



Talcum Powder and Cancer

What is talcum powder?

Talcum powder is made from talc, a mineral made up mainly of the elements magnesium, silicon, and oxygen. As a powder, it absorbs moisture well and helps cut down on friction, making it useful for keeping skin dry and helping to prevent rashes. It is widely used in cosmetic products such as baby powder and adult body and facial powders, as well as in a number of other consumer products.

In its natural form, some talc contains asbestos, a substance known to cause cancers in and around the lungs when inhaled (see [Asbestos¹](#)).

In 1976, the Cosmetic, Toiletry, and Fragrances Association (CTFA), which is the trade association representing the cosmetic and personal care products industry, issued voluntary guidelines stating that all talc used in cosmetic products in the United States should be free from detectable amounts of asbestos according to their standards.

Most concerns about a possible link between talcum powder and cancer have been focused on:

- Whether people who have long-term exposure to talc particles at work, such as talc miners, are at higher risk of lung cancer from breathing them in.
- Whether women who apply talcum powder regularly in the genital area have an increased risk of ovarian cancer.

Does talcum powder cause cancer?

When talking about whether or not talcum powder is linked to cancer, it is important to

distinguish between talc that contains asbestos and talc that is asbestos-free. Talc that has asbestos is generally accepted as being able to cause cancer if it is inhaled. The evidence about asbestos-free talc is less clear.

Researchers use 2 main types of studies to try to figure out if a substance or exposure causes cancer.

Lab studies: In studies done in the lab, animals are exposed to a substance (often in very large doses) to see if it causes tumors or other health problems. Researchers might also expose normal cells in a lab dish to the substance to see if it causes the types of changes that are seen in cancer cells. It's not always clear if the results from these types of studies will apply to humans, but lab studies are a good way to find out if a substance might possibly cause cancer.

Studies in people: Another type of study looks at cancer risks among different groups of people. Such a study might compare the cancer risk in a group exposed to a substance to the risk in a group not exposed to it, or compare it to what would be expected in the general population. But sometimes it can be hard to know what the results of these studies mean, because many other factors might affect the results.

In most cases neither type of study provides enough evidence on its own, so researchers usually look at both lab-based and human studies when trying to figure out if something causes cancer.

Studies in the lab

Studies that exposed lab animals (rats, mice, and hamsters) to asbestos-free talc in various ways have had mixed results, with some showing tumor formation and others not finding any.

Studies in people

Ovarian cancer

It has been suggested that talcum powder might cause [cancer in the ovaries](#)² if the powder particles (applied to the genital area or on sanitary napkins, diaphragms, or condoms) were to travel through the vagina, uterus, and fallopian tubes to the ovary.

Many studies in women have looked at the possible link between talcum powder and cancer of the ovary. Findings have been mixed, with some studies reporting a slightly increased risk and some reporting no increase.

- Many **case-control studies** have found a small increase in risk. But these types of studies can be biased because they often rely on a person's memory of talc use many years earlier.
- **Prospective cohort studies**, which would not have the same type of potential bias, have generally not found a significant increase in ovarian cancer risk overall. However, some have suggested possible increased risks in certain groups of women (for example, in women who still have an intact reproductive tract) or in certain types of ovarian cancer.

One of the problems with studying this issue is that ovarian cancer isn't common. Because of this, even the largest studies done so far might not have been big enough to detect a very small increase in risk, if it exists.

For any individual woman, if there is an increased risk, the overall increase is likely to very be small. Still, talc is widely used in many products, so it is important to determine if the increased risk is real. Research in this area continues.

Lung cancer

Some studies of talc miners and millers have suggested an increased risk of [lung cancer](#)³ and other respiratory diseases, while others have found no increase in lung cancer risk. These studies have been complicated by the fact that talc in its natural form can contain varying amounts of asbestos and other minerals, unlike the purified talc in consumer products. When working underground, miners can also be exposed to other substances that might affect lung cancer risk, such as [radon](#)⁴.

No increased risk of lung cancer has been reported with the use of cosmetic talcum powder.

Other cancers

Talc use has not been strongly linked to other cancers, although not all possible links with other cancers have been studied extensively.

One study suggested genital talcum powder use may slightly increase the risk of [endometrial \(uterine\) cancer](#)⁵ in women who are past menopause. But other studies have not found such a link. Further studies are needed to explore this topic.

Some limited research has also looked at a possible link between inhaled talc exposure at work and other cancers, such as stomach cancer. But there is no strong evidence of

such links at this time.

What expert agencies say

Several national and international agencies study substances in the environment to determine if they can cause cancer. (A substance that causes cancer or helps cancer grow is called a *carcinogen*.) The American Cancer Society looks to these organizations to evaluate the risks based on evidence from laboratory, animal, and human research studies.

The **International Agency for Research on Cancer (IARC)** is part of the World Health Organization (WHO). Its major goal is to identify causes of cancer.

- IARC classifies talc that contains asbestos as “carcinogenic to humans.”
- Based on the lack of data from human studies and on limited data in lab animal studies, IARC classifies inhaled talc *not* containing asbestos as “not classifiable as to carcinogenicity in humans.”
- Based on limited evidence from human studies of a link to ovarian cancer, IARC classifies the perineal (genital) use of talc-based body powder as “possibly carcinogenic to humans.”

The US **National Toxicology Program (NTP)** is formed from parts of several different government agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA). The NTP has not fully reviewed talc (with or without asbestos) as a possible carcinogen.

(For more information on the classification systems used by these agencies, see [Known and Probable Human Carcinogens](#)⁶.)

Can I reduce my exposure to talcum powder?

It is not clear if consumer products containing talcum powder increase cancer risk. Studies of personal use of talcum powder have had mixed results, although there is some suggestion of a possible increase in ovarian cancer risk. There is very little evidence at this time that any other forms of cancer are linked with consumer use of talcum powder.

Until more information is available, people concerned about using talcum powder may want to avoid or limit their use of consumer products that contain it.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/asbestos.html
2. www.cancer.org/cancer/ovarian-cancer.html
3. www.cancer.org/cancer/lung-cancer.html
4. www.cancer.org/cancer/cancer-causes/radiation-exposure/radon.html
5. www.cancer.org/cancer/endometrial-cancer.html
6. www.cancer.org/cancer/cancer-causes/general-info/known-and-probable-human-carcinogens.html

References

Berge W, Mundt K, Luu H, et al. Genital use of talc and risk of ovarian cancer: A meta analysis. *Eur J Cancer Prev.* 2018;27(3):248-257.

Coggiola M, Bosio D, Pira E, et al. An update of a mortality study of talc miners and millers in Italy. *Am J Ind Med.* 2003;44:6369.

Cook LS, Kamb ML, Weiss NS. Perineal powder exposure and the risk of ovarian cancer. *Am J Epidemiol.* 1997;145:459-465.

Crawford L, Reeves KW, Luisi N, Balasubramanian R, Sturgeon SR. Perineal powder use and risk of endometrial cancer in postmenopausal women. *Cancer Causes Control.* 2012;23:1673-1680.

Cramer DW, Vitonis AF, Terry KL, et al. The association between talc use and ovarian cancer: a retrospective case control study in two US states. *Epidemiology.* 2016;27:334-46

Gertig DM, Hunter DJ, Cramer DW, et al. Prospective study of talc use and ovarian cancer. *J Natl Cancer Inst.* 2000;92:249-252.

Hartge P, Stewart PA. Occupation and ovarian cancer: A case-control study in the Washington DC metropolitan area, 1978-1981. *J Occup Med.* 1994;36:924-927.

Honda Y, Beall C, Delzell E, et al. Mortality among workers at a talc mining and milling facility. *Ann Occup Hyg.* 2002;46:575-585.

Houghton SC, Reeves KW, Hankinson SE, et al. Perineal powder use and risk of ovarian cancer. *J Natl Cancer Inst.* 2014 Sep 10;106(9).

International Agency for Research on Cancer. *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 93. Carbon Black, Titanium Dioxide, Talc.* 2010. Accessed at: <http://monographs.iarc.fr/ENG/Monographs/vol93/index.php> on September 29, 2014.

Karageorgi S, Gates MA, Hankinson SE, De Vivo I. Perineal use of talcum powder and endometrial cancer risk. *Cancer Epidemiol Biomarkers Prev.* 2010;19:12691275.

Mills PK, Riordan DG, Cress RD, Young HA. Perineal talc exposure and epithelial ovarian cancer risk in the Central Valley of California. *Int J Cancer.* 2004;112:458464.

Neill AS, Nagle CM, Spurdle AB, Webb PM. Use of talcum powder and endometrial cancer risk. *Cancer Causes Control.* 2012;2:513519.

O'Brien KM, Tworoger SS, Harris HR, et al. Association of powder use in the genital area with risk of ovarian cancer. *JAMA.* 2020;323(1):49-59.

Rosenblatt KA, Weiss NS, Cushing-Haugen KL, Wicklund KG, Rossing MA. Genital powder exposure and the risk of epithelial ovarian cancer. *Cancer Causes Control.* 2011;22:737742.

Terry KL, Karageorgi S, Shvetsov YB, et al. Genital powder use and risk of ovarian cancer: A pooled analysis of 8,525 cases and 9,859 controls. *Cancer Prev Res (Phila).* 2013;6:811–821.

Thomas TL, Stewart PA. Mortality from lung cancer and respiratory disease among pottery workers exposed to silica and talc. *Am J Epidemiol.* 1987;125:3543.

US Department of Health and Human Services. Public Health Service, National Toxicology Program. Talc (cosmetic & occupational exposure). 2014. Accessed at <http://ntp.niehs.nih.gov/pubhealth/roc/roc13/othernoms/t/talc/summary/index.html> on September 29, 2014.

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