

was 11.3 ± 22.7 ng/dL. There was a single death 33 days after multiple vaccinations, possibly associated with vaccination. On follow-up of 64 patients (96%) at a mean of 32 ± 16 weeks, all patients had objective normalization of echocardiography, electrocardiography, laboratory testing, graded exercise testing and functional status; 8 (13%) reported persistent but nonlimiting chest discomfort.

Conclusions: Postvaccinial myopericarditis should be considered in patients with chest pain within 30 days after smallpox vaccination. Normalization of echocardiography, electrocardiography and treadmill testing was the norm, and nearly all patients had resolution of chest pain.

Perspective: Clinical myocarditis and/or pericarditis is an anticipated but rare complication of smallpox vaccination. These data suggest that overall risk is small and recovery likely. DB

Risk Factors for Nursing Home Placement Following Major Nonemergent Surgery

Legner VJ, Doerner D, Reilly DF, McCormick WC. *Am J Med* 2004; 117:82–6.

Study Question: Is there an association between self-reported exercise tolerance and the risk of unanticipated postoperative nursing home placement in adults undergoing major surgery?

Methods: Consecutive community-dwelling adults ($n=586$) referred to a medical clinic for evaluation before undergoing major nonemergent surgery at a tertiary-care academic medical center were prospectively followed between 1995 and 1997. The main outcome measure was unanticipated postoperative nursing home placement.

Results: Overall, 40 of 324 patients (12%) with poor preoperative exercise tolerance (inability to walk four blocks and climb two flights of stairs without symptomatic limitation) had unanticipated nursing home placement, compared with 10 of 262 patients (4%) with good exercise tolerance. Patient and surgical characteristics associated with nursing home placement in univariate analyses included poor preoperative exercise tolerance, increasing age, living alone, history of heart failure, taking five or more preoperative medications, longer anesthesia duration and orthopedic surgery. Patients who were married were at lower risk. After adjusting for all other patient and surgical factors, poor preoperative exercise tolerance (odds ratio [OR] 2.8; 95% CI 1.3–6.2) and serious postoperative complications (OR 4.7; 95% CI 2.1–10.5) remained associated with postoperative nursing home placement.

Conclusions: Poor preoperative exercise tolerance was an independent predictor of unanticipated nursing home placement following major nonemergent surgery.

Perspective: Premature postoperative functional decline and the subsequent need for extended medical care may add substantially to the \$50 billion currently spent on nursing home care each year. This study adds confirmatory data that

poor preoperative exercise tolerance is an important, potentially modifiable predictor of nursing home placement following surgery. Exercise tolerance is an important factor that should be assessed during perioperative risk evaluation. DB

Parachute Use to Prevent Death and Major Trauma Related to Gravitational Challenge: Systematic Review of Randomised Controlled Trials

Smith GCS, Pell JP. *Brit Med J* 2003;327:1459–61.

Study Question: A review of the literature to assess the efficacy of a harness worn, automatically or manually deployable fabric device (P-chute) for retarding rate of descent.

Methods: Extensive literature review, in accordance with QUOROM methodology for conduction of meta-analyses (English and non-English publications), evaluating the use of P-chute during free fall. Hard end points included death (D) or major trauma (MT), defined as trauma associated with an injury severity score >15.0 . A minimum vertical challenge of 100 m (presumably at sea level) was required for inclusion in the analysis.

Results: An exhaustive literature review identified no randomized or nonrandomized trials of P-chute intervention for avoidance of D/MT. The majority of identified anecdotal and observational reports suggested a protective effect of P-chute on outcomes of D/MT. The authors identified significant gaps in reporting of adverse effects related to P-chute use, potentially reducing the absolute benefit of use. Additionally, reports of beneficial effect of P-chute are limited by methodology, which rarely included intention-to-treat analysis.

Conclusions: No Category 1 evidence exists for making a solid recommendation for P-chute use as a means of mitigating D/MT due to gravitational force during free fall.

Perspective: This nicely done study raises issues similar to the recent controversy regarding hormone replacement therapy for cardioprotective effects, which was recommended based on multiple small observational studies but subsequently negated by large well-done randomized trials. The authors appropriately point out that the likelihood of a randomized trial being organized is low, in large part owing to the difficulty of randomizing subjects and controlling for confounding psychosocial and otherwise self-destructive variables in potential candidates for such a clinical trial. It is unlikely that any of the major health services (NIH, ACC, AHA, etc.) would pursue this with an active interest, and the American Orthopedic Association should be excluded for obvious conflict of interest. Industry funding will always be fraught with substantial bias and the validity of an industry-sponsored trial would rapidly be called into question. Based on a video review of recent political conventions, perhaps a viable alternative would be to randomize individuals in attendance at the major party political conventions during the summer of 2004. WA