

# Inflammation, dermatitis and Cosmetics

- Cosmetics are a relatively common cause of skin inflammation
- The inflammation results from exposure of the skin to a specific component of the cosmetic preparation

# What the term inflammation means?

- The defensive response of the body to various processes, including infections (bacterial, viral or fungal), and many other injuries
- A chain of events, involving white blood cells, results in the appearance of the inflammatory process

# What the term inflammation means?

- Inflammation is characterized by:
  1. **Warmth** in the inflamed area
  2. **Redness** – due to dilation of blood vessels
  3. **Swelling** – due to an increase in the permeability of the blood vessels with leakage of fluid
  4. **Pain (or itching)** – due to irritation of nerves



*Acute skin inflammation.*



*Chronic skin inflammation of a mechanic's hand  
following exposure to motor oils.*

- In general, any inflammation is given the suffix –**itis**
- E.g. inflammation of the appendix is called **appendicitis**
- Inflammation of the dermis (skin) is called **dermatitis**
- Eczema = dermatitis

# Contact dermatitis

- Type of skin inflammation
- Is caused by contact of certain substances with the skin
- Cleansing agent, cosmetic preparation, metal such as nickel, glues ..etc.
- Hand eczema is a type of contact dermatitis

# Nickel



Courtesy of Alexander A. Fisher, M.D.

**NICKEL**

# Nickel



Courtesy of Alexander A. Fisher, M.D.

**NICKEL**

# Nickel from Jean Snap



**JEANS BUTTON**

# Garlic



Courtesy of Donald V. Betsilo, M.D.

**GARLIC**

# Hand eczema

- Hand eczema is a result of prolonged exposure to water and cleansing agents
- Housewives, food handlers....
- Sometimes called 'housewife's eczema':
  - a. Repeated exposure to water and detergents dries the skin and removes the oils and lipids that protect the skin → substances can penetrate the skin more easily
  - b. Detergents may contain irritant or allergic substances

# Hand Eczema: Prevention

- Contact with water and detergent should be avoided as much as possible
- Gloves should be worn....But:
  - a. Rubber of normal gloves may contain irritating materials
  - b. gloves can cause the hands to perspire and become wet→ use gloves that have inner lining made of cotton
- when you use irritating chemicals on your hand → wash with water and dry them thoroughly then apply a good hand moisturizer
- At bed time, apply an extra heavy coating of hand cream
- Seek medical advice for the treatment of inflammation

# Hand Eczema:

- Steroids (or corticosteroids) is the general name given to a group of hormones that are produced naturally in the body
- They possess anti-inflammatory activity
- They can produce unwanted side-effect especially if used for long periods of time:
  - **Atrophy:** skin become thin
  - **Purpura:** small areas of bleeding within the skin
  - **Telangiectases:** a network of fine blood vessels on the skin
  - **Hirsutism:** increase in the amount of hair in the steroid treated area

**Warnings:** steroids should not be used indiscriminately or without medical consultation

# Atrophy induced by topical steroid use.





*Purpura and telangiectasia following prolonged use of steroidal preparations.*

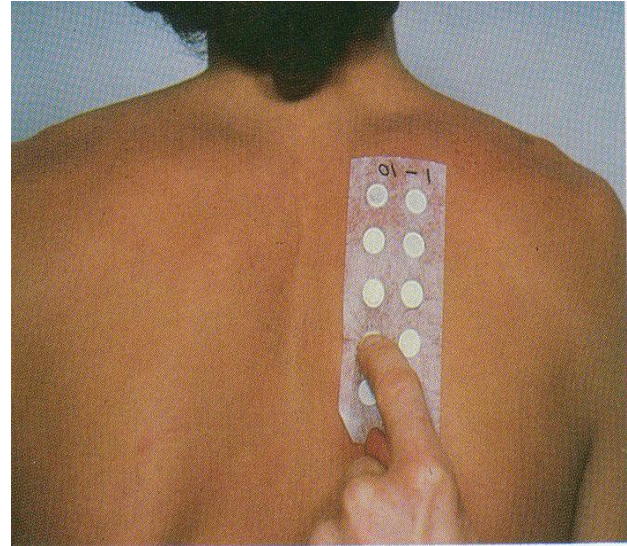


*Telangiectasia following prolonged use of steroidal preparations.*

# Cosmetics and dermatitis:

- About 10% of women who use cosmetics develop contact dermatitis from some cosmetic preparation at least once in their lives
- Use of these preparation should be discontinued
- The offending agent may be present in many cosmetic preparations
- Therefore, avoiding the use of one particular preparation and replacing it with another may not necessarily solve the problem

