



Patch Test

- A test for identifying a possible allergy in a client.
- The color used for the patch test must be the same as the color that will be used for the haircolor service.
- A negative skin test will show no sign of inflammation and indicates that the color may be safely applied.
- A positive result will show redness and a slight rash or welt.

Patch test

- Used to determine clients allergies or sensitivities
- Also called a predisposition test
- Given 24 to 48 hours prior to haircolor application
- The color used for the patch test must be the same mixture used to color the hair
- Mix a small amount of the color to be used and apply it to a small area either behind the ear or in the fold of the elbow, leave undisturbed for 24 – 48 hours. If there is no swelling or redness then the test is negative a your can proceed with the haircoloring service

INDICATIONS FOR PATCH TESTING

- Persistent eczematous eruptions when contact allergy is suspected
- Any chronic dermatitis, especially when involving the hands, feet, face, or eyelids
- Eczematous dermatitis in individuals involved in high risk occupations for contact dermatitis (healthcare workers, dental assistants, cosmetologists, machinists, or rubber and plastic workers)
- Dermatitis of unknown etiology
- Worsening of a previously stable dermatitis

Additional indications when ACD is suspected as complication of:

- Atopic dermatitis
- Stasis dermatitis
- Seborrheic dermatitis
- Nummular eczema
- Asteatotic eczema
- Psoriasis



Patch Test

- Results read at day 2 (day 3 and day 7 if initial results are negative).
- 1- 2% of pure drug in petrolatum/ water/ alcohol is used.
- Controls are used for high predictive value of positive results and to exclude irritant reactions.

Photo-patch test :

Irradiation with ultraviolet (UV)-A (5 or 10 J/cm²) at 24 or 48 h done in drug induced photodermatitis, photo allergic/toxic reactions.

- Finn chamber- 8 mm diameter and 0.5 mm deep, made of stiff aluminum and placed on a strip of adhesive tape.

Photopatch test

- 1. **Test material**: moistened with tap water. Apply on skin of back in 2 sites.
- 2. **Vehicle**: Petrolatum.
- 3. **The stability of test material**: Occlude with filter paper disks with plastic coated aluminum foil. Mark the test site with marker pen.
- 4. **Photo provocation**: On day 1 , one test series was irradiated with 50% minimal erythema dose of UVA.
- 5. **Application time**:
- Tests reaction were read on day 2 & 3 . The case is positive (+, ++, +++) if irradiated site shows a reaction but not the control site.
- **Other tests on systemic application**:
 - 1. Oral photo provocative testing
 - 2. Photo hemolytic test

Photopatch test Method

- Patient seen at day 0
- Patch tests allergens applied to back in duplicate one set either side of spine
- Use a photopatch test series and also add patient's own products
- Other patch tests may be applied as necessary

Patch Test Procedures

The order that you collect your Patch Test data does NOT make any difference, but the order in which you process it, DOES...

Order of Processing:

- Find the **Latency** offset first
- Apply Latency, then do the **Pitch** test.
- Apply Latency and Pitch, then do the **Roll** test.
- Apply Latency, Pitch, and Roll, then finish with the **Yaw** test.

Also keep in mind that your Boat Operator will make or break your Patch Test. The more precise that the Boat Operator runs the Patch Test lines, the better the results will be.

Patch Test Procedure

- **Preparing the patient —**

- Patients need to be informed that patch testing is a time consuming process that requires at least three visits during a specified week.
- Patients should avoid showering, exercising, and extremes of heat and humidity, and should be alerted that positive reactions can result in itching and discomfort.

- Patch testing is usually performed on the back.

- If the back is excessively hairy it may be difficult to achieve adequate skin contact with the patches.
- To avoid irritation it is advisable to clip the hair from the back one or two days before patch testing.

Preparation Continued

- Potent topical corticosteroids applied to the test site or oral corticosteroids ideally should be discontinued at least two weeks before patch testing
 - Oral antihistamines may be continued during patch testing, as they have minimal if any effect on the mechanisms of delayed hypersensitivity.
 - Since a positive patch test reaction is not a histamine mediated process, there is no pathophysiologic rationale to discontinue antihistamines prior to patch testing.
- Patients should avoid irradiation from both artificial and natural (sunlight) sources of ultraviolet (UV) radiation before patch testing.
 - Irradiation with UVB can reduce the number of antigen presenting cells in the skin and the intensity of patch test reactions.
 - Patch testing should be deferred in heavily tanned patients, and a minimum of four weeks after significant sun exposure should be allowed before patch testing.

<http://www.uptodate.com/contents/patch-testing>

Patch Test Reading

Initial reading –

- The patches typically are left in place for a period of two days (48 hours), which allows adequate penetration of the allergen into the skin.
- To reduce the number of false positive readings, the initial evaluation is generally performed between 15 and 60 minutes after the patches are removed, when the transient erythema has resolved.

Second reading –

- A second reading is critically important to distinguish irritant reactions (which fade) from true allergic reactions (which persist) and to identify allergic reactions that do not appear at the time of patch removal.
- The time of the second reading varies but generally is on day four or five.
- Day four readings appear to be associated with a low number of false negative reactions.
- Performing the second reading too soon may miss some delayed reactions, whereas performing the second reading too late may result in missing some positive reactions that fade rapidly
- An additional reading at day six or seven may be useful to identify a small number of late, positive reactions.



Patch Test Readings

International Contact Dermatitis Research Group criteria

Type of reaction	Score
No reaction	0
Doubtful reaction- faint erythema	?
Weak positive- palpable erythema, infiltration, papules	1+
Strong positive -erythema, infiltration, papules, vesicles	2+
Extreme positive reaction- intense erythema and infiltration and coalescing vesicles	3+
Irritant reaction	IR

Identifying Allergens

- Not all patients with ACD need patch testing
- Patch testing should be done when the allergen is unknown or the dermatitis chronic
- A positive reaction on patch testing does not definitively mean that the patient's rash is due to that specific allergen.
- Elimination of the rash with removal of the allergen confirms the clinical significance of the positive patch test

Patch Testing Results

- +++ Extreme Positive Reaction to propylene glycol
- He had been using an anti-itching cream that contained this ingredient
- His symptoms completely resolved after he stopped using products containing propylene glycol
- On the Skin Deep App, over 2,000 products were identified that contained this ingredient



Patch test : Interpretation

- ❑ ACD : Crescendo (increasing reaction)
- ❑ Irritative cause : Decrescendo (initially positive and subsequently waning reaction)
- ❑ Cross reactions : Positive reactions to chemically similar allergens
- ❑ Angry back/ excited skin syndrome : Positive reactions to more than 5 nonrelated substances → polysensibilization → repeat testing of selected allergens about 2 months later



Positive patch test reactions



+ reaction



++ reaction



+++ reaction



Extreme positive
Coalescing
vesicles;
bullae



Strong positive
Erythema;
papules;
infiltration;
discrete vesicles



Weak positive
Erythema;
infiltration;
discrete papules



Doubtful
Faint or homo-
genous erythema;
no infiltration



Irritant
Discrete, patchy
or homogenous
erythema; no infiltration