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Hair Loss (Alopecia)

Hair loss (also called **alopecia**) is one of the most asked-about side effects of cancer treatment.

Certain cancer treatments can make you lose some or all of your hair. When this happens, the hair most often falls out in clumps during shampooing or brushing. Hair loss can be devastating. But for many people, hair grows back after treatment. Learn more about what to expect, and how to manage and cope with treatment-related hair loss.

- The type and dose (amount) of cancer treatment
- The condition of your hair before starting treatment
- Genetic hair loss or thinning
- Changes in your hormones
- Hair styling and heat
- Medicines
- Tobacco use
- Nutrition and diet
- Scalp conditions and infections

Treatments that can cause hair loss

Some cancer treatments are more likely than others to cause hair loss or thinning.

Chemotherapy

[Chemotherapy works by killing fast-growing cells](#)¹. Unfortunately, that includes the cells in your hair follicles. This is why some chemo can cause hair loss or thinning. (When it happens, it's known as **chemotherapy-induced alopecia or CIA**.)

This hair loss doesn't just affect the hair on your head (scalp). Anywhere hair grows can be affected by hair loss or thinning, including your eyelashes, eyebrows, arms, legs, and groin hair.

Certain types of chemo are less likely than others to cause hair loss or thinning.

Types of chemo less likely to cause any hair loss

- Low dose epirubicin (Ellence) and doxorubicin (Doxil)
 - Oral cyclophosphamide (Cytosan)
 - Fluorouracil (5FU, Adrucil), capecitabine (Xeloda), gemcitabine (Gemzar)
 - Methotrexate (Trexell, Xatmep)
- Platinum chemo such as oxaliplatin (Eloxatin), cisplatin (Platinol-AQ), and

to cause hair loss. It affects about half of all people taking it. Nilotinib (Tasigna) is another TKI known for causing hair loss.

- **VEGF (vascular endothelial growth factor) inhibitors:** Sorafenib, regorafenib, cabozantinib, and pazopanib are the VEGF inhibitors most likely to cause hair loss.
- **B-Raf kinase inhibitors (BRAFi):** Vemurafenib, dabrafenib, and encorafenib are the BRAF inhibitors mostly likely to cause hair loss.
- **Hedgehog pathway inhibitors (HPIs):** Vismodegib, sonidegib, and glasdegib are the HP inhibitors most likely to cause hair loss.

Hormone (endocrine) therapy

Certain types of [hormone therapy](#)⁴ for cancer can cause hair loss or thinning. But hormone therapy in general is more likely to cause thinning rather than total hair loss. Hair loss and thinning caused by hormone therapy is usually reversible and grows back after treatment.

Most people who have hair loss or thinning related to hormone therapy report that it happens within the first 12 months of starting treatment.

The hormone therapies most likely to cause hair loss or thinning are tamoxifen and other aromatase inhibitors (such as Arimidex or Aromasin). About 1 in 4 people taking hormone therapy for cancer develop hair loss or thinning. Your risk goes up if you take a targeted drug in addition to hormone therapy.

Radiation therapy

Hair loss caused by [radiation therapy](#)⁵ (also known as **radiation-induced alopecia or RIA**) is a little different from other types of treatment-related hair loss.

Typically, this hair loss:

- Happens **only** in the area getting radiation therapy
- Starts 1 to 3 weeks after the first radiation treatment
- Is more likely to be long-term or permanent

Almost everyone who gets [external radiation](#)⁶ for head, neck, or central nervous system cancers has hair loss.

Stem cell and bone marrow transplant

Most people getting a [stem cell or bone marrow transplant](#)⁷ have total hair loss because of the types and doses of chemotherapy given before transplant.

Graft-versus-host-disease (GVHD) is a complication that can happen after transplant. It can also cause hair changes including thinning, alopecia, or changes in color or texture.

What are the signs and symptoms of hair loss (alopecia)?

When most people think about hair loss from cancer treatment, they think about hair on the head (scalp). But cancer treatment can cause hair loss or thinning anywhere on your body that you have hair.

This includes loss or thinning of your:

- Eyelash or eyebrow hair (known as **madarosis**)
- Facial hair
- Body hair including arms, legs, chest, back, and pubic areas

Other symptoms can include:

- Dry or itchy scalp
- Pain, numbness, burning, or tingling around the scalp (known as **trichodynia**)

Hair loss on the scalp typically starts in areas of higher friction (around the hairline and crown). For some people, this can progress into complete or total hair loss within 2 to 3 months.

