

## Office-Based Anesthesia: Lessons Learned from the Closed Claims Project

Karen B. Domino, M.D.  
Committee on Professional Liability

The tremendous growth of office-based anesthesia has been accompanied by concerns for patient safety.<sup>1</sup> This concern has been escalated by poignant media reports of tragedies that may have been precipitated because the physician's office lacked the same resources (i.e., personnel, equipment, drugs, administrative policies and facilities) that are present in an ambulatory surgical center or hospital. Therefore, we examined ASA's Closed Claims Project database to compare closed malpractice claims against anesthesiologists for adverse events after office-based anesthesia compared to anesthesia and surgery in other ambulatory surgical settings. Nonoperative pain management-related claims were not considered for this analysis.

The Closed Claims Project database consists of standardized summary data on anesthesia malpractice claims collected from 35 professional liability carriers that insure about half of the practicing anesthesiologists in the United States. Claims for dental damage are excluded from the database. There are currently 5,480 claims in the database including 753 claims for surgical anesthesia in the outpatient setting (ambulatory anesthesia claims) and 14 claims for surgical anesthesia in physician's offices (office-based claims). Although presently there are only a small number of office-based claims (due to the three- to five-year delay for the claim to be resolved and appear in the database), some interesting trends are described below.

### Patients and Procedures

Patients filing claims for adverse anesthesia events in the office-based setting exhibited similar demographic characteristics to patients filing claims in other ambulatory settings [Table 1]. Most were middle-aged, ASA Physical Status 1 or ASA Physical Status 2 women undergoing elective surgery under general anesthesia. Dental and plastic surgery were the most common procedures performed in the office-based group. Both ambulatory groups were generally younger and healthier than inpatients in the Closed Claims database.<sup>2</sup>

### Severity of Injury

The severity of injury for office-based claims was greater than for other ambulatory anesthesia claims [Figure 1]. Most (62 percent) ambulatory anesthesia claims were for a temporary and nondisabling injury, compared to 21 percent of office-based claims ( $P < 0.01$ ). In contrast, 64 percent of

Table 1: Patient Characteristics

	Ambulatory Anesthesia (n = 753)	Office-Based (n = 14)
Age (mean in years)	41	45
Female (%)	58	64
ASA 1-2 (%)	82	89
Elective surgery (%)	97	100
Anesthesia type		
General (%)	66	71
MAC (%)	10	14
Surgical procedure		
Dental (%)	3	21
Plastic surgery (%)	32*	64*
Other (%)	64†	14†

\* $P < 0.05$  Ambulatory vs. Office-Based

† $P < 0.01$  Ambulatory vs. Office-Based

Percentages do not equal 100% due to rounding

office-based claims were for death, compared to 21 percent of ambulatory anesthesia claims ( $P < 0.01$ ). Although these data may reflect decreased patient safety in the office-based



Karen B. Domino, M.D., is Professor of Anesthesiology, University of Washington, Seattle, Washington.

setting, the lack of denominator data (e.g., the number of cases performed in each setting) prevents the estimation of risk or safety. In addition, the data may reflect a difference in patient liability profile and propensity to sue in the office-based versus ambulatory care settings.

### Mechanism of Injury

The “damaging event” is the particular aspect of anesthesia management that led to patient injury. The most common damaging events in the Closed Claims database overall (including inpatient and pain claims) are respiratory system (22 percent), cardiovascular system (11 percent) and equipment-related (10 percent) events. The damaging events in office-based claims involved mostly respiratory system events (50 percent) and drug-related events (25 percent) [Table 2]. The respiratory system damaging events in office-based claims included airway obstruction, bronchospasm, inadequate oxygenation-ventilation and esophageal intubation. The drug-related damaging events included wrong dose or drug, malignant hyperthermia and allergic drug reaction. Although there was a trend for an increase in respiratory system events in the office-based claims compared to other ambulatory anesthesia claims, this difference was not statistically significant [Table 2]. The injury in office-based claims against anesthesiologists occurred through intra-anesthesia in most claims (64 percent), in the recovery phase in 14 percent and after discharge in 21 percent of claims. The location of the damaging event was similar in other ambulatory anesthesia claims, although there was a trend for fewer injuries occurring after discharge (7 percent of ambulatory claims).

### Preventability of Injury

In contrast to injuries in ambulatory anesthesia claims, a higher proportion of injuries in office-based claims were judged by the Closed Claims reviewers as being potentially preventable by better monitoring [Figure 2]. More than 46 percent of office-based injuries were judged to be preventable by better monitoring, in contrast to only 13 percent of ambulatory anesthesia claims (P<0.01). All the potentially preventable office-based injuries resulted from adverse respiratory events in the recovery or postoperative periods, which were judged to be preventable by use of pulse oximetry. This profile is quite different from injuries occurring during other ambulatory anesthesia claims.

### Liability and Payment

There was a trend to judge the anesthesia care as substandard more frequently in the office-based claims than in other ambulatory claims. Fifty percent of office-based claims had received care that was clearly substandard compared to 34 percent of ambulatory anesthesia claims (difference not statistically significant). Although anesthesia care met standards in 36 percent of office-based claims, postoperative care after discharge was substandard in several of these claims.

