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Talc: Need We Beware?

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The results of a number of scientific studies in the early 1970s intimating that talc could be responsible for causing cancer and lung disease caused the American public to question the safety of talcum powder. This was particularly disturbing news considering the widespread use of talc. In the years that followed, a number of additional studies have helped to clarify just how real the health hazards of talc exposure may be. They have, in part, led to higher standards required for the processing and manufacture of talc-containing products.

Talcum powder is one of the most widely used of all bath products. It is comprised mainly of talc, perfume, and antibacterial agents. Talc is also a major component of face powders, compact and cake makeup, certain eyeliners, liquid makeup, rouge, foot powders, deodorants, sunscreens, and nail polishing powders. Talc is also used in the manufacture of many other commonly used products including chalk, crayons, shoe polishes, paint, soaps, rubber products, polished rice, inhaled candy, pills, and floor waxes.

Talc is a magnesium silicate, an abundant mineral mined in Italy, France, and many parts of the United States. The chemical structure of talc is similar to that of asbestos, another magnesium silicate. In fact, talc and asbestos are often found side by side in mineral deposits.

When pulverized, talc breaks into tiny platelike particles of various sizes that are responsible for its many different properties. Talc is a popular cosmetic ingredient because it has absorbent, mildly water-repellent, and antichafing properties. Talcum powder is popular for after-bath use partly because application to damp skin is cooling. The powder promotes evaporation both by absorbing water and by increasing the surface area of the skin from which evaporation takes place.

Talc has several other properties that make it particularly well-suited as a cosmetic ingredient. The tendency to adhere to itself and keep the form into which it is pressed makes it suitable for compact cake makeup. Talc is also known for its good *slip*, a term that refers to its quality of easy spreadability and smooth feeling on the skin. Face powder often contains as much as 70 percent talc because of this quality. Also, high-quality talc has an extremely bright white color that is not easily duplicated by other powders. Talc-containing powder makeup can easily be produced in a wide range of colors.

In 1971, a report from the Mount Sinai School of Medicine showed that samples of talc from cosmetics contained significant amounts of asbestos. This was not surprising, given that the two substances may be found in the same mineral deposit. This report set off a talc "crisis" in the United States. Soon afterward, the Occupational Safety and Health Administration and later the Cosmetic, Toiletry and Fragrance Association issued statements against the sale of talc with any detectable asbestos fibers. Many consumers switched to powders that were talc-free and contained mainly corn starch. In addition, the talc "crisis" spurred a closer examination of the safety of talc itself.

Talc, like asbestos, is a fibrosing agent and a potential carcinogen. In the 1930s, patients undergoing surgery often experienced intra-abdominal fibrosis and granuloma caused by the routine dusting of surgeons' gloves with talc. Talc miners have a higher than normal proportion of health problems, and talc manufacturing workers show a fibrosis of the lungs similar to that of asbestos workers. Talc millers and miners have been reported to have three to four times the mortality from cancers of the chest than is reported in the general population, an increase similar to that seen in asbestos workers.

Just how to interpret the association between heavy talc exposure and subsequent cancer is not entirely clear. The asbestos content of talc has been regulated for only a relatively short time. Most of the talc produced before 1972 had some contamination from asbestos. The cancers associated with talc may have been due to the asbestos contaminating the talc. However, evidence suggests that talc alone may make the body more susceptible to other environmental carcinogens.

From New York University Medical Center, Skin and Cancer Unit, New York, New York.

A great deal of circumstantial evidence shows that use of talcum powder by women may be associated with an increased risk of cancer of the ovary. Many women dust the perineal area with talc-containing products on a daily basis. This practice, usually begun at diaper changes, often continues on a regular basis throughout life, particularly during menstrual periods; over the years, a number of different powders have been marketed expressly for use as deodorizers of sanitary napkins.

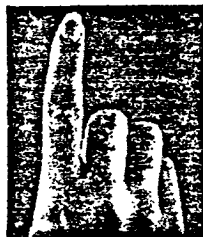
Studies have shown that particles of powder introduced into the vagina can be found in the fallopian tubes as soon as thirty minutes later. It is speculated that talc dusted onto the perineum makes its way through the fallopian tubes to the ovary. There, the talc may act by itself or with other carcinogens to cause cancer of the ovary. Talc has been found deeply imbedded in a large number of ovarian cancer specimens. Furthermore, when a large number of women were questioned about their personal hygiene habits, habitual dusting of the perineum with talcum powder seemed to be associated with as much as a threefold increased risk of cancer of the ovary. Hysterectomy, a procedure that results in an interruption of the conduit between perineum and ovary, is associated with a decreased risk of subsequent ovarian cancer.

Aside from the circumstantial association of perineal talc use and subsequent ovarian cancer, there is almost no reported toxicity from the use of talc-containing cosmetics. There are occasional reports of chronic overuse of talcum powder leading to pulmonary fibrosis. Otherwise, it is generally believed that the use of talc in areas other than the female perineum is entirely safe. Physicians are therefore left with the dilemma of how to advise patients best regarding talc exposure. A significant number are advising women to refrain from perineal talc dusting until further study clarifies the correlation with ovarian cancer. As for other uses of talc-containing cosmetics, there appears to be little cause for concern and, given the nearly ubiquitous presence of talc, even less possibility of living in a talc-free environment.

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