Spurious Anesthesia Alarm in an Anesthetized Patient

To the Editor:—A 46-yr-old man entered the hospital for full-mouth dental extractions under general nasotracheal anesthesia. The patient was healthy except for a smoking history of 20 pack-yr and a hearing impairment. Fenfluramine and midazolam were used for premedication. Monitoring consisted of an electrocardiogram and a skin temperature probe via a Protocol Systems, Inc. PROPAQ 106EL and blood pressure, pulse oximetry, and capnography via a North American Drager NARKOMED 3 anesthesia machine. Nasotracheal intubation was performed after an oxygenation, thiopental, and succinylcholine induction sequence. Ventilation was mechanically controlled and anesthesia maintained with nitrous oxide, oxygen, and isoflurane.

Approximately 3 min after induction, a loud, piercing, constant, high-pitched sound was heard. The patient's blood pressure at this time was 130/74 mmHg; the hemoglobin oxygen saturation was 99%; and the capnography tracing (end-tidal carbon dioxide 36 mmHg)

and ventilatory pressures and volumes were normal. The PROPAQ electrocardiogram revealed a normal sinus rhythm with a rate of 76 beats/min, and the skin temperature was 35.3° C. No visual alarms were seen activated on either the PROPAQ or the Drager machine. The sound was consistent in intensity and character with the audio alarm from the PROPAQ, and this machine was shut off for a few seconds without cessation of the alarm noise. The Drager machine audio alarms are pulsatile. It was noted that a hearing aid, which the patient had worn to the operating room, had fallen out of the patient’s ear and was the source of the audio alarm. The hearing aid, a WIDEX #AI12197948, was turned off, and the alarm sound ceased.

The noise was produced via feedback resulting from the proximity of the hearing aid microphone and the earpiece speaker (the same mechanism that creates a loud high-pitched tone in an auditorium if the amplifier is not properly adjusted). Dentists ask patients to turn off hearing aids when drilling intraorally to prevent auditory damage due to acoustic feedback. Auditory communication was necessary with this patient and was the reason the patient wore the hearing aid to the operating room. We recommend turning off hearing aids after anesthesia induction to avoid the above problem.