Payment was made in a greater proportion of office-based claims than ambulatory claims (92 percent versus 59 percent, respectively [Table 3]). In addition, the payment amount was greater for office-based claims (median payment of \$200,000) than for other ambulatory anesthesia claims (median payment of \$85,000). This is not surprising since the payment amount correlates with severity of injury, and office-based claims involved more severe injuries.<sup>3</sup> There was, however, a broad range of payment in both groups reflecting patient demographics, severity of injury, standard of care and regional differences (Table 3).

In summary, office-based claims (although few in number due to the delay in entering the database) had a greater

**Table 2: Damaging Events**

Type of Event	Ambulatory Anesthesia (n = 666)*		Office-Based (n = 12)	
	n	(%)	n	(%)
Respiratory	150	(22)	6	(50)
Cardiovascular	67	(10)	1	(8)
Equipment	74	(11)	1	(8)
Drug-related	58	(9)	3	(25)
Block-needle trauma	41	(6)	1	(8)

\*Excludes claims with unknown or missing damaging events

**Table 3: Payment in Ambulatory Anesthesia vs. Office-Based Claims**

Context of Care	Payment Proportion	Median Payment	Range (Min - Max)
Ambulatory Anesthesia (n = 695)*	59%†	\$85,000‡	\$34 - \$14,700,000
Office-Based (n = 13)*	92%†	\$200,000‡	\$10,000 - \$2,000,000

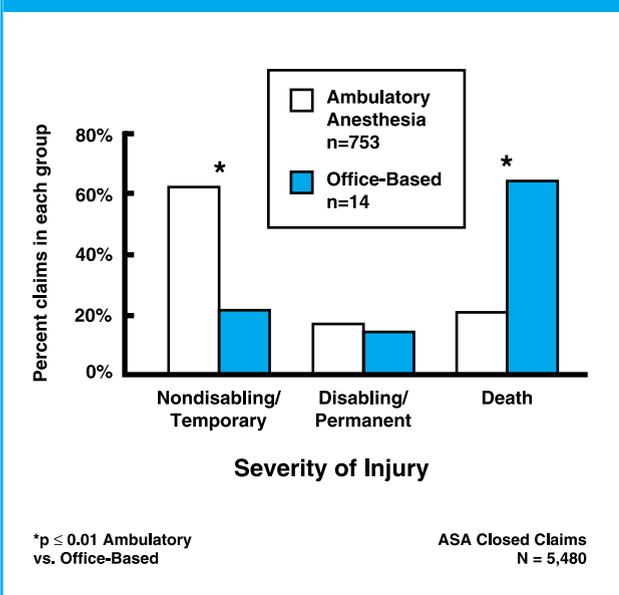
\*Includes only claims where payment data are known  
 †P <0.01 Ambulatory vs. Office-Based by the Chi Square test with z-test  
 ‡P <0.05 Ambulatory vs. Office-Based by the Mann-Whitney U. rank of payments

severity of injury and higher proportion and amount of payment than claims from other ambulatory anesthesia settings. In addition, a greater proportion of injuries in office-based claims were judged to be preventable by monitoring,

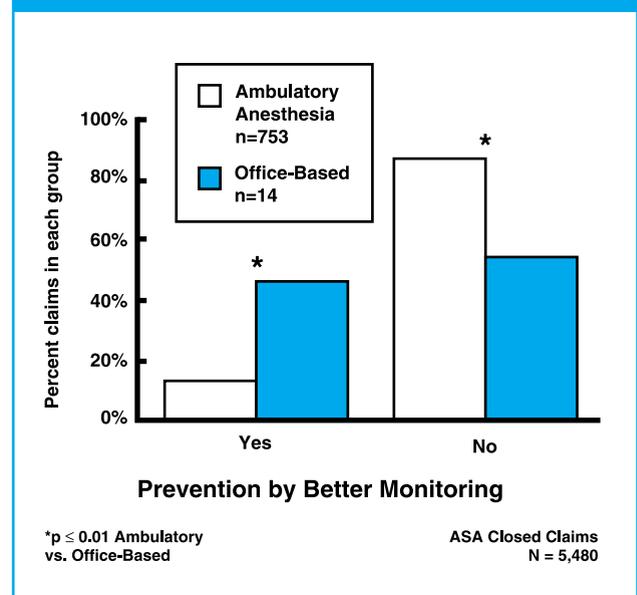
especially in the postoperative period. These preliminary data suggest that safety efforts involving office-based anes-

*Continued on page 15*

**Figure 1: Severity of Injury in Ambulatory Anesthesia vs. Office-Based Claims**



**Figure 2: Prevention of Injury in Ambulatory Anesthesia vs. Office-Based Claims**



---

# Office-Based Anesthesia: Lessons Learned from the Closed Claims Project

*Continued from page 11*

thetia should focus on improving care in the recovery and postoperative phases.

## References:

1. Stoelting RK. Office-based anesthesia growth provokes safety fears. *Anesthesia Patient Safety Foundation Newsletter*. 2000; 15(1):1.
2. Posner KL: Liability profile of ambulatory anesthesia. *ASA Newsl*. 2000; 64(6):10-12.
3. Cheney FW, Posner K, Caplan RA, Ward J. Standard of care and anesthesia liability. *JAMA*. 1989; 261:1599-1603.

