the management of bleeding following severe injury. This document represents an updated version of the guideline published by the group in 2007 and updated in 2010. Recommendations were formulated using a nominal group process, the Grading of Recommendations Assessment, Development and Evaluation (GRADE) hierarchy of evidence and based on a systematic review of published literature.* ***Results**: Key changes encompassed in this version of the guideline include new recommendations on the appropriate use of vasopressors and inotropic agents, and reflect an awareness of the growing number of patients in the population at large treated with antiplatelet agents and/or oral anticoagulants. The current guideline also includes recommendations and a discussion of thromboprophylactic strategies for all patients following traumatic injury. The most significant addition is a new section that discusses the need for every institution to develop, implement and adhere to an evidence-based clinical protocol to manage traumatically injured patients. The remaining recommendations have been re-evaluated and graded based on literature published since the last edition of the guideline. Consideration was also given to changes in clinical practice that have taken place during this time period as a result of both new evidence and changes in the general availability of relevant agents and technologies.* ***Conclusions**: A comprehensive, multidisciplinary approach to trauma care and mechanisms with which to ensure that established protocols are consistently implemented will ensure a uniform and high standard of care across Europe and beyond.*

***Available at**: http://ec.europa.eu/health/ph_determinants/life_style/nutrition/documents/iotf_en.pdf*

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Prophylactic phenylephrine for caesarean section under spinal anaesthesia: systematic review and meta-analysis

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ABSTRACT

We conducted a systematic review to determine the harm and benefit associated with prophylactic phenylephrine for caesarean section under spinal anaesthesia. We included 21 randomised controlled trials with 1504 women. The relative risk (95% CI) of hypotension with phenylephrine infusion – as defined by authors – before delivery was 0.36 (0.18–0.73) vs placebo, p = 0.004; 0.58 (0.39–0.88) vs an ephedrine infusion, p = 0.009; and 0.73 (0.55–0.96) when added to an ephedrine infusion, p = 0.02. After delivery, the relative risks of hypotension and nausea and vomiting with phenylephrine compared with placebo were 0.37 (0.19–0.71), p = 0.003, and 0.39 (0.17–0.91), p = 0.03, respectively. There was no evidence that hypertension, bradycardia or neonatal endpoints were affected. Phenylephrine reduced the risk for hypoten-

sion and nausea and vomiting after spinal doses of bupivacaine generally exceeding 8 mg, but there was no evidence that it reduced other maternal or neonatal morbidities.

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Anesthetic induction with etomidate, rather than propofol, is associated with increased 30-day mortality and cardiovascular morbidity after noncardiac surgery

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ABSTRACT

Background: Because etomidate impairs adrenal function and blunts the cortisol release associated with surgical stimulus, we hypothesized that patients induced with etomidate suffer greater mortality and morbidity than comparable patients induced with propofol. Methods: We evaluated the electronic records of 31,148 ASA physical status III and IV patients who had noncardiac surgery at the Cleveland Clinic. Among these, anesthesia was induced with etomidate and maintained with volatile anesthetics in 2616 patients whereas 28,532 were given propofol for induction and maintained with volatile anesthetics. Two thousand one hundred forty-four patients given etomidate were propensity matched with 5233 patients given propofol and the groups compared on 30-day postoperative mortality, length of hospital stay, cardiovascular and infectious morbidities, vasopressor requirement, and intraoperative hemodynamics. Results: Patients given etomidate had 2.5 (98% confidence interval [CI], 1.9-3.4) times the odds of dying than those given propofol. Etomidate patients also had significantly greater odds of having cardiovascular morbidity (odds ratio [OR] [98% CI]: 1.5 [1.2-2.0]), and significantly longer hospital stay (hazard ratio [95% CI]: 0.82 [0.78-0.87]). However, infectious morbidity (OR [98% CI]: 1.0 [0.8-1.2]) and intraoperative vasopressor use (OR [95% CI] 0.92: [0.82-1.0]) did not differ between the agents. Conclusion: Etomidate was associated with a substantially increased risk for 30-day mortality, cardiovascular morbidity, and prolonged hospital stay. Our conclusions, especially on 30-day mortality, are robust to a strong unmeasured binary confounding variable. Although our study showed only an association between etomidate use and worse patients' outcomes but not causal relationship, clinicians should use etomidate judiciously, considering that improved hemodynamic stability at induction may be accompanied by substantially worse longer-term outcomes.

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Comparison of the effects of albumin 5%, hydroxyethyl starch 130/0.4 6%, and Ringer's lactate on blood loss and coagulation after cardiac surgery

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ABSTRACT

Background: Infusion of 5% human albumin (HA) and 6% hydroxyethyl starch 130/0.4 (HES) during cardiac surgery expand circulating volume to a greater extent than crystalloids and would be suitable for a restrictive fluid therapy regimen. However, HA and HES may affect blood coagulation and could contribute to increased transfusion requirements. Methods: We randomly assigned 240 patients undergoing elective cardiac surgery to receive up to 50 ml kg(-1) day(-1) of either HA, HES, or Ringer's lactate (RL) as the