

## Citation

Kressin KA, Posner KL, Lee LA, Cheney FW, Domino KB: Burn Injury in the OR: A Closed Claims Analysis. *Anesthesiology*, 101: A-1282, 2004. See also: Injury - [Burns](#)

## Abstract

### Background

Burn injury is a significant source of morbidity for patients and a source of liability for anesthesiologists. To identify recurrent patterns of injury, the authors analyzed claims for burn injury in the American Society of Anesthesiologists (ASA) Closed Claims Project database.

### Methods

The ASA Closed Claims database is a standardized collection of case summaries from professional liability insurance companies closed claims files. All claims for burn injury were reviewed in depth and were compared to other claims during anesthesia. Proportions were tested by the Chi Square test or Fisher's Exact test, with Bonferroni corrections as needed, and payments were tested by the Kolmogorov-Smirnov test.

### Results

2.2% (n=145) of the 6,449 total claims in the database were attributed to burn injury. Burns occurred less often in emergency cases ( $p < 0.01$ ) and more frequently in MAC cases ( $p < 0.01$ , Table). Burn claims also were less severe ( $p < 0.01$ ), fewer deaths occurred ( $n = 1$ ,  $p < 0.01$ ), care was more often judged inappropriate ( $p < 0.01$ ), and payments were made more frequently but were lower ( $p < 0.01$ , Table). Fifty-eight percent of burns were from devices intended to warm the patient, including intravenous (IV) bags ( $n = 51$ ) and warming devices ( $n = 33$ , Figure). Thirty-one percent were from cautery devices either from a faulty grounding pad ( $n = 18$ ) or by causing a fire ( $n = 27$ ) (Figure). Injuries from laser airway fires were most severe ( $p < 0.01$ ) and had the highest payments ( $p < 0.05$  vs. other burns). Burns on the trunk or axilla were most often caused by IV bags (80%,  $p < 0.05$  vs. other devices), burns on the face were caused by cautery fires (64%,  $p < 0.05$ ), and burns on the buttocks and lower extremity were caused by warming devices (61%,  $p < 0.05$ ). The majority of burns from IV bags and non-fire cautery burns occurred before 1994 ( $p < 0.01$ ). In contrast, the proportion of claims from cautery fires increased since 1994 (56% vs. 16% of all other burns,  $p < 0.01$ ). Conclusion: Burn injuries in the Closed Claims database continue to occur primarily from cautery, warming devices, and airway fires. Burns from IV bags have declined since 1994, after publication of hazards associated with their use as warming devices. Burns from cautery fires, especially to the face, have increased in the 1990s. Regulated warming devices continued to cause burns, primarily of the lower extremities.

### Table

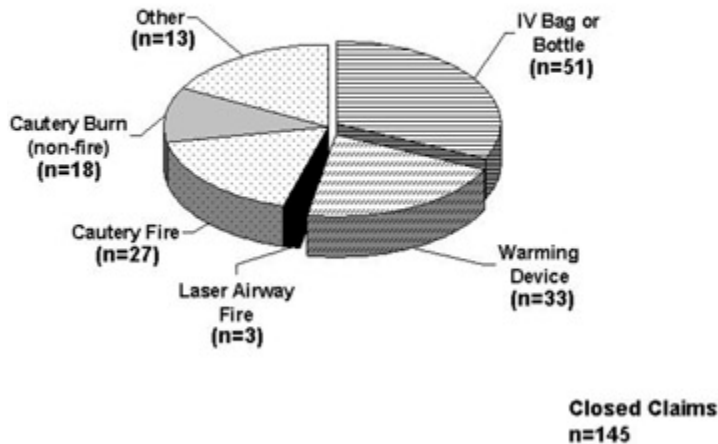
Liability in Burn Claims vs. Other Claims

	<b>Burn Claims (n=145)</b>	<b>All Other Claims (n=6304)</b>
Emergency cases	14 (12%)*	1164 (24%)
Monitored anesthesia care	22 (15%)*	179 (3%)
Temporary/non-disabling	135 (93%)*	3158 (50%)
Less than appropriate care	72 (50%)*	2250 (36%)
Payment made	104 (72%)*	3280 (52%)
Median payment in 1999 dollars	\$48,260*	\$175,800

\*p<0.01

**Figure**

**What Device Caused Burn**



**References**

1. Cheney FW et al.: Anesthesiology 1994; 80:806-10.

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