The Red Face
Case One
Case One: History

- HPI: Mr. L is a 56-year-old man with several years of redness and scaling on his forehead, eyebrows, and central face. He does not complain of itching but is embarrassed by his appearance. It has not gotten better with moisturizers. It does not worsen with heat, exercise, hot foods or drinks, or alcohol.
- PMH: no major illnesses or hospitalizations
- Allergies: none
- Medications: ibuprofen as needed for headaches
- Family history: noncontributory
- Social history: office manager
- ROS: negative
Case One: Skin Exam
Case One, Question 1

- How would you describe the rash on Mr. L’s face?
  a. Erythematous macules
  b. Papules and pustules
  c. Thin scaling plaques
  d. Vesicles and crust
Case One, Question 1

Answer: c

How would you describe the rash on Mr. L’s face?

a. Erythematous macules
b. Papules and pustules
c. Thin scaling plaques
d. Vesicles and crust
Case One, Question 2

- What is the most likely diagnosis for Mr. L?
  a. Actinic keratoses
  b. Allergic contact dermatitis
  c. Atopic dermatitis
  d. Rosacea
  e. Seborrheic dermatitis
Case One, Question 2

**Answer:** e

- What is the most likely diagnosis for Mr. L?
  - a. Actinic keratoses *(scale in AK is keratotic, not greasy)*
  - b. Allergic contact dermatitis *(he does not itch)*
  - c. Atopic dermatitis *(wrong age; no history)*
  - d. Rosacea *(no history)*
  - e. **Seborrheic dermatitis**
Seborrheic dermatitis

- Seborrheic dermatitis is a very common inflammatory reaction to the *Malassezia furfur* (*Pityrosporum ovale*) yeast that thrives on seborrheic (oil-producing) skin.
- It presents as erythematous scaling patches on the scalp, hairline, eyebrows, eyelids, central face and nasolabial folds, external auditory canals, or central chest.
- It can be hypopigmented, especially in darker skin types.
- On the chest, it appears more central over the sternum.
- Seborrheic dermatitis is often worse in patients with HIV.
Here are some examples of seborrheic dermatitis
Seborrheic dermatitis
Seborrheic dermatitis
Seborrheic dermatitis
Seborrheic dermatitis

Often hypopigmented in darker skin types
Seborrheic dermatitis

Favors central chest
May be hypopigmented or erythematous
Case One, Question 3

Which two of the following would be an appropriate treatment for Mr. L?

a. Clobetasol propionate cream
b. Desonide cream
c. Erythromycin ointment
d. Ketoconazole cream
e. 5-fluorouracil cream
Case One, Question 3

**Answer: b or d**

- Which **two** of the following would be an appropriate treatment for Mr. L?
  - a. Clobetasol propionate cream *(too potent)*
  - b. **Desonide cream**
  - c. Erythromycin ointment *(this is not bacterial)*
  - d. **Ketoconazole cream**
  - e. 5-fluorouracil cream *(for actinic keratoses)*
Seborrheic dermatitis treatment

- Low-potency topical steroids (e.g. desonide) are safe to use for flares on the face
  - Use twice daily for 1-2 weeks for flares
  - Can also use topical ketoconazole or ciclopirox, or topical pimecrolimus, in the same manner
- Antidandruff shampoo for the scalp, chest
  - Ketoconazole (Nizoral), selenium sulfide, zinc pyrithione shampoos
    - Foam, leave on 10 minutes, rinse; repeat 3-5x/week
- Refer patients who fail these therapies
Case Two
Case Two: History

- **HPI:** Mr. M is a 47-year-old man who presented to clinic with “red cheeks” for the last 3 years. He reports it is more noticeable with exercise or heat. He avoids red wine because he thinks it makes it worse.
- **PMH:** no major illnesses or hospitalizations
- **Allergies:** none
- **Medications:** multivitamins
- **Family history:** noncontributory
- **Social history:** lives with wife
- **ROS:** negative
Case Two: Skin Exam

- Facial erythema on the nose and cheeks as well as a few small telangiectasias within the erythema.
- No comedones, papules, or pustules are noted.
- There is no scale.
Case Two, Question 1

- What is the most likely diagnosis?
  a. Allergic contact dermatitis
  b. Atopic dermatitis
  c. Rosacea
  d. Seborrheic dermatitis
  e. Systemic lupus erythematosus
Case Two, Question 1

**Answer: c**

What is the most likely diagnosis?

