

News and our views

Cold cap therapy reduces hair loss from chemotherapy

A known and often unwelcome side effect of chemotherapy for cancer treatment is hair loss. However, two recent studies have found that use of a scalp-cooling device — sometimes referred to as a cooling cap or cold cap therapy — may significantly reduce this effect.

Both studies were published in the Feb. 14, 2017, issue of *JAMA*. The studies followed women undergoing treatment for early-stage breast cancer. In each study, one group of women was assigned to cold cap therapy 30 minutes before and during each chemotherapy session, as well as for 90 to 120 minutes after each session. The remaining women did not use cold cap therapy during their chemotherapy sessions. The studies produced similar results.

Among those who used the cap, 66 percent of the women in one study and 50 percent of the women in the other study maintained at least half of their hair.



A scalp cooling device — sometimes referred to as cold cap therapy or cooling caps — may significantly reduce hair loss that results from chemotherapy.

Among participants in the studies who didn't use the caps, none maintained half of their hair.

Chemotherapy works by killing rapidly dividing cells, including cancer cells. But chemotherapy can't differentiate between cancer cells and healthy cells that divide quickly, including those responsible for growing hair (follicles). When chemotherapy attacks the hair follicles, it causes hair to fall out. In fact, most chemotherapy regimens used to treat early-stage breast cancer cause complete hair loss.

The scalp-cooling process constricts blood vessels in the scalp. This constriction is believed to reduce the amount of chemotherapy that reaches the hair follicles. The cold also decreases the division of cells in the hair follicles, making them less likely to be targeted by the chemotherapy drug.

Minor side effects were noted among the scalp-cooling device users in the study. These included chills, headaches, scalp irritation, as well as neck and shoulder discomfort. However, the majority of users were able to continue with the caps for the entirety of their chemotherapy treatment. Cost also may be prohibitive, as the therapy isn't normally covered by insurance.

While the benefit of preventing cancer recurrence outweighs the negative aspects of hair loss, it's still a major, unwanted and challenging side effect. Tough on self-image and comfort, hair loss is also a vivid indicator and reminder of a cancer diagnosis. That's why the success of scalp-cooling therapy in preserving hair is viewed by Mayo Clinic experts as a welcome development. □

COPD

When it's hard to breathe

When you first began feeling short of breath after climbing the stairs, you brushed it off as being out of shape. But when combined with that nagging cough, you felt downright limited.

While shortness of breath is a warning sign of many different conditions, one of the more common is chronic obstructive pulmonary disease (COPD), a progressive lung disease most often caused by a history of tobacco use. COPD is one of the leading causes of death in the U.S. But it's a disease that can be managed for several years.

Obstructing the airways

When you inhale, air travels down your windpipe (trachea) into your lungs through two large tubes (bronchi). Once inside your lungs, these bronchi divide like the branches of a tree into smaller tubes (bronchioles) that end in clusters of tiny air sacs (alveoli).

COPD encompasses two main lung diseases — chronic bronchitis and emphysema. Emphysema causes destruction of the fragile walls and elastic fibers of the alveoli. With chronic bronchitis, your bronchial tubes become inflamed and narrowed, and your lungs produce more mucus, leading to a chronic cough in an attempt to clear the airways. Most people with COPD have components of both.

An estimated 80 percent or more of people with COPD have a history of cigarette smoking. Cigar, pipe and secondhand smoke also are known culprits. Other irritants that can bring about the disease include air pollution and environmental exposure to dust, smoke or fumes. COPD also may occur in some people with a history of severe childhood asthma or respiratory illnesses. Genetics also plays a role.

It's easy to mistake the symptoms of COPD for other conditions. For that reason, the disease often goes undiag-