

**TITLE:** TRUST, BUT VERIFY: THE ACCURACY OF REFERENCES IN FOUR ANESTHESIA JOURNALS

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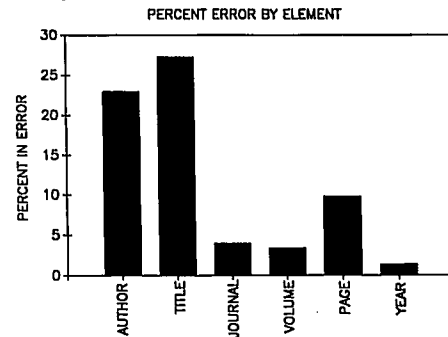
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**INTRODUCTION:** Bibliographies demonstrate authors' familiarity with essential literature and reflect their judgment and credibility (1). Readers need accurate references for quick retrieval of documents to further their knowledge or substantiate authors' claims. Errors in citation may slow or prevent retrieval. Several studies (2-4) have described the accuracy of medical references, but none has specifically examined the anesthesia literature. We assessed the accuracy of bibliographic citation in 4 anesthesia journals.

**METHODS:** Each reference in all 1988 issues of Anesthesiology, Anesthesia and Analgesia, British Journal of Anaesthesia, and Canadian Journal of Anaesthesia was sequentially numbered, and 100 references from each were randomly chosen for examination. Citations to books or book chapters were excluded from this analysis, leaving a total of 348 references to journal articles. Six elements were examined for accuracy: authors (including number, order, initials, and names), title, journal name, volume, pagination, and year. The original publication (primary source) was consulted, with other indexes used only when our library did not own the source. References were classified as either correct or incorrect. "Correct" indicated that each element of the citation was identical to its source. Incorrect references contained an error in at least one element.

**RESULTS:** A total error rate of 50.3% was identified. Most likely to be inaccurate, in descending order, were: title, author, pagination, journal name, volume number, and year (Figure).

**DISCUSSION:** Our study showed that half of references in the anesthesia literature contain at least one error, consistent with the range found in other disciplines (21-54%) (3,5). Citation errors may result from reliance upon secondary sources (6), e.g., copying references from bibliographies without consulting the primary source. Since it is generally agreed that bibliographic accuracy is the responsibility of authors, not journals, references should be verified before manuscript submission.



**REFERENCES:**

1. Goodrich JE et al. J Tech Writ Commun 7:15, 1977.
2. Eichorn P et al. Am J Public Health 77:1011, 1987.
3. Key JD et al. Arch Phys Med Rehabil 58:136, 1977.
4. Evans JT et al. JAMA 263:1353, 1990.
5. Foreman MD et al. Res Nurs Health 10:177, 1987.
6. Place F Jr. N Y Med J 104:697, 1916.

**TITLE:** Incidence and Treatment of Postanesthesia Shivering

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**Introduction:** The successful treatment of postanesthetic shivering (PAS) has included the use of radiant heat<sup>1</sup>(RH), fentanyl<sup>2</sup>(F) and meperidine<sup>2</sup>(M). However, the comparison of all three modalities has not been previously done in a single study. The purpose of this study was to compare all three treatment modalities and evaluate the incidence of PAS.

**Methods:** Human Assurance Committee approval was obtained and consent was secured from all patients. Anesthetic technique was determined by the anesthesiologist performing case. Upon arrival in the postanesthesia care unit tympanic membrane temperatures were measured, continuous pulse oximetry, blood pressure and EKG were monitored. If the patient was noted to be visually shivering then the EMG of the deltoid and pectoral muscles was measured (Cadwell Quantum 84). Shivering patients then had RH placed and were randomized in a double blinded fashion to receive one of three IV injections every 5 min. until shivering stopped. Group 1- normal saline, Group 2- meperidine 12.5mg/injection, Group 3- fentanyl 25mcg/injection. Shivering was determined to have ended when EMG activity decreased to 80% of initial recording. Data was analyzed for incidence of shivering and duration of shivering in each treatment group. p<0.05 was significant.

**Results:** 178 patients were enrolled with 29 patients shivering. Incidence of shivering correlated positively with length of case and total IV fluids. Age and weight had a negative correlation with shivering. Core temperature did not correlate with shivering. Results are presented in table 1. There was no significant difference between treatment groups in mean time to cessation of shivering with times ranging from 20-24 min.

**Discussion:** These results demonstrate that neither fentanyl or meperidine added to the successful treatment of PAS with RH. Interestingly, there was no correlation between body temperature and PAS. Furthermore, the tonic nature of our EMG recording (not shown) confirms previous studies claiming that hypothermia is not the cause of PAS<sup>3</sup>. Further work evaluating why radiant heat can stop nonhypothermic shivering is needed.

**References:**

1. Anesthesiology 66:249-252,1987
2. Acta Anaesthesiol Scand 28:138-143,1984
3. Anesthesiology 68:843-850,1988

Group	n	length of case (min)	age	wt (kg)	Fluids (cc)	Temp. (°C)
Shiver	29	183*	31*	60*	2936*	35.5
Nonshiver	149	140*	38*	75*	1581*	35.6

\*- Significant difference between groups