



The Wellness Family

Dr. Carly Butterworth Keep you Informed

Deodorants and Antiperspirants

The skin is the largest organ in the human body, accounting for 16% of total body weight and covering up to 22 square feet of surface area. It is incredibly permeable and not picky about what it is willing to absorb. While sweat glands and hair follicles make up, at most, only 1% of the total skin surface, there are two to four million sweat glands, a large portion of which are under our arms. Therefore, it's important to consider what products we're putting there.

The History

In 1910, a high school student named Edna Murphey from Cincinnati began offering the public an anti-perspirant and deodorant that her surgeon father had invented to keep his hands sweat-free in the operating room. She had tried the liquid in her armpits and, after discovering that it helped fight wetness and smell, named it Odorono (a play on the words "Odor? Oh No!") and decided to start a company. The problem was that underarm odor and perspiration were delicate topics not to be discussed in polite company and so no one was buying her product. Besides, the majority of people thought that antiperspirants and deodorants were unnecessary, unhealthy or both.

Murphey realized that something needed to change, and she hired James Young and a New York advertising agency to try to help. Early advertising was developed to help allay fears that antiperspirants were unhealthy and, while they helped sales, there wasn't a real breakthrough until a 1919 advertisement sent shockwaves through polite society. The ad simply stated that women's armpits can be stinky and offensive but should be neither. While it was considered insulting, it did the job, and sales of Odorono rose 112% in just one year.

Murphey's wasn't the first deodorant – that was trademarked in 1888, killed odor-producing bacteria, and was called Mum. Murphey's also wasn't the first antiperspirant – that was called Everdry and was launched in 1903. Murphey's was, however, the first product that, with controversial advertising aimed at exploiting women's insecurities, broke through the Victorian societal norm of not discussing or even acknowledging bodily functions, creating what is the \$18 billion a year anti-sweat toiletries industry today. Now, over 100 years later, using antiperspirants and deodorants are second nature. It's almost considered taboo to go without.

Chemical Composition

Odorono stopped sweat for up to three days – longer lasting than modern day products – with an active ingredient of aluminum chloride which had to be suspended in acid to remain effective. It took a few decades for chemists to come up with a formulation that didn't require an acid suspension, and aluminum chlorohydrate is still used today in most antiperspirants and deodorants.

Other chemicals typically used include:

- Triclosan – an antibacterial chemical that is an endocrine disruptor
- Phthalates – also an endocrine disruptor



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- Parabens – preservatives that are hormone impersonators that mimic estrogen
- Butane and isobutane – used as propellants in aerosol deodorants restricted in the European Union and Canada but considered safe in the United States
- Fragrances – concealing scents that may cause skin irritation protected by law as "trade secrets"

These chemicals are put directly onto our skin when we use these products. Understanding that our skin is extremely absorbent, these chemicals can reach into our body tissue and possibly even our blood stream.

Triclosan and phthalates are endocrine disruptors, meaning these chemicals interfere with our endocrine system, our hormone regulating system. These disruptions may cause cancerous tumors, birth defects and other developmental disorders. Any system controlled by hormones may be affected by endocrine (hormone) disruptors.

Hormones are chemical messengers that travel through the body coordinating complex processes in our body like growth, metabolism and fertility. Hormone impersonators influence the function of the immune system as if they were actual hormones in our body, and estrogen mimicking compounds convince our body that we have more estrogen than we do which can have negative effects.

This does not mean that these chemicals will affect us this way but studies have shown that they may, and when we use antiperspirants and/or deodorants we are applying these chemicals directly to our skin in one of the most sensitive areas of our body.

Chemical Problems

Our bodies have naturally occurring bacteria, and this is just as true for our underarms. A recent study revealed that antiperspirants may kill off this beneficial bacterium. Another study showed that antiperspirants affect the bacterial balance in our armpits leading to a bigger odor problem by creating an increase in actinobacteria.

Other studies revealed a possible link between chemicals in antiperspirants and breast cancer. One particular study showed that the aluminum which acts as a plug in the sweat glands may act as a long-term source of exposure to aluminum, which research suggests may accumulate in breast tissue. The biggest problem with this is that aluminum has been shown to potentially cause alterations to DNA and other epigenetic effects that could support cancer development.

An additional study linked hormone impersonating parabens to breast cancer cells. One study published in 2012 found one or more parabens in 99% of 160 tissue samples collected from 40 mastectomies. The fact that these chemicals were found in the breast tissue definitively proves that they are being absorbed by the skin.

This is not to say that antiperspirants and deodorants cause cancer, there are just as many studies reporting that they are perfectly safe, however, the results of these studies should not be ignored.

Axillary Hair

The hair that grows in our armpits has many purposes. The first, is to protect this sensitive skin from friction when we

are using our arms during exertion such as work or exercise. While opinions do differ, this hair can actually help reduce odor. When we perspire, axillary hair helps slough off the odor causing bacteria and move it away from the skin. This is our body's natural ability to regulate body odor and perspiration during exertion.

Many European countries were known for women not feeling the need to shave their armpits. In the past decade or so, the percentage of women that shave has increased worldwide but it is still more socially accepted in European countries than the United States for women to not shave their armpit hair.

All-Natural Products

Whether you choose to shave your armpits or don't, there is still a possibility that natural odors will arise during exertion, and while armpit hair can decrease bacteria growth and odor development, it may not be enough. Despite some research saying that these chemicals are perfectly safe, do we really want to put aluminum chlorohydrate directly onto our skin?

Some safer options include lemon or lime juice, white or apple cider vinegar, baking soda and water or tea tree and coconut oils. Any of these natural products applied to the armpit can help with odor.

However, if you prefer a manufactured product then consider Dr. Mercola's Organic deodorant that can be purchased at www.mercola.com available unscented and with eucalyptus mint or sweet orange. Another option is to go to your local health or whole food grocery store and ask them about the pros and cons of the products they have available there or ask your Family Wellness Chiropractor for recommendations.

Any of the above options are going to protect you from unpleasant odors while not affecting your body chemistry or overall health.



*Dear Patient,
Dr. Carly Butterworth is dedicated to providing you with the absolute best in family wellness care. So take a moment today to discuss with your Family Wellness Chiropractor any concerns you may have regarding your family's overall health and wellness.*

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