- a. Allergic contact dermatitis *(no itching)*
- b. Atopic dermatitis *(no itching, ho past history, wrong age)*
- **c. Rosacea**
- d. Seborrheic dermatitis *(erythematous patches with greasy scale on the central face)*
- e. Systemic lupus erythematosus *(negative review of systems; SLE is not triggered by alcohol)*
Case Two, Question 2

Which of the following might trigger Mr. M’s rosacea?

a. Alcohol
b. Heat/hot beverages
c. Hot, spicy foods
d. Sunlight
e. All of the above
Case Two, Question 2

**Answer: e**

- Which of the following might trigger Mr. M’s rosacea?
  
a. Alcohol
  b. Heat/hot beverages
  c. Hot, spicy foods
  d. Sunlight
  e. All of the above
Clinical Features of Rosacea

- Rosacea is typically located on the mid face including the nose and cheeks with occasional involvement of the brow, chin, eyelids, and eyes
- Patients have **erythema** and **telangiectasias**
- Patients can have **papules** and **pustules**
- The absence of comedones helps to distinguish acne vulgaris from rosacea
- May also present with rhinophyma (dermal and sebaceous gland hyperplasia of the nose)
- Patients can have **ocular rosacea**: keratitis, blepharitis, conjunctivitis
The Following Photos Illustrate Different Types of Rosacea
Erythematotelangiectatic Rosacea

- Erythema and telangiectasias scattered on the nose and cheeks.
- There are no papules, pustules, or comedones present.
Papulopustular Rosacea

- Erythema with papules and pustules on the nose and chin.
- Patient also has erythematous patches on the cheeks bilaterally.
Phymatous Rosacea

- Facial erythema, scattered papules, pustules on the nose, forehead, cheeks and chin. Thickened, highly sebaceous skin.
- This patient also has severe rhinophyma.
Rosacea Treatment

- Therapy is often long-term
- Most treatments are directed at specific findings manifested by rosacea patients
- Types of treatment include:
  - Topical products: metronidazole, sodium sulfacetamide, azelaic acid, sulfur cleansers
  - Oral antibiotics for pustular and papular lesions
- All patients should use sunscreen daily
The “butterfly” rash

- Many facial rashes are described as “malar” or “butterfly” rashes
- Most “butterfly” rashes are seborrheic dermatitis or rosacea, not lupus, which is classically described as “malar” or “butterfly”
The “butterfly rash” of lupus
Key elements of facial lupus rash

- Photodistributed
- Often scaly, scarring
- Spares nasal creases (unlike seborrheic dermatitis)
- May mimic rosacea
- Refer these patients

- Four SLE criteria are dermatologic:
  1. Photosensitivity
  2. Discoid lesions
  3. Oral ulcerations
  4. Malar rash
Case Three
Case Three: History

- **HPI:** Magid is a healthy 5-month-old boy whose mother reports a scaly rash on the face that she says he scratches. She wants to make sure it’s not infected.
- **PMH:** normal birth history
- **Allergies:** none
- **Medications:** none
- **Family history:** brother with asthma, mother with seasonal allergic rhinitis
- **Social history:** lives at home; does not attend daycare
- **ROS:** negative
Case Three: Skin Exam
Case Three, Question 1

- What is the most likely diagnosis?
  a. Atopic dermatitis
  b. Bacterial cellulitis
  c. Neonatal lupus
  d. Tinea faciei
  e. Seborrheic dermatitis
Case Three, Question 1

Answer: a

What is the most likely diagnosis?

a. **Atopic dermatitis**

b. **Bacterial cellulitis** *(more indurated and tender, not usually itchy or bilateral)*

c. **Neonatal lupus** *(erythematous annular patches and plaques, usually periorbital)*

d. **Tinea faciei** *(rare in infants, not symmetric)*

e. **Seborrheic dermatitis** *(wrong distribution)*
Atopic Dermatitis Basics

- Atopic dermatitis is a chronic, itchy, eczematous condition in patients with a personal or family history of atopy
  - The “atopic triad” includes seasonal allergic rhinitis, asthma, and atopic dermatitis

- Distribution of involvement varies by age
  - In infants and toddlers, eczematous plaques appear on the cheeks and chin and dorsal hands and feet
  - Older children and adolescents develop more classic lichenified, eczematous plaques in flexural areas such as antecubital and popliteal fossae and posterior neck

- Itch is the primary symptom of atopic dermatitis
  - Atopic dermatitis is often called “the itch that rashes”
Case Three, Question 2

- Which of the following treatments would you recommend to Magid’s parents?
  a. Astringent facial scrubs
  b. Clindamycin gel
  c. Hydrocortisone valerate ointment
  d. Ketoconazole cream
  e. Tretinoin cream
Case Three, Question 2

