



PIC QUESTION OF THE WEEK: 12/15/08

Q: What risk(s) are associated with the use of topical petrolatum in patients requiring oxygen therapy?

A: Patients requiring oxygen therapy frequently experience dry, cracked lips. To prevent and manage this condition, many health care professionals use petroleum jelly (petrolatum; Vaseline) to lubricate, soothe, and protect the skin. In 1996, the National Fire Protection Association (NFPA) released its edition of *Standard for Health Care Facilities* which stated, “Oil, grease, or flammable contaminants shall not be used *with* oxygen equipment.” Some hospitals inferred from this statement that petroleum jelly presented a fire hazard resulting in what many consider the “petroleum jelly myth”. Oxygen does not explode, but does aid combustion under certain conditions. In January 1999, the NFPA revised the language of the statement to read, “Oil, grease, or flammable substances shall not be used *in or on* oxygen equipment.” The intent of the revision was to clarify the point that petroleum jelly can be used on patients, but not on oxygen equipment. There do not appear to be any published cases of accidents associated with the use of petrolatum products in patients receiving oxygen therapy. Anecdotal evidence indicates that application of a flame to petrolatum only results in melting of the ointment. Evaluation of this topic by some hospital safety committees also concluded there is no evidence to support an association between the use of petrolatum on patients’ lips and possible burn injury or explosion. The benefit of topical petrolatum and related products applied to a patient’s lips during oxygen therapy appears to far outweigh any potential risk of burn injury. One related circumstance still requires attention and that is the use of petrolatum-based products during some surgical procedures. Under the right conditions, these topical formulations may ignite in an oxygen-enriched environment when enough heat, e.g. during cauterization, is applied. Even though the NFPA guideline was re-phrased several years ago, it appears that the petrolatum-oxygen therapy myth continues to be perpetuated by some health practitioners and safety officers.

References:

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- Woodrow P. Petroleum jelly myth. *Nurs Older People* 2004;16(6); 41.

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