

## Citation

Bhananker SM, Posner KL, Domino KB, Lee LA, Cheney FW: Liability Associated with Monitored Anesthesia Care: ASA Closed Claims Project. *Anesthesiology*, 99: A1356, 2003.

## Abstract

### Introduction

To assess the patterns of injury and liability associated with monitored anesthesia care (MAC), we analyzed claims for MAC from the ASA Closed Claims database. This database is a standardized collection of case summaries derived from the closed claims files of 35 professional liability insurance companies in the US.

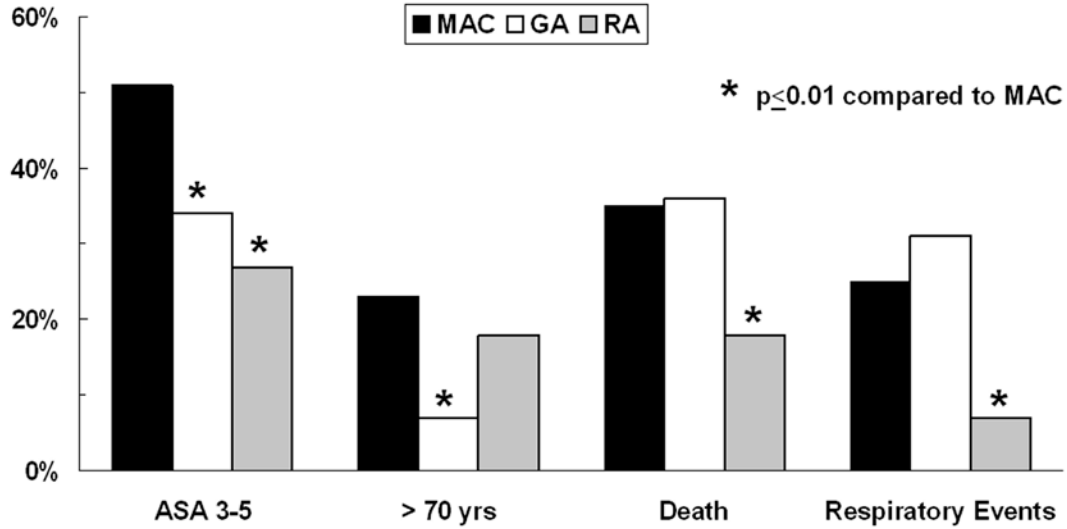
### Methods

All claims for MAC were analyzed and compared to claims following general anesthesia (GA) or regional anesthesia (RA). Claims involving eye blocks were grouped according to personnel performing the block. If the block was performed by an anesthesiologist, the claim was grouped with RA. If the anesthesiologist provided MAC for a block performed by the surgeon, the claim was grouped as MAC. Claims for pain management services and obstetrics were excluded from all groups. Statistical analysis was performed using the Z-Test for proportions and the Kolmogorov-Smirnov test for payments.

### Results

In the total of 4454 claims, there were 150 claims for injuries occurring during MAC, 3627 with GA, and 677 with RA. Claims for injuries during MAC represented 2% of claims before 1990 and 5% of claims after 1990 ( $p < 0.05$ ). MAC claims involved a higher proportion of eye surgery (35%) and plastic surgery procedures (26%) compared to GA or RA ( $p < 0.01$ ). Patients in MAC claims were generally older and sicker than others in the database (Figure). The proportion of claims for death in MAC claims was similar to GA claims, but twice as high as in RA claims (Figure). Claims for brain damage had a similar frequency in the 3 groups (10-13%). Claims for eye damage were higher with MAC (12%) compared to GA (4%,  $p < 0.01$ ). Claims for thermal burns were higher with MAC (7%) compared to regional (0%,  $p < 0.01$ ). A respiratory event or equipment fault (e.g. cautery, infiltrated iv, and central line mishap) was the primary damaging event in similar proportions of MAC and GA claims, but significantly more so than for RA claims ( $p < 0.01$ ). Inadequate oxygenation/ventilation was more common in MAC claims (15%) than with GA (7%) and RA claims (5%,  $p < 0.05$ ), while other respiratory events (e.g. difficult intubation, bronchospasm, airway obstruction, and aspiration) were similar in frequency between MAC and GA (but lower in RA). There was no difference in the proportion of substandard anesthetic care (37%), the proportion of payments (54%), or the amount payment (median \$99,500) between MAC, GA, or RA.

**Figure**



**Conclusions**

Litigation from adverse outcomes during MAC is increasing in the 1990s, perhaps reflecting an increase in surgery performed under MAC. Inadequate oxygenation/ventilation was the most common damaging event in MAC claims. MAC claims involved older and sicker patients undergoing eye and plastic surgery procedures more often than GA or RA claims, reflecting the type of patients and procedures under which MAC is commonly performed. Injuries during MAC were as severe and payments to the plaintiff were as high as for injuries during GA. These data suggest that MAC poses significant risk, especially for elderly and chronically ill patients.

*A copy of the full text can be obtained from the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, Illinois 60068-2573. Reprinted with permission of [Lippincott Williams & Wilkins](#).*