**Answer:** c

- Which of the following treatments would you recommend to Magid’s parents?
  a. Astringent facial scrubs
  b. Clindamycin gel
  c. **Hydrocortisone valerate ointment**
  d. Ketoconazole cream
  e. Tretinoin cream
Treatment for Atopic Dermatitis

- Patients with atopic dermatitis have a deficient lipid barrier that has to be replaced
  - Emollients (moisturizers) are critical to treatment of the underlying dry skin of atopic dermatitis
  - Atopic patients are sensitive to irritants, so recommend fragrance-free products and moisturizing soaps

- Some patients have flares to irritants (wool clothes, etc.)
- Food allergies may rarely exacerbate infantile atopic dermatitis
  - If this is suspected, refer to allergist for a food antigen challenge
Treatment for Atopic Dermatitis

- **Topical corticosteroids** are the mainstay of therapy for acute flares of atopic dermatitis
  - Using stronger steroid for short periods and milder steroid for maintenance helps reduce risk of steroid atrophy

- Antimicrobials may be needed for bacterial or viral infections that complicate atopic dermatitis
  - Impetigo often complicates atopic dermatitis in infants, as does widespread herpes infections (eczema herpeticum)

- Antihistamines are used for their sedative effect to control nighttime itching

- Refer patients who do not respond to standard therapy, or have extensive involvement
Case Four
Case Four: History

- **HPI:** B is a 32-year-old woman who presents with three months of severe itching, redness, and scaling on her eyelids. She has tried aloe vera and tea tree oil products, but they haven’t helped.
- **PMH:** no history of asthma, hay fever or childhood eczema
- **Allergies:** shellfish
- **Medications:** birth control pills
- **Family history:** noncontributory
- **Social history:** single; works as a bank teller
- **ROS:** negative
Case Four: Skin Exam
Case Four, Question 1

Ms. B has a bilaterally-symmetric, pruritic, eczematous eruption on her eyelids. What is the most likely diagnosis?

a. Allergic contact dermatitis
b. Rosacea
c. Psoriasis
d. Seborrheic dermatitis
Case Four, Question 1

**Answer: a**

- Ms B has a bilaterally-symmetric, pruritic, eczematous eruption on her eyelids. What is the most likely diagnosis?
  
  a. **Allergic contact dermatitis**
  b. Rosacea *(usually not itchy)*
  c. Psoriasis *(not usually limited to the eyelids)*
  d. Seborrheic dermatitis *(usually not itchy)*
Allergic contact dermatitis (ACD) is a delayed-type hypersensitivity reaction

- Poison ivy (rhus dermatitis) is the prototypic allergic contact dermatitis
- Susceptible patients become sensitized to an allergen in contact with their skin

- ACD is pruritic
- The distribution of the rash mirrors the area of exposure
Eyelid dermatitis

- May be adult atopic dermatitis if personal history of atopy and chronic
- If no atopic history and acute onset of pruritic eyelid dermatitis, think of ACD
  - Allergic contact dermatitis of the eyelid is often caused by transfer from the hands
  - Cosmetics, metals (nickel), topical medications, and artificial nails
Case Four, Question 2

- On further questioning, Ms B recently changed her eye shadow and moisturizer. What treatment would you recommend other than avoidance?
  a. Desonide cream
  b. Clobetasol ointment
  c. Fluocinonide gel
  d. Ketoconazol cream
Case Four, Question 2

Answer: a

- On further questioning, Ms B recently changed her eye shadow and moisturizer. What treatment would you recommend other than avoidance?
  
  a. **Desonide cream**
  
  b. Clobetasol ointment *(too potent)*
  
  c. Fluocinonide gel *(too potent)*
  
  d. Ketoconazole cream *(not fungal)*
Steroid strengths

- Topical steroids are classified by potency
- For the face, low-potency steroids (e.g., desonide) can safely be used intermittently for flares
- Potent steroids can be used in severe cases for a few days, but limit the amount given
Ms. B has an allergic contact dermatitis that responds to topical steroids. What is the best test to confirm the cause of her rash?

a. Allergen-specific IgE antibodies
b. Indirect immunofluorescent antibody (IIF) test
c. Patch testing
d. Prick skin testing
e. Radioallergosorbent test (RAST)
Case Four, Question 3

Answer: c

- Ms. B has an allergic contact dermatitis that responds to topical steroids. What is the best test to confirm the cause of her rash?
  
