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Ski Patrollers: Reluctant Role Models for Helmet Use

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vital signs, GCS, patient disposition from ED and final clinical outcome. Logistic regression and chi-square statistics were applied to compare mortality rates between the two groups.

**Results:** A total of 94 IFT and 379 DT cases were studied. Cases were matched according to GCS. The median time for direct transport was 26 minutes while the median time of IFT was 151 minutes. A total of 77.7% of all patients arriving by IFT survived to discharge compared with 71.2% of DT patients ( $p=0.21$ ). The odds ratio for survival (IFT/DT) was 1.40. The logistical regression demonstrated a small but statistically insignificant contribution to survival for each additional stabilization minute for patients from an IFT.

**Conclusions:** Direct transport to a neurosurgical-capable trauma center from the scene for patients with GCS less than 8 does not confer a survival benefit when compared with patients taken to the nearest hospital before IFT. We recommend that pre-hospital triage guidelines include provisions for initial stabilization at a Level III center in lieu of mandatory transport to the regional Level I trauma center.

#### 15 Prophylactic Antibiotics for Dog Bites: A RCT with Refined Cost Model

James Quinn, MD, MS; Dan McDermott; John Stein; Nate Kramer.

*Stanford University, UCSF*

**Background:** The use of prophylactic antibiotics remains controversial with conflicting results from a meta-analysis and Cochrane review.

**Objectives:** 1) Determine estimates of outcomes from dog-bite wounds comparing current treatment with and without antibiotics. 2) Use these estimates in a cost model to generate treatment recommendations.

**Methods:** A two-center randomized double blind placebo controlled trial comparing amoxicillin/clavulanic acid vs. placebo considered all dog bites, regardless of site. We excluded immunosuppressed patients, those with penicillin allergy and wounds > 12 hours old and those with suspected neurovascular, tendon, joint or bone injury. Patients were randomized to treatment, and structured follow-up was done after 14 days to determine the presence of a wound infection. Continuous data were compared with t-test and categorical data with chi square analysis. Data generated with 95%CI were then used in a cost model and a sensitivity analysis done to determine thresholds for treatment.

**Results:** We considered 230 consecutive dog bites, 146 were eligible, 6 were missed, 33 refused, and 97 consented to participate. Seventy-two percent were non facial, 62% were full thickness and 14% were sutured. There were no differences in demographic or clinical characteristics between the groups. Overall infection rate was 2% (95% CI 0-7%), none in the

antibiotic group 0% (95% CI 0-6%) and 2 in the placebo 4.5% (95%CI 1-15%). Both infected wounds were sutured and on the face. The cost model determined antibiotics would always be cost effective when the infection rate was greater than 5% and never be cost effective if the rate was < 3%.

**Conclusion:** Our infection rate was much lower than older studies. Antibiotics consistently show a trend towards benefit and our model recommends treating any wounds at greater than 5% risk of infection. Further research should focus on the current infection rate of dog bites and identifying factors associated with high risk wounds, not on the benefits of antibiotics.

#### 16 Ski Patrollers: Reluctant Role Models for Helmet Use

Bruce Evans, MD; Jack Thomas Gervais; Laura Sehnert, MD; Morgan Valley, MS; Steven Lowenstein, MD, MPH.

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**Objectives:** Ski helmets reduce the risk of brain injury, but helmet use is low. Ski patrollers (SPs) could serve as role models for helmet use, but little is known about their practices and beliefs. We studied: The frequency of helmet use by SPs; reasons for non-use; and beliefs predictive of helmet use.

**Methods:** A survey was completed by a convenience sample of SPs attending conferences. Questions addressed helmet use, head injury experience (self, family, friends) and knowledge of helmets and injury risk reduction. Helmet use was defined as "100% use during patrol skiing." To assess predictors of helmet use, odds ratios and 95% confidence intervals were calculated, after adjusting for seasons skied.

**Results:** Among 93 SPs, most were men (79%), < 45 years old (70%) and experienced (mean seasons skied =  $26 \pm 11$ ). Helmet use was 21% (CI95 = 14-31). Common reasons for non-use were hearing (35%), comfort (28%) and vision (24%); only 16% cited "socially unacceptable." Most SPs believed helmets prevent injuries (90%) and that SPs are role models (93%). Head injury experience was common (23%). However, many SPs believed helmets encourage reckless skiing (39%) and increase injury risks (16%). Four factors predicted helmet use: head injury experience (9.8; 1.02-94); perceived exposure protection (OR = 9.7; CI95 = 3.1-29.8); belief that role modeling is an advantage of helmets (3.5; 1.1-10.6); and belief that helmets encourage reckless skiing (.17; .03-.83).

**Conclusions:** Although based on self-reports by a small convenience sample of SPs, these data suggest there is discordance: SPs are convinced that helmets reduce serious injury and that they are role models, but most do not wear helmets regularly. Manufacturers should address helmet design and comfort. Education programs should include head injury cases, address the belief that helmets encourage recklessness (risk homeostasis) and stress role modeling as a professional responsibility.