Diagnosis of Erythema



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Lynne H. Robertson, Dermatologist

Characteristics

- **Redness of the skin**. Occurs when the blood capillaries near the skin surface are congested or dilated.[1]
- Can vary from pink to dark red or violaceous.
- Typically blanchable with pressure.
- Often associated with skin inflammation but can also occur in absence of inflammation.

Causes/Etiology

- Erythema can be caused by many triggering events or underlying conditions, including infections and skin diseases.[1,2]
- In foslevodopa/foscarbidopa subcutaneous infusion pump users, erythema may be related to the catheter or the adhesive used in the device.[3]
- Erythema may also be caused by an inflammatory reaction to the infused medication.



1. Yang Y, Wu X, Liu W. Scar Symptom: Erythema and Thickness. 2020 Dec 8. In: Téot L, Mustoe TA, Middelkoop E, Gauglitz GG, editors. Textbook on Scar Management: State of the Art Management and Emerging Technologies [Internet]. Cham (CH): Springer; 2020. Chapter 11. PMID: 36351101; 2. Mosby. Mosby's Medical Dictionary. 11th ed. St. Louis, MO: Elsevier; 2021. ISBN-13: 978-0-323-63915-6; 3. Cichoń M, Trzeciak M, Sokołowska-Wojdyło M, Nowicki RJ. Contact Dermatitis to Diabetes Medical Devices. *Int J Mol Sci*. 2023;24(13):10697.

Expert Insights: Infectious vs. Non-Infectious

Clues to Non-Infectious Erythema

- Pruritus
- Swelling/redness decreasing after cannula removal
- Pain reducing after cannula removed
- No fever/systemic symptoms

Clues to Infectious Erythema

- Swelling/redness not decreasing or worsening (streaking) after cannula removal
- Worsening or persistent pain after cannula removed
- Warmth at site
- Fever/chills/systemic symptoms (fatigue, malaise)



Kansas Journal of Medicine 15(2):302–304.

Non-Infectious Clues



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Skin Irritation vs. Infection



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Lynne H. Robertson, Dermatologist
Alexis Truax, RN

Management of Erythema

- Erythema may resolve without treatment, but if treatment is needed, it will mainly focus on the underlying cause.[1]
- **Erythema due to drug allergy**: initial management is to remove the drug that caused the reaction.[2]
- **Consider underlying infection if erythema** is associated with fever/pain, swelling, itching, or bruising.
- Ensure **use of aseptic techniques** during infusion setup and consider **rotating the infusion site more frequently** to prevent skin irritation.
- Applying **cool compresses** and using **topical anti-inflammatory creams** such as **topical corticosteroids** can alleviate symptoms if erythema persists.[3]
  - Less potent (e.g., over-the-counter) topical corticosteroids are rarely sufficient for management of local irritation (e.g., contact dermatitis) or allergic reaction.
  - Starting with at least a moderately potent agent is usually indicated.



Expert insights video. Click to view
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Alexis Truax, RN

1. Merck Manual. Erythema Multiforme. Updated May 2024. Accessed December 3, 2024. https://www.merckmanuals.com/professional/dermatologic-disorders/hypersensitivity-and-reactive-skin-disorders/erythema-multiforme?query=erythema%20multiforme; 2. Ardern-Jones M. Common cutaneous drug reactions. *BMJ Best Practice*. Updated November 22, 2024. Accessed November 27, 2024. https://bestpractice.bmj.com/topics/en-gb/368; 3. Regier L, et al. Topical corticosteroids: comparison chart. Rxfiles. July 2023. https://www.rxfiles.ca/RxFiles/uploads/documents/members/CHT-SteroidClassPotencyCOLOR.pdf

Management of Redness and Swelling

Associated with fever +/- red streaks, pain, swelling, itching, bruising

Consider
- Antibiotics & schedule visit check/referral
  - Antibiotics to consider: cephalexin (Keflex), 500 mg four times daily, dicloxacillin 500 mg four times daily, or cefadroxil

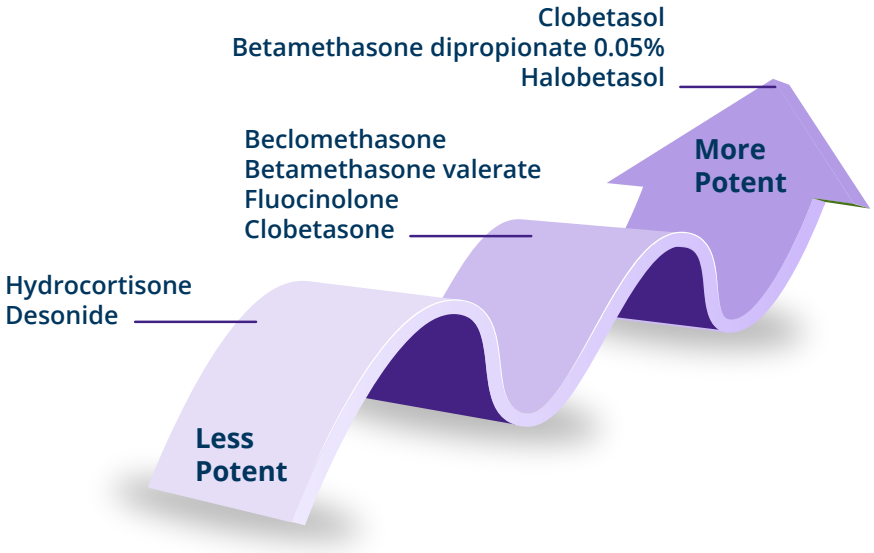
Associated with no fever +/- pain, swelling, itching, bruising

Consider
- Topical mid-potency corticosteroid

Associated with leakage of fluid?

Consider
- Monitor for increasing swelling, redness, pain, fever, streaking

Topical Corticosteroids



Redness Diagnosis



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Specialist Referral



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Alexis Truax, RN

Expert Opinion, Dr. Lynne H. Robertson, October 2024.

Redness at site: Care Plan

Associated **with fever** +/- pain, swelling, itching, bruising	Consider starting antibiotics and schedule a visit check
Associated with **no fever** +/- pain, swelling, itching, bruising	Monitor for increasing swelling, redness, pain, fever and consider mid-potency topical corticosteroids
Associated with **itching only**	Refer to "Itching Care Plan"
Associated with **leakage of fluid**	Refer to "Leakage of Fluid Care Plan"

Plan of Action:

Roles and Responsibilities: