Will dye damage my hair and turn it prematurely gray? [1]

Alice,

My parents finally let me lighten my hair to blond a month before I turned 14. Since then, I've changed it several times, and now my parents are telling me I'm going to get gray hair earlier because of the chemicals, and that I'm going to really mess up my hair if I keep changing the color. Is all that really true?

— The Leading Buyer of Hair Chemicals

Answer

Dear The Leading Buyer of Hair Chemicals,

The short and simple answer to your question is: no, frequently dyeing your hair won’t make you gray quicker. Both the onset of gray hair and the rate at which a person continues to gray are determined primarily by genetics. Other factors that can affect a person’s hair color include lifestyle choices and certain illnesses or nutrient deficiencies (more on this in a bit!). Repeated hair dyeing may have other undesirable side effects such as dry hair, some hair loss, scalp irritation, allergies, and other medical issues. If you experience some of these effects, it may be best to stop the use of dye until symptoms subside. For more serious side effects or if you simply want professional insight and reassurance, you can speak with your health care provider or a dermatologist about your hair care regimen.

To truly understand how hair color can be altered, it’s helpful to know that each of your hair strands is made up of two sections: the hair shaft and the root. The shaft is the colored part of your hair which grows above the scalp’s surface and can be altered by hair dye, while the roots are nested below the scalp within hair follicles. Inside these hair follicles, there are melanocytes, which produce melanin; this melanin is responsible for the color of your hair and skin. Usually, as people age, melanocytes deteriorate and lose their ability to produce as much melanin as it once did, causing gray, white, or silver hairs to grow. Once the hair starts graying, supplements, vitamins or other hair care products won’t stop, decrease, or reverse the graying.

Genetics is the biggest culprit of graying hair. While there are differences across race and ethnicity, the underlying gene explaining these differences is still unknown. Beyond genetics,
lifestyle factors such as smoking can increase the likelihood that a person will prematurely gray. Specifically, researchers have found that smokers are two and half times more likely to experience premature graying before turning 30 than non-smokers. This may be attributed to the existence of free radicals in cigarettes which can damage melanocytes. Furthermore, some research has found that certain illnesses, including cardiovascular disease, osteoporosis, certain autoimmune disorders, vitamin B-12 deficiency, iron deficiency, and thyroid problems, may influence a person’s chances of prematurely graying. It’s worth noting that contrary to popular belief, stress does not influence a person’s chances of graying. The more you know!

To reiterate — there’s nothing in hair dye, no matter the type, which causes the hair to gray. In hair dyes, pigment molecules are transferred to a person’s hair strands, adding color, not stripping it. A theory about why people perceive themselves to gray faster may lie with their intention for dyeing their hair in the first place. Though many people choose to dye their hair for self-expression and fun, a large percentage dye their hair to conceal hair that is already graying. Regardless of the hair dye, this hair will continue to grow gray and can eventually become starkly visible against the contrast of the added color. Moreover, people who are already graying tend to be more vigilant about future naturally-occurring gray hairs. It may be that genetics and other factors make them gray in the first place and the hair dye simply stopped covering it all.

It's worth noting that some people refrain from using hair dyes because of claims that these dyes may be linked to cancer. However, before you immediately panic and stop dyeing your hair altogether, it’s crucial to note the studies have focused on animals, not humans, and have yielded mixed results. Some studies have found evidence suggesting that aromatic amines, the chemical components in the colorless part of hair dye may cause cancer. The good news is since the 1970s many manufacturers have removed some of these chemicals. After considering all of the claims and supporting evidence, the International Agency for Research on Cancer (IARC) has stated that the use of personal dyes (including hair dyes) for humans is not considered cancer-causing.

While the risks of hair dye appear to be minimal, it doesn’t mean you can’t color your hair responsibly. If you choose to dye your hair yourself, check out these tips for decreasing the risk for potential adverse effects:

- **Carefully follow the instructions accompanying the dye**, including using gloves when handling the dye and only keeping the dye in your hair for the specified period of time.
- **Conduct a “patch test”** by dyeing only a section of your hair to test if the dye can cause allergic reactions or irritations.
- **Thoroughly rinse your hair and head with plenty of water** until the water runs colorless.
- **Use a deep conditioner** (conditioners are usually supplied in the box) to restore necessary hydration to your hair. Other do-it-yourself deep conditioners include coconut oil and egg yolks.
- **Don’t apply the dye to your eyebrows or eyelashes**, as it can be harmful to your eyes.
- **Avoid mixing dye products from different boxes**, as they may not go together and contain conflicting chemical components.

If after coloring your hair, you notice that your hair seems damaged, you may want to take a break from the dye for a little while. It’s better to not overuse dyes, as they can potentially cause
some hair loss and excessive drying of the hair. If you experience any allergies, irritations or other medical issues, it’s advised that you stop using the dyes altogether and meet with your health care provider, particularly a dermatologist, who can assess and address your concerns. Lastly, if you haven’t already, you may also consider visiting a professional hair stylist who can help determine what type of hair dye works best for you, while maintaining the health of your hair. And, hey, while it’s natural to worry about (eventually) graying, it may be an opportunity to experiment with new and fun colors, or you could choose to rock stylish ‘silver fox’ look.

Whatever color, cut, or style, “hairs” to hoping you always have a great hair day!

Alice!
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