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## Does talcum powder cause cancer?

When talking about whether 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 genetic changes that are seen in cancer cells. It's not always clear if the results from lab studies will apply to humans, but they are a good way to find out if a substance might possibly cause cancer.

**Studies in people:** Other studies look at cancer risks among different groups of people. Such studies 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](#)<sup>2</sup> 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 ovaries.

Many studies in women have looked at the possible link between talcum powder and ovarian cancer. 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.

Researchers have tried to address this by combining the results of different studies (known as a **meta-analysis**), but even this type of research has had mixed results. For example, in an analysis combining the results of the major cohort studies there was no overall increased risk of ovarian cancer, while in an analysis of both case-control and cohort studies, frequent talcum powder use (defined as at least twice a week) was linked with an increased risk.

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](#)<sup>3</sup> and other respiratory diseases, while others have found no increase in lung cancer risk. These studies have been complicated by the fact that in its natural form, talc 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](#)<sup>4</sup>. Other lung cancer risk factors, such as smoking, also need to be taken into account.

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](#)<sup>5</sup> 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](#)<sup>6</sup> and [pleural mesothelioma](#)<sup>7</sup> (cancer of the lining that surrounds the lungs). 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). One of its major goals is to identify causes of cancer.

- IARC classifies talc [that contains asbestos](#) as “carcinogenic to humans.”
- IARC classifies talc as “probably carcinogenic to humans,” based on “limited” evidence for (ovarian) cancer in humans, “sufficient” evidence for cancer in lab animals, and “strong” lab evidence that it has some of the key properties of a carcinogen.

The US **National Toxicology Program (NTP)** is an interagency program 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 these agencies use, see [Determining if Something Is a Carcinogen<sup>8</sup>](#) and [Known and Probable Human Carcinogens<sup>9</sup>](#).)

## **Can I avoid or limit my exposure to talcum powder?**

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 who are concerned about possible links between talcum powder and cancer may choose to avoid or limit their use of consumer products that contain it.

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