- “patch test” is used to identify to which component the individual has reacted (i.e. offending component)

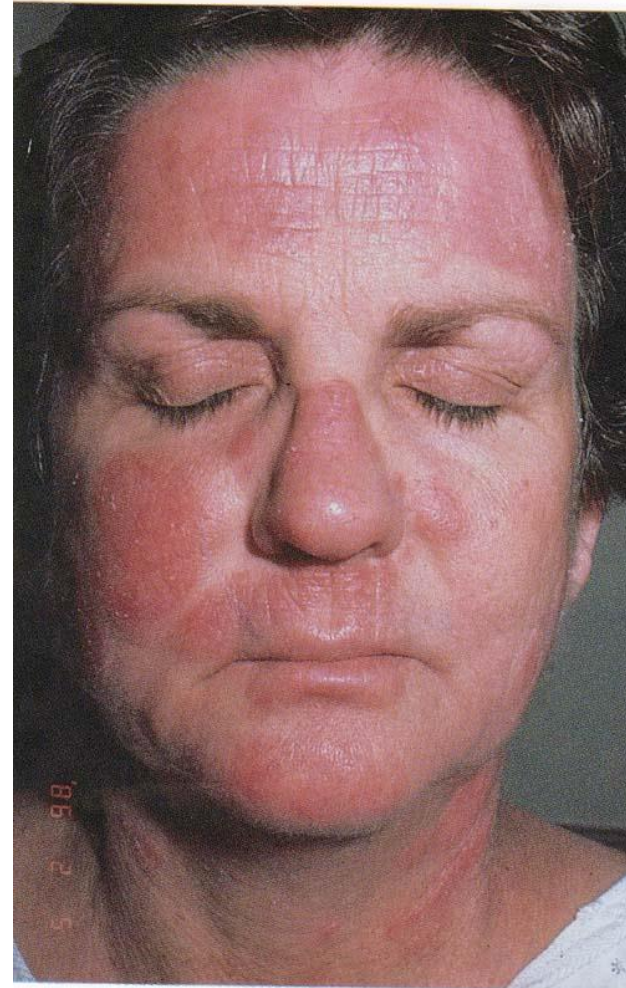


# Hypoallergenic preparations:

- **Hypoallergenic** cosmetic preparations usually do not contain components such as **fragrances** or certain **preservatives** that may cause allergic reactions
- **‘hypoallergenic’ may be misleading** → hypoallergenic preparations can still cause allergy
- ‘Allergy-Free’, ‘For Sensitive Skin’, ‘Paraben Free’.



Most reactions  
to cosmetic  
products are to  
preservatives  
or fragrances



Courtesy of Frances J. Storrs, M.D.  
**IMIDAZOLIDINYL UREA**



*Allergic contact dermatitis  
following exposure to  
fragrance in a facial  
moisturizer.*

- <https://dermnetnz.org/topics/hand-dermatitis/>
- <http://www.skintherapyletter.com/eczema/chronic-hand-dermatitis/>
- file:///C:/Users/Dr.%20Saja%20Hamed/Documents/Cosmetics%202020/guidelineHE-JDDG2015.pdf
- <file:///C:/Users/Dr.%20Saja%20Hamed/Documents/Cosmetics%202020/Eczema-de-manos.pdf>
- file:///C:/Users/Dr.%20Saja%20Hamed/Documents/Cosmetics%202020/2334-735X1801014M.pdf
- <file:///C:/Users/Dr.%20Saja%20Hamed/Documents/Cosmetics%202020/jdv.16062.pdf>
- <https://www.aaaai.org/conditions-and-treatments/library/allergy-library/eczema-atopic-dermatitis>