Scalp Cooling

Overview

Scalp cooling is treatment to reduce hair loss caused by some chemotherapy (chemo) medicines. Studies show that scalp cooling is effective for patients who:

- Are receiving a taxane-based chemotherapy
- Do not have any scalp disorders

Why does chemotherapy make hair fall out?
Chemotherapy targets cells that divide fast. Hair cells are the second fastest dividing cells in the body. Many chemo medicines, including taxanes, cause hair loss by damaging hair follicles (the root of the hair). This is known as chemotherapy-induced alopecia. Hair loss can begin about 2 weeks after the start of chemo.

How does scalp cooling work?
Scalp cooling limits damage to hair follicles by lowering the temperature of the scalp. The cooling reduces blood flow to the hair follicles. This may prevent or lessen hair loss. The scalp must stay cool before, during and after each chemo session in order to be effective.

How long does scalp cooling take?
Patients need to wear the cooling cap for:

- Thirty minutes before chemotherapy begins
- The entire time of chemotherapy
- Up to 90 minutes after chemotherapy is completed

The cooling cap easily attaches to the cooling system. If you need to use the restroom during your treatment, you can disconnect from the cooling machine for up to 8 minutes. To get the full benefits of hair preservation, it is important to use scalp cooling each time you have chemotherapy.

Will scalp cooling work for me?
There is no guarantee that scalp cooling will prevent all patients from losing any or all of their hair. The success rate of scalp cooling varies from patient to patient and can be affected by many things, including:

- Chemotherapy regimen and dose
- Length of time for chemo session
- Metabolism of the chemo
- Hair type and condition
- Your age and general health

You may have some hair loss and overall hair thinning while using scalp cooling. The normal shedding cycle of your hair will continue. Many patients report hair growth during their chemo treatment while using scalp cooling. This is because new hair growth is also protected from chemotherapy medicines.
Who should not use scalp cooling?
Scalp cooling is not a good choice for you if you:
- Have a history or concern of scalp metastases
- Will receive radiation treatments to the skull
- Have hematologic malignancies (leukemia, lymphomas, etc.)
- Have severe liver or renal disease
- Are cold sensitive, have cold agglutinin disease or post-traumatic cold dystrophy

What can I expect using a cooling cap?
The scalp cooling cap is made of flexible silicone which molds to your head for a close fit. After the cap is on, a neoprene cover is put over the cap for extra insulation. The neoprene cover also absorbs any moisture and makes sure the cap remains in good contact with your scalp. Coolant passes through built-in tubing in the cap to cool down your scalp. Temperature sensors make sure that your scalp is kept at an even, constant temperature.

The ability to tolerate the cold feeling, from scalp cooling, varies from person to person. It is helpful to dress in layers, even in warm weather. You may have an intense feeling of discomfort or pain from the cold in the first 10 to 15 minutes of treatment. This may go away as you get used to the cold. Deep breaths can help you remain calm.

If you have trouble with the cold, ask your health care team about options for relief.

Short-term side effects
There are temporary side effects that can occur during scalp cooling. Most patients report being able to cope with the side effects, which may include:
- Chills
- Dizziness
- Headache
- Nausea
- Paresthesia (tingling, pricking, numbness or burning sensation of skin)
- Pruritus (severe itching)
- Sinus pain
- Skin tissue disorders
- Skin ulceration

Potential long-term side effects
The long-term side effects of scalp cooling are still being studied. Because the scalp does not receive chemo during scalp cooling treatment, it may be possible for any existing cancer cells in the scalp to grow at a later date (metastasize).

Scalp metastasis is rare. The rate has not been shown to be higher in patients receiving scalp cooling. If you have any concerns, talk with your health care team.

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