The emotional toll of hair loss

There can also be serious mental and emotional side effects with hair loss. It's one of the most feared and noticeable parts of cancer treatment. Some people might say, "It's just hair." But for many people, hair is part of their identity, relationships, or culture.

You might notice yourself feeling guilty or even ashamed for worrying about your hair loss. You might wonder, "Why is this so important to me? Shouldn't I be worrying more about my cancer than my hair?" It's normal to have these mixed feelings.

But remember: It's not vain or superficial to feel however you feel about losing your hair.

Chemo-induced alopecia has been linked to poor body image, depression, and decreased quality of life. Some people might even avoid chemo altogether because they are afraid of losing their hair.

For many people, losing their hair feels like losing a part of themselves. Studies on how chemo-induced hair loss affects body image have shown that many women worry about how their hair loss will affect their femininity or attractiveness to others.

There aren't many studies yet on how hair loss affects body image in men or people who identify as non-binary. But no matter your gender identity, hair can be an important part of your self-image.

That's why it's so important to talk about the emotional toll of hair loss. Knowing that you aren't alone, and sharing with others who have gone through a similar experience, can really help you manage the feelings and emotions that often come with hair loss.

[Cancer Survivors Network](#)

An online community where people with cancer, survivors, and caregivers can connect with others 24/7.

[Reach To Recovery](#)⁸

Through our Reach To Recovery website and app, you can match with a trained volunteer who is a breast cancer survivor.

[MHA - Mental Health America](#)

Find a counselor or mental health provider with MHA's searchable directory.

Can hair loss be prevented?

Some [scalp cooling devices and cold caps](#)⁹ are FDA approved to prevent chemotherapy-induced alopecia (CIA). But they can have some side effects, and they aren't recommended for everyone. Unfortunately, they don't prevent hair loss caused by other types of cancer treatment such as immunotherapy and targeted drug therapy.

Ask your cancer care team if you are likely to lose your hair. If so, ask whether you will lose it quickly or over time. They may also be able to tell you if a scalp cooling device or cold cap could make you less likely to lose your hair.

Not all scalp cooling devices are FDA approved, and they might not be covered by insurance. You can talk to your cancer care team about the benefits, risks, and side effects.

What are my options if I do lose my hair?

[Wigs](#)¹⁰ and other scalp coverings may be partially or fully covered by your health insurance. You will likely need to pay for your wig and then file a reimbursement claim with your insurance provider. Ask your cancer care team for a wig prescription.

Many people choose to cut their hair very short or even shave their head before it starts falling out. When your hair is very short or shaved, you might have less discomfort if it starts to fall out. Some people also feel more in control when they do this.

Many people choose to go bald, too. Some people like not having to worry about wigs or head coverings. Others see it as empowering or meaningful.

There isn't one right way to manage hair loss from cancer treatment. What matters most is finding an option that makes *you* feel comfortable, whatever that option is.

Is hair loss from cancer treatment permanent?

Hair loss related to cancer treatment is usually not permanent.

A few studies have found an increased risk of permanent or long-term hair loss with high doses of docetaxel (Doxil). Chemo regimens that combine taxanes and anthracyclines are also more likely to cause long-term or permanent hair loss.

About 1 in 3 breast cancer survivors experience long-term or permanent hair loss.

Just over 1 in 3 childhood cancer survivors experience long-term or permanent hair loss.

Hair growth after cancer treatment

When the hair on your scalp first starts to grow back, it might be a different color or texture. This is completely normal. A little over half of people who lose their hair because of cancer treatment report changes like this. These changes are almost always temporary.

Your hair will most likely return to its natural color and texture in a few months as your hair follicles recover and your hair continues to grow.

Everyone's hair grows at different rates. One person's hair might grow back quickly after cancer treatment, while another person's hair growth could take more time.

Certain people may also be more likely to lose their hair during cancer treatment because of other factors. Genetics, nutrition, and other health conditions can all play a part. This is why each person's experience with hair loss is different, even if they get the same treatment.

Spironolactone is a medicine that is approved for female-pattern hair loss. More studies are needed to evaluate its use in people with chemo-induced hair loss. But it is sometimes used off-label for this purpose.

