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9-2013

Petroleum product utilization with oxygen therapy: Summary

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Office of Evidence Based Practice – Specific Care Question: Risk of Combustion with Use of Petroleum Patient Products

Specific Care Question :

In the patient receiving oxygen therapy what is the risk of combustion when a petroleum product is used on the patient's lips?

Question Originator:

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Kendra Arbogast, BS, RRT-NPS

Plain Language Summary from The Office of Evidence Based Practice: Summary:

None of the found literature provided scientific evidence supporting or refuting the hazard potential of petroleum products on patient's lips who are receiving oxygen therapy. However in searching the Internet, several sources (American Lung Association, British Lung Foundation, University of Pittsburgh Medical Center, MedlinePlus, and WebMD) advise against the use of petroleum products in an oxygen rich environment without citing any scientific source.

EBP Scholar's responsible for analyzing the literature:

J.A. Bartlett, PhD, RN

EBP team member responsible for reviewing, synthesizing, and developing this literature:

J.A. Bartlett, PhD, RN

Search Strategy and Results:

((("Oxygen"[Mesh] OR "Respiratory Therapy"[Mesh]) AND (flammab* OR fire*) AND petroleum)) OR (((("Safety"[Mesh] OR "Risk Management"[Mesh]) AND "Oxygen Inhalation Therapy"[Mesh] AND fire*)) OR (((("Cosmetics") AND "Oxygen Inhalation Therapy"[Mesh])) OR (((("Ointments"[Mesh] OR "Paraffin"[Mesh])) AND ("Oxygen"[Mesh] OR "Oxygen Inhalation Therapy"[Mesh])))) OR (((petroleum OR paraffin OR "Mineral Oil"[Mesh]) AND (oxygen-enriched OR oxygen-rich))) AND (English[lang])—five articles were discovered.

The question originators were asked to review titles and abstracts to determine articles that had the potential to answer the question. Three articles were identified for further analysis. Of the three identified articles, none of them answered the question.

Studies included in this review:

None

Studies not included in this review with rationale for exclusion:

Author	Rationale for exclusion
Al-Niaimi, Chadha, and Cox (2011)	Cross sectional descriptive patient awareness study
Brinkerhoff (2009)	Expert opinion
Kelley, O'Hara, Bishop, Brenner, and Doe (2005)	Tested ophthalmic lubricants on the bovine eye

Method Used for Appraisal and Synthesis:

No articles were appraised.

Updated: 9/3/13

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References:

- Al-Niaimi, F., Chadha, M., & Cox, N. (2011). Flammability of paraffin-based products: a primary care survey and a need for product labelling. *Clin Exp Dermatol*, 36(1), 97-98. doi: 10.1111/j.1365-2230.2010.03884.x
- Brinkerhoff, S. (2009). Oxygen therapy in the home: safety precautions and implications for home healthcare clinicians. *Home Healthc Nurse*, 27(7), 417-420. doi: 10.1097/01.NHH.0000358274.54176.50
- Kelley, P., O'Hara, M., Bishop, J., Brenner, R., & Doe, E. (2005). Flammability of common ocular lubricants in an oxygen-rich environment. *Eye Contact Lens*, 31(6), 291-293.