

## Allergy to hair dye

There are occasional reports in the media of people experiencing allergic reactions suspected to have been triggered by hair dye. For some people, these reactions have the potential to be severe and, on very rare occasions, even life-threatening. This article is intended to help and inform those people who have suffered a reaction to hair dye, and also those who have not suffered a reaction but wish to know more about this subject.

The most important messages are:

- If you have suffered a reaction to a hair dye, however mild, don't colour your hair again (including eyelashes and eyebrows) without visiting your GP and getting a referral to a specialist. Read the ingredients list of all cosmetic products and avoid any that contain the substance that causes your allergy.
- Even if you have not had a previous reaction to a hair dye, caution is still advised. Always carefully follow the instructions provided by the manufacturer, particularly looking for any warnings that are given, including the direction to perform an "Allergy Alert Test" (see below).

For the purpose of this article, the terms 'hair dyes' and 'hair colorants' will both be used. They are the same thing.

### What triggers reactions to hair dye?

The ingredient in hair dyes most often responsible for a reaction is para-phenylenediamine (PPD), which is used in many permanent or oxidative dyes to darken hair or cover grey hair. Reactions can also occur to a similar hair dye known as PTD (para-toluenediamine).

Although other chemicals in hair dye may also have the potential for triggering allergic reactions, this article will concentrate on PPD.

### What symptoms can occur?

People can become allergic to PPD at any time, even if they have been exposed to it before without problems. A mild reaction to PPD might involve dermatitis (an inflammatory skin reaction) at the point of contact. In more severe cases, there may be marked reddening and swelling of the scalp and the face, and the eyelids may completely close. On very rare occasions PPD can cause life-threatening anaphylaxis (a

severe allergic reaction). Click [here](#) to read our anaphylaxis factsheet for further information.

Please note that mild symptoms, such as redness, itching, and swelling, can progress quickly to very severe ones and should not be ignored. If symptoms are obviously severe, or seem to be progressing, you should get immediate medical help by calling for an ambulance and saying you are suffering from anaphylaxis (pronounced *ana-fill-axis*). Symptoms can develop up to 48 hours after the dye has been used but with each additional use they can come on quicker and may be more severe.

### If you are allergic to hair dye...

We advise anyone who believes they are allergic to a hair colorant, or any other hairdressing or skin care product, to consult their GP, who should organise referral to a skin specialist or dermatologist. A dermatologist can carry out diagnostic patch testing to identify the source of your reaction.

It is vital to avoid all contact with that substance. Simply choosing another shade or another brand is not enough as many will use the same ingredients.

All cosmetic products carry a list of ingredients and it is important to always check this list (or ask about the ingredients in the salon) if you have been diagnosed as allergic to an ingredient. As well as having to be listed in the ingredients list on the pack, when a hair colorant contains PPD, or a related hair dye, the product also must be labelled with "Contains phenylenediamines" or "Contains phenylenediamines (toluenediamines)".

### Products marketed as 'safe' or 'natural'

Under UK law, *all* cosmetics must be safe irrespective of specific claims. If a product is marketed as 'natural' this does not necessarily mean it is safer than any other cosmetic product. Read the ingredient list carefully and always perform an "Allergy Alert Test".

### If you have never reacted to a hair dye...

Precautions should still be taken. A test known as an "Allergy Alert Test" should be carried out 48 hours before you plan to colour your hair in order to find out if you are allergic. You should find the manufacturer's instructions on or in the pack. It is important to follow these instructions carefully. This test must be carried out each time you colour your hair because you may have become allergic since the last hair colouring, as an allergy can develop over time, or the ingredients could have changed.

The test requires a full 48 hours to allow any reactions to develop. It is important not to cut short the time. The Allergy Alert Test is necessary whether you plan to colour your hair at home or visit a salon. Your hairdresser will explain the procedure and offer the test in advance of your appointment.

### What else might you react to?

If you are allergic to PPD, there is a possibility you could also react to certain substances used in medications. This is because of a process known as cross-reactivity, where the chemical structure of one substance is similar to that of another.

These are the main substances you should be aware of:

- benzocaine (used in some treatments for sore throats, cold sores, mouth ulcers, toothache, sore gums, earache)
- procaine (used primarily as a local anaesthetic)
- para-aminosalicylic acid (an antibiotic primarily used to treat tuberculosis)
- sulfonamides (used as an antibiotic)
- hydrochlorothiazide (used to treat high blood pressure, fluid retention and other conditions)

Always check with your doctor or pharmacist when medications are prescribed or bought over the counter.

### 'Black henna' temporary tattoos

So-called 'black henna' temporary tattoos are not henna at all, and usually (and illegally) contain PPD. The law prohibits PPD to be used directly on the skin in this way because of the risk to health. There have been cases where temporary tattoos containing PPD have caused skin damage in individuals with PPD allergy. In addition, their use may sensitise you to PPD. Sensitisation is the process by which someone becomes allergic to a substance or food. Once you have been sensitised, you are likely to have an allergic reaction to PPD when you have your hair coloured. If you have ever used a 'black henna' tattoo, consider the possibility that you may be allergic to PPD, and don't have a black henna tattoo if you are PPD allergic.

### Feedback

Please help us to improve our information resources by sending us your feedback at: -

<https://www.anaphylaxis.org.uk/information-resources-feedback/>

## Sources

All the information we produce is evidence-based or follows expert opinion, and is checked by our clinical and research reviewers. If you wish to know the sources we used in producing any of our information products, please contact [info@anaphylaxis.org.uk](mailto:info@anaphylaxis.org.uk) and we will gladly supply details.

## Reviewer

The content of this article has been peer-reviewed by Dr Alexandra Croom, Consultant Allergist, Queen's Medical Centre, Nottingham.

## Disclosures

Dr Croom has no conflicts of interest in respect of their review of this article. We would also like to acknowledge the help of the Cosmetic, Toiletry and Perfumery Association (CTPA) in helping us to ensure that the facts about PPD are accurate. The CTPA is the UK's cosmetic trade association.

## Disclaimer

The information provided in this article is given in good faith. Every effort is taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

## About Anaphylaxis UK

Anaphylaxis UK is the only UK-wide charity solely focused on supporting people at risk of serious, life-threatening allergic reactions. We provide information and support to people living with allergies through our free national helpline and local support groups. We also campaign and fundraise to achieve our ultimate aim, to create a safer environment for all people at risk of serious allergies. Visit our website [www.anaphylaxis.org.uk](http://www.anaphylaxis.org.uk) and follow us to keep up-to-date with our latest news. We're on Facebook @anaphylaxisUK, LinkedIn, Instagram @anaphylaxisUK, Twitter @AnaphylaxisUK and YouTube.