Light therapy (Photobiomodulation)

Low-level laser therapy (LLLT) is a type of treatment usually used for wounds, pain, or inflammation. It has been shown to treat male and female-pattern hair loss effectively. There have not been as many studies evaluating how well LLLT works for chemo-induced alopecia.

LLLT is relatively low cost (compared to some other treatments for hair loss). It can be used at home, and it carries few risks. LLLT is sometimes also called **photobiomodulation (PBM)**.

There have been a small number of studies in breast cancer patients that show significant improvement in hair regrowth following chemo compared to breast cancer patients who did not have LLLT.

As with any treatment or medicine, always talk to your doctor or cancer care team before starting or stopping anything. Tell them what medicines you currently take and if you've tried anything for hair loss in the past.

Tips for coping with hair loss and thinning

Whether your hair is just starting to fall out, or is beginning to grow back, here are some ways you can take care of yourself.

Be gentle.

- Your scalp might feel itchy, sore, or sensitive. Be gentle when brushing and washing your hair.
- Styles that pull on your hair (like ponytails and braids) can also worsen or speed up hair loss.
- Use a mild shampoo (such as baby shampoo) to wash your hair.
- Try to limit washing your hair to no more than 2 times per week.

Protect your scalp.

- If your scalp is exposed, use a broad-spectrum sunscreen with an SPF of at least

30.

- In cold weather, wear a hat or scarf to cover your head and stay warm.

Choose gentle fabrics and materials.

- A sleep cap minimizes friction (rubbing) between your scalp and pillowcase. This can reduce irritation.
- Bamboo, silk, and cotton are among the softest materials for people with hair loss. They tend to be the gentlest and coolest on the scalp.
- Hats with soft cotton or bamboo linings are often suggested.
- For unlined hats and wigs, think about adding a liner that absorbs and wicks away sweat to keep you comfortable.
- Organic fabrics might be a good choice for people with sensitive scalps. These fabrics are free from many chemicals that may cause itchiness and irritation.

Avoid harsh treatments.

- Avoid products with harsh chemicals or fragrances.
- Don't bleach, color, relax, or perm your hair. These types of treatments can weaken the hair and worsen breakage.

Avoid styling with heat.

- Whenever possible, let your hair air-dry.
- Avoid heating devices like flat irons, curling irons, or hot rollers.

Improve blood flow to your scalp.

- Regular scalp massages can improve circulation (blood flow). This may promote hair growth.

Take care of your body.

- Good sleep, nutrition, and physical activity are all important for your body to heal and recover.

Find emotional support.

- Losing your hair is one of the most traumatizing side effects of cancer treatment because it's so visible.
- It isn't selfish or vain to be sad, angry, or however you feel.
- Connecting with friends, family, or support groups can help you cope.
- Be patient and kind to yourself during this process. Remember, you aren't alone.

Most hair loss related to cancer treatment is temporary. Hair often starts growing back after treatment ends. A small number of cancer treatments are more likely to cause long-term or permanent hair loss. Ask your cancer care team about your specific cancer treatments and what to expect.

More resources

[Flyer: What to Do for Hair Loss](#)

Learn more about how to manage hair loss during and after cancer treatment.

[Where to Find Wigs, Scarves, and Hats](#)

The American Cancer Society EverYou™ program features a collection of quality wigs, headwear, and scarves.

[Choosing a Wig During Cancer Treatment](#) ¹¹

Get tips on choosing and wearing a wig. Learn about different types of wigs, and how to style and care for yours.

[Styling Your Scarf, Handkerchief, or Bandana](#) ¹²

Learn how to wear and tie a scarf if you've lost or expect to lose your hair due to chemo or other cancer treatment.

Hyperlinks

6. www.cancer.org/cancer/managing-cancer/treatment-types/radiation/external-beam-radiation-therapy.html
7. www.cancer.org/cancer/managing-cancer/treatment-types/stem-cell-transplant.html
8. www.cancer.org/support-programs-and-services/reach-to-recovery.html
9. www.cancer.org/cancer/managing-cancer/side-effects/hair-skin-nails/hair-loss/cold-caps.html
10. www.cancer.org/cancer/managing-cancer/side-effects/hair-skin-nails/hair-loss/choosing-and-wearing-wig.html
11. www.cancer.org/cancer/managing-cancer/side-effects/hair-skin-nails/hair-loss/choosing-and-wearing-wig.html
12. www.cancer.org/cancer/managing-cancer/side-effects/hair-skin-nails/hair-loss/how-to-wear-a-scarf.html

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