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Is Petroleum Jelly Safe?

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CRITICAL QUESTIONS

and how much advance notice was required. They recorded the number of telephone calls and the total amount of time spent on the phone with each airline. They provided subjective ratings of the ease with which in-flight oxygen could be arranged (1 = best; 5 = worst).

Of the 33 commercial airlines (11 were domestic and 22 were international), 25 (76%) offered in-flight oxygen (7 domestic carriers and 18 international carriers). Of those, 24 provided oxygen and did not permit the traveler to bring an oxygen carrier of his own on board, while one airline (Mexicana Airlines) permitted the passenger to carry one personal E-type canister.

On average, the time spent on the telephone arranging in-flight oxygen was 9.96 minutes. Either one or two telephone calls were usually required to make the arrangements with each of the 25 airlines that offered in-flight oxygen. Conversations with more than one employee (three) were necessary at only one airline. Sixteen of the 25 airlines required either 24 or 72 hours'

advance notice in order to provide oxygen. Requirements of the other airlines ranged from one week to one month. All airlines required notification by the traveler's physician. For 21 of the airlines, a letter was adequate notification; two accepted verbal notification; one required a written prescription; and one required the physician to complete an airline form.

Liter flow options varied. Nine airlines offered two flow rates, six offered three flow rates, seven offered a range of flow rates, and two offered only one (2 L/min). All airlines offered nasal cannula. Only four offered additional options: Three provided a simple mask, and one offered either a simple mask or an air entrainment mask.

Finally, pricing structures varied tremendously among the airlines. Five had a flat fee; nine charged according to the number of oxygen bottles used; three charged according to the number of flight segments, or legs, of the trip; and two charged by total air travel time. Six, however, offered oxygen free

of charge. The average price of oxygen for a standard trip, defined in the study as a nonstop, round-trip flight of less than six hours and using nasal cannula at 2 L/min, was \$279. The charges ranged from \$64 to \$1,500. Most of the airlines charged between \$100 and \$250. Those whose prices exceeded \$1,000 were international airlines.

Advise your patients that policies regarding in-flight oxygen vary greatly by airline. At the time of the study, nearly one-fourth of the airlines didn't offer in-flight oxygen—a figure that may have changed in the two years since the data were collected. Because the options regarding liter flow rate and delivery system also vary, the traveler should carefully research and compare the options before booking a flight. Also, remind your patients that insurance typically doesn't pay for in-flight oxygen; thus, cost may be a significant factor in selecting an airline.

Source: Stoller, J. K., et al. A comparative analysis of arranging in-flight oxygen aboard commercial air carriers. *Chest* 115(4):991-995, 1999. ▼

LETTERS

IS PETROLEUM JELLY SAFE?

In "Dispelling the Petroleum Jelly Myth" (*Research for Practice*, November), the author suggests that using petroleum jelly in some patient care units doesn't present a significant risk of fire to the patient. However, using petroleum jelly or other petroleum-based ointments in areas where operative or invasive procedures are performed presents a significant fire risk to the patient. I quote the following from the Emergency Care Research Institute, in the publication *Health Devices* (21:1, 20, 1992): "Under the right conditions, some surgical ointments can burn. For example, petroleum-based ointments used in an OEA [oxygen-enriched envi-

ronment] will ignite when enough heat is present to cause vaporization. These materials must vaporize and mix with oxygen to allow ignition. Globes of ointment are not easy to ignite because their mass absorbs considerable heat before vaporizing. Thin layers, however, have a low mass per area and need less heat to cause vaporization; thus, they are more ignitable."

Operative or invasive procedures, especially those of the head and neck, are often performed in an oxygen-enriched environment. And most of these procedures use some type of heat source to cut and coagulate tissue, such as electrosurgery, electrocautery, or laser, generating enough heat to cause vaporization of a fuel source such as petroleum or petroleum-based ointments.

Nurses caring for patients undergo-

ing a surgical or invasive procedure should exercise caution in the presence of an oxidizer (oxygen and nitrous oxide), a heat source, and a fuel source such as petroleum or petroleum-based ointment that has been applied in a thin layer to the patient.

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Author Elizabeth Winslow replies: Health care providers need to be aware that petroleum jelly or any other potential fuel can present a fire risk under certain conditions, such as those Mr. Phippen describes as occurring in the operating room. This possibility, however, should not lead to an arbitrary, hospital-wide prohibition against using petroleum jelly as a moisturizer for patient care where these conditions do not exist.