



Shared Learning

from the Dental Patient Safety Foundation Reporting Tool

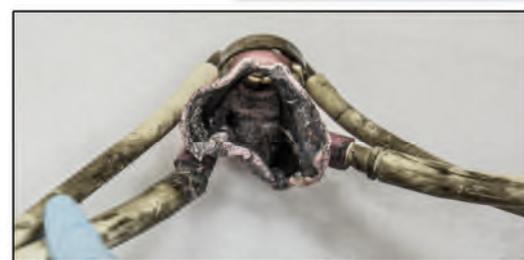
“What gets measured gets managed” is the DPSF philosophy to encourage reporting. All received information about patient safety events (unsafe conditions, near misses or adverse events) are contextually de-identified (full confidentiality is preserved), aggregated, analyzed and abstracted by selected experts from our DPSF committees. Reports are generated and disseminated as the only means to learn from our errors. The information in these peer-reviewed reports is provided for its educational value only, and does not purport to establish any legally binding standard of care. Feedback is encouraged.

Case 2017.12A: Patient Fire during Dental Care

Situation: An otherwise healthy 72 y/o female underwent intraoral preparation of a titanium post with a high speed irrigated drill while breathing N₂O/O₂ (30:70 mixture) via nasal hood. An unnoticed spark ignited the oxidizer-enriched environment under the nitrous hood, triggering fire, burning vellus hair and skin. The mask was quickly removed and the fire was smothered. Patient was immediately transported by EMS to the local emergency department for definitive management of the second degree facial burns and monitoring of possible delayed pulmonary injury.



What we learned: Although rarely reported in any literature, one member of the authoring team of this report became aware of at least 4 other similar events! Fire is heat and light energy resulting from the rapid combination of an *oxidizer* (N₂O or O₂) + *ignition source* (spark or heat) + *fuel* (skin, hair, plastic, cotton, rubber, paper, alcohol preps, etc.), the *fire triangle*. Fire extinguishes if any one leg of this triangle is removed.



Welcome to the inaugural DPSF **anesthesia** safety report, generated by information received on the reporting tool. Future reports will be released on a monthly basis and catalogued on the website. We encourage frequent reporting of unsafe conditions, near misses and adverse events as the only means to close the gap between knowing how to prevent these occurrences and taking the necessary action to do so! Please visit our website.

Recommendations and action: When a source of fuel cannot be removed from the immediate area, soaked with water, or covered with a water-soluble jelly, the dentist should stop the flow of oxygen or oxygen/nitrous oxide mixtures to the patient for 1 minute prior to the use of a potential ignition source (electrocautery, laser, bur sparks, “battery burners”). In addition, intraoral suction should be continuously used to clear the ambient atmosphere of oxidizer-enriched gas as it is exhaled.

Additional reading:

Bosack RC, Bruley ME, Van Cleave AM, Weaver J. Patient Fire During Dental Care: A case report and call for safety. JADA 2016;147(8):661-666.