a. Allergen-specific IgE antibodies
b. Indirect immunofluorescent antibody (IIF) test
c. **Patch testing**
d. Prick skin testing
e. Radioallergosorbent test (RAST)
Case Four, Patch Test

- The patient underwent patch testing for ACD
- There were three positive reactions on day 4
  - Nickel, Balsam of Peru, and Fragrance
- Avoidance of these allergens should improve her rash
- Refer patients to a dermatologist who performs patch testing when the allergen is unclear or the dermatitis is chronic
Case Five
Case Five: History

- **HPI:** Ahmed is an 18-year-old man who presents with four years of bad acne on his face and chest. He has been taking oral minocycline 100 mg BID, topical tretinoin, and a combination of benzoyl peroxide and clindamycin for 18 months without improvement.
- **PMH:** none
- **Allergies:** Sulfa (rash)
- **Medications:** minocycline, tretinoin cream, benzoyl peroxide/clindamycin gel
- **Family history:** both parents had acne
- **Social history:** high school senior in three Advanced Placement courses
Case Five: Skin Exam
Ahmed clearly has acne vulgaris. He has nodules and some early scarring. What is the next appropriate therapy?

- a. Bactrim for gram negative acne
- b. Change from minocycline to tetracycline
- c. Glycolic acid peels
- d. Isotretinoin
Case Five, Question 1

Answer: d

- Ahmed clearly has acne vulgaris. He has nodules and some early scarring. What is the next appropriate therapy?
  
  a. Bactrim for gram negative acne (allergic to sulfa medications)
  
  b. Change from minocycline to tetracycline (tetracycline is not stronger than minocycline, and poorly tolerated)
  
  c. Glycolic acid peels (may help mild acne, but need oral therapy for nodular, scarring acne)
  
  d. Isotretinoin
Oral Isotretinoin Indications:

1. Severe, recalcitrant nodular cystic acne
2. Severe acne refractory to oral antibiotics
3. Scarring acne
Isotretinoin side effects

1. Teratogenicity / birth defects
2. Dry lips, dry eyes
3. Nosebleeds
4. Hypertriglyceridemia
5. Myalgias and elevated creatinine kinase
6. Other rare side effects
Isotretinoin improves severe, refractory nodular acne
Summary of the red face: likely causes by age

- Red rashes on the face are common throughout life, but the causes differ by age
  1. In infants, atopic dermatitis is more likely
  2. In adolescents, acne vulgaris is very common
  3. Acne rosacea presents in the 30s-40s
  4. Seborrheic dermatitis occurs at any age
Summary of the red face: clues in the history

• **Itch** precedes onset:
  – Allergic contact dermatitis, Atopic dermatitis

• **Greasy scale and redness**:
  – Seborrheic dermatitis

• **Tender** papules:
  – Acne vulgaris, Rosacea

• **Worse with exercise, heat, hot foods, alcohol**:
  – Rosacea
Summary of the red face: clues by location

• Eyebrows, nasal creases, external auditory canals
  – Seborrheic dermatitis
• Cheeks and chin:
  – Acne vulgaris, acne rosacea, atopic dermatitis
• Nose
  – Involved in acne vulgaris, acne rosacea
  – Spared in atopic dermatitis
Location

- Seborrheic dermatitis
- Acne rosacea
- Atopic dermatitis (infants)
- Acne vulgaris
Location

- Seborrheic dermatitis
- Acne rosacea
- Atopic dermatitis (infants)
- Acne vulgaris
Location

- Seborrheic dermatitis
- Acne rosacea
- Atopic dermatitis (infants)
- Acne vulgaris
Location

- Seborrheic dermatitis
- Acne rosacea
- Atopic dermatitis (infants)
- Acne vulgaris
Location

- Seborrheic dermatitis
- Acne rosacea
- Atopic dermatitis (infants)
- Acne vulgaris
Take Home Points

- Location, history, and age help differentiate red rashes on the face
- Seborrheic dermatitis is common and chronic
  - Ask about and inspect key locations: external auditory canals, eyebrows, scalp, behind ears, central chest
  - Treatment with ketoconazole cream or dandruff shampoos or low-potency steroid like desonide cream for flares
- Heat, exercise, hot liquids, spicy foods, and alcohol, are triggers for acne rosacea
Take Home Points

- Atopic dermatitis in infants often involves the face.
- Allergic contact dermatitis itches and mirrors the source of exposure.
- Acne vulgaris typically arises in puberty; see acne module for detailed management recommendations.
- Butterfly rash of connective tissue disease is most frequently seen in flares of SLE and often has other manifestations of lupus at that time.