SURGICAL EVIDENCE

Egyptian Group for Surgical Science and Research
Nabil Dowidar, EGSSR Moderator
Ahmed Hazem, EGSSR Secretary General
Said Rateb, Mohamed Farid, Ahmed Hussein

Correspondence to: Nabil Dowidar, Email: nabil_dowidar@hotmail.com

We present published evidence on surgical practice that does not require specialized training or significant resources for its implementation. Surgeons are advised to read the full text of the evidence before following the study conclusions.

Duration and magnitude of the postoperative risk of venous thromboembolism in middle aged women: prospective cohort study

Sweetland S, Green J, Liu B, Berrington de González A, Canonico M, Reeves G, et al
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This prospective cohort study "Million Women Study" was conducted in the United Kingdom between 1996-2001 and recruited 947 454 middle aged women with questionnaire information linked with hospital admission and death records that is routinely collected through NHS data base i.e admissions and mortality rate. The main objective was to find out why and when this sector of population developing venous thromboembolism after different types of surgery. The main results; "Compared with not having surgery, women were 70 times more likely to be admitted with venous thromboembolism in the first six weeks after an inpatient operation (relative risk 69.1, 95% confidence interval 63.1 to 75.6) and 10 times more likely after a day case operation (9.6, 8.0 to 11.5). The risks were lower but still substantially increased 7-12 weeks after surgery (19.6, 16.6 to 23.1 and 5.5, 4.3 to 7.0, respectively). This pattern of risk was similar for pulmonary embolism (n=2487) and deep venous thrombosis (n=3529). The postoperative risks of venous thromboembolism varied considerably by surgery type, with highest relative risks after inpatient surgery for hip or knee replacement and for cancer-1-6 weeks after surgery the relative risks were, respectively, 220.6 (187.8 to 259.2) and 91.6 (73.9 to 113.4)" . They also concluded that "the risk of deep vein thrombosis and pulmonary embolism after surgery is substantially increased in the first 12 postoperative weeks, and varies considerably by type of surgery. An estimated 1 in 140 middle aged women undergoing inpatient surgery in the UK will be admitted with venous thromboembolism during the 12 weeks after surgery (1 in 45 after hip or knee replacement and 1 in 85 after surgery for cancer), compared with 1 in 815 after day case surgery and only 1 in 6200 women during a 12 week period without surgery".

Surgical mask vs. N95 respirator for preventing influenza among health care workers: a randomized trial

Loeb M, Dafoe N, Mahony J, John M, Sarabia A, Glavin V, et al
Department of Pathology and Molecular Medicine, McMaster University, Hamilton, Ontario, Canada.
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This article is of a public health importance because it is measuring the effectiveness of the surgical mask compared to the N95 respirator in protecting health care workers against influenza. The study was a noninferiority randomized controlled trial conducted between September 23, 2008, and December 8, 2008, 478 nurses in emergency departments, medical units, and pediatric units in 8 tertiary care Ontario hospitals using either a fit-tested N95 respirator or a surgical mask when providing care to patients with febrile respiratory illness. They were assessed for eligibility and only 446 nurses were enrolled and randomly assigned the intervention; 225 were allocated to receive surgical masks and 221 to N95 respirators. The criterion for noninferiority was met if the lower limit of the 95% confidence interval (CI) for the reduction in incidence (N95 respirator minus surgical group) was greater than -9%. The results; "Influenza infection occurred in 50 nurses (23.6%) in the surgical mask group and in 48 (22.9%) in the N95 respirator group (absolute risk difference, -0.73%; 95% CI, -8.8% to 7.3%; P = .86), the lower confidence limit being inside the noninferiority limit of -9%. The authors concluded: "Among nurses in Ontario tertiary care hospitals, use of a surgical mask compared with an N95 respirator resulted in noninferior rates of laboratory-confirmed influenza".

Preoperative fasting for preventing perioperative complications in children

Brady M, Kinn S, Ness V, O'Rourke K, Randhawa N, Stuart P
Nursing, Midwifery and Allied Health Professions Research Unit, Glasgow Caledonian University, Cowcaddens Road, Glasgow, UK, G4 0BA.
Cochrane Database Syst Rev. 2009;(4):CD005285.

This review article identified a total number of 25 studies of randomized and 47 quasi randomized controlled trials of preoperative fasting regimens for children aiming at reducing the risk of regurgitation and aspiration of gastric contents during surgery by reducing the volume and acidity of their stomach contents. The data extraction and trial quality assessment was conducted independently by three authors trying to evaluate the effects of different fasting preoperative instructions (duration, type and volume of permitted intake) and its direct relations on peri-operative complications and patient well being (aspiration, regurgitation, related morbidity, thirst, hunger, pain, comfort, behaviour, nausea and vomiting) in children. Trial authors were contacted for additional information including adverse events. The main results; "the forty seven randomised controlled comparisons involving 2543 children considered to be at normal risk of regurgitation or aspiration during anaesthesia. Only one incidence of aspiration and regurgitation was reported. Children permitted fluids up to 120 minutes preoperatively were not found to experience higher gastric volumes or lower gastric pH values than those who fasted. The children permitted fluids were less thirsty and hungry, better behaved and more comfortable than those who fasted. Clear fluids preoperatively did not result in a clinically important difference in children's gastric volume or pH. Evidence relating to the preoperative intake of milk was sparse. The volume of fluid permitted during the preoperative period did not appear to impact on children's intra-operative gastric volume or pH contents". The authors concluded that ; "There is no evidence that children who are denied oral fluids for more than six hours preoperatively benefit in terms of intra-operative gastric volume and pH compared with children permitted unlimited fluids up to two hours preoperatively. Children permitted fluids have a more comfortable preoperative experience in terms of thirst and hunger. This evidence applies only to children who are considered to be at normal risk of aspiration / regurgitation during anaesthesia".