Dear Alice,

How and what does the human body do with the petroleum based skin products we apply to our bodies on a daily basis? I'm sure a lot of these products are absorbed through the skin. What does the human body do with them? Can it break them down? Do they just flush through our systems? What happens after they are absorbed? What are the long-term effects of using these products? What are the health risks?

Answer

Dear Reader,

Thanks for slipping in this question! It's always a good idea to inquire about the short and long term effects of the products used in, on, and around the body. Petroleum jelly, also known as petrolatum, is a common ingredient in moisturizing lotions and cosmetics. People use it to soften their rough, cracked feet, elbows, hands, and lips, for preventing chafing, and as a diaper ointment. Petrolatum can also be found in industrial products such as antifreeze, diesel petroleum, and cleaning products. When using petroleum jelly, it’s critical to only use products that are fully refined or described as white petroleum, as these are generally harmless.

Petrolatum is an odorless and colorless derivative of petroleum with a melting point close to body temperature. Because of its long shelf life and its ability to form a water-repellant film on the skin, preventing its natural moisture from evaporating, petroleum jelly is a key ingredient for many skin care products. As an emollient, it softens and moisturizes the skin and reduces itching and flaking by forming an oily layer that traps water in the skin, which makes it more effective on damp skin. But because petroleum jelly doesn't actually add moisture to the skin, it might be a good idea to find an oil or lotion that can be used to moisturize, in addition to the protective and water-retaining properties that good old petroleum jelly provides.

When adequately refined, petrolatum presents few health concerns. In fact, the petrolatum in cosmetics can only be absorbed by the body through ingestion. However, it’s critical to be cautious when using the product in certain situations:

- When in need of a lubricant for condoms: The oils in petrolatum can destroy rubber,
breaking down the condoms and leading to reduced effectiveness.

- With acne-prone skin: Look for the word “non-comedogenic” products to ensure that it won’t clog pores.
- While wearing a favorite piece of clothing: Some products may stain or discolor clothing.
- While breastfeeding: It isn’t known whether it passes into breast milk. Breastfeeding mothers are advised to talk to their health care provider, especially if they plan to use it near the breast area.

For those who use petroleum jelly on dried nostrils, it’s possible that the jelly drains down to the back of the nose with normal nasal secretions and is swallowed. Over multiple months, the jelly can accumulate in the lungs leading to potentially serious inflammation known as lipoid pneumonia. If someone has overdosed and has serious symptoms such as passing out or trouble breathing, it may be necessary to seek immediate medical attention or call a poison control center right away.

While spreading pure petroleum jelly over cracked heels and elbows is considered safe enough, there are other products that aren’t as harmless. Antifreeze, diesel fuel, and many household cleaners contain petrolatum and can be toxic if inhaled. In these formulations, petrolatum can actually be absorbed through the skin. Moreover, petrolatum isn’t always properly refined. It may be contaminated with toxic chemicals called polycyclic aromatic hydrocarbons (PAHs), which are byproducts of organic material combustion. The National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC) classify certain PAHs as potential carcinogens and others as known carcinogens, which means they’re linked to cancer development. It’s best to avoid contact (via the skin or by breathing it in) with petrolatum products, unless the company explicitly states that it’s fully refined as white petrolatum on the label or on their website. If inhaled or absorbed, products like these can cause reduced blood pressure, headaches, dizziness, weakness, heart palpitations, nausea, fatigue, and harm to organs.

All in all, refined petroleum jelly is very low risk in skincare products. If you’re interested in learning more, feel free to check out the Skin Conditions section of the Go Ask Alice! General Health archives.

Take care,

Alice!

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