

Seborrhoeic Dermatitis (Seborrhoeic Eczema) — Causes and Treatment

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Seborrhoeic dermatitis is a common chronic papulosquamous dermatosis with distinct infantile and adult forms, easily recognized clinically. Owing to its frequent recurrence in patients with HIV and AIDS, a careful evaluation of this pathology is warranted. The disease varies from mild to severe exhibiting a variety of forms including psoriasiform, pityriasiform and erythroderma.



Definition and Epidemiology of Seborrhoeic Dermatitis

Seborrhoeic dermatitis is a **chronic papulosquamous dermatosis** characterized by **scaling** and **poorly defined erythematous patches**. This is due to **increased sebum production** (seborrhoea) in the scalp and follicle rich areas of the face and trunk.

Epidemiology of Seborrhoeic Dermatitis

Seborrhoeic dermatitis is a common dermatological disorder in the United States. Epidemiologists have identified three age-groups that show a peak in the incidence of seborrhoeic dermatitis.

The first peak in the incidence of seborrhoeic dermatitis is seen in **infants up to 3 months of age**, where it can be as high as **42%**. The second peak in the incidence of the disease is observed in **adolescents**, while the third is observed in **adults**. The estimated incidence of seborrhoeic dermatitis in adolescents is around **3%**, whereas the incidence in the general adult population is around **1%**. The **male to female** ratio of seborrhoeic dermatitis is **1.15 : 1**.

There appears to be an **ethnic predilection**, with only a few cases seen in African Americans. However, other studies have indicated this may not be the case. It is commonly associated with patients who have **Parkinson's disease** or those taking **psychotropic drugs** like haloperidol.

Pathophysiology of Seborrhoeic Dermatitis

The exact pathophysiology behind seborrhoeic dermatitis remains unknown, but there are several theories.

Microbial effects

Unna and Subauraud first described this disease with an etiology based on **bacteria, yeast**, or both. The theory received little support concerning *Candida albicans*, *staphylococcus*, and *propionibacterium*. Still, there seems to be a strong correlation between seborrhoeic dermatitis and a type of yeast called **Malassezia furfur**.

There are reasons to implicate this yeast as a cause of seborrhoeic dermatitides, such as a **positive response to antifungal treatments** and **seborrhoeic-like lesions** in animal models inoculated with this yeast.

These yeasts are said to induce **keratinocyte production of proinflammatory cytokines**, causing **skin eruptions**. The final metabolites are also thought to react with triglycerides from **sebaceous glands**, leading to inflammatory changes.

Seborrhoea

Seborrhoeic dermatitis is not a disease of the salivary gland, and not all patients experience increased sebum production. Seborrhoea, however, may be considered a **predisposition** owing to the high incidence of this disease in newborns with large, highly active sebaceous glands.

In **childhood**, sebum production and seborrhoeic dermatitis correlate well. In **adults**, however, sebum production rates increase during puberty while the disease appears much later. The **commonly affected sites** are rich in sebaceous follicles and glands, such as the scalp, ear, face, and the upper parts of the trunk.

Miscellaneous

- **Drugs:** incidence increased in patients exposed to arsenic, gold, or neuroleptics
- **Neurotransmitter abnormalities:** associated with certain neurological conditions like **epilepsy**, Parkinsonism, facial paralysis, poliomyelitis, **syringomyelia**
- **Nutritional deficiencies:** zinc and biotin deficiency may mimic the condition, but studies have found administration of zinc and biotin no more effective than

placebo.

- **Aberrant epidermal proliferation:** similar to [psoriasis](#), epidermal proliferation is increased.
- **Physical factors:** Cutaneous blood flow and skin temperature may be responsible for the distribution. Low temperatures and humidity in centrally heated rooms are known to worsen the condition.

Clinical Features of Seborrhoeic Dermatitis

Seborrhoeic dermatitis is characterized by the development of **pruritic, erythematous patches** with **easily detachable, large greasy scales**. Prominent follicular openings and mild to severe pityriasiform scales are seen.

Seborrhoeic dermatitis in infants



Image: "Baby with cradle cap." License: [CC BY-SA 3.0](#)

Scalp (cradle cap)

- Frontal and parietal regions may involve retro auricle folds, ear pinna, and neck
- Oily-looking, thick fissured crust (*crusta lactea*)
- No hair loss
- Complications include otitis externa and opportunistic infection with *C. Albicans* or *S. aureus*.

Leiner's disease (erythroderma desquamativum)

- Non-familial or familial C5 dysfunction
- The complication of seborrhoeic dermatitis in infants
- The sudden confluence of lesions
- Universal scaling and redness of the skin (erythroderma)
- Severely ill patients with anemia, diarrhea, or vomiting

Trunk

Including flexures and napkin areas

Seborrhoeic Dermatitis in Adults

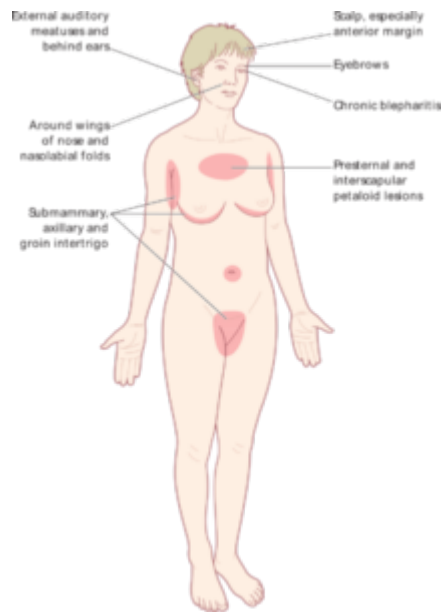


Image: "Sites of seborrhoeic eczema." by Madhero88 - Own work. License: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)

Scalp

Seborrheic eczematoid - the mildest form of the disease

- Involves scalp, eyebrows, nasolabial folds, retro auricular area, sternum, shoulder
- Scaling, mild redness, pruritis

Pityriasis sicca

- Asymptomatic fluffy white dandruff of the scalp

Patchy seborrhoeic dermatitis

- Classic well-known disease with chronic recurrent lesions
- Involves scalp, temples, glabella with nasolabial folds, retro auricular areas, external ear canal, V-shaped areas of the chest and back

Face (may involve blepharitis)

In some cases, blepharitis appears as honey-colored crusts along the rims of eyelids and casts of horny cell debris around the eyelashes

Trunk

- **Petaloid**: lesions form clearly outlined round to circinate patches.
- **Flexural**
- **Follicular**
- **Eczematous plaques**
- **Pityriasiform**: oval scaly lesions whose long axis is parallel to the ribs. Mimics pityriasis rosacea.

Generalized (maybe erythroderma)

Seborrhoeic Dermatitis in Patients with Immune-Suppression

This form of dermatitis has extensive involvement of different areas of the body that are not commonly involved, such as the extremities.

The degree of spread of the disease is negatively-correlated with CD4 counts. Meaning, a CD4 count lower than 200 cells/mm³ can be associated with more widespread disease than a CD4 count lower than 200 cells/mm³. It is commonly associated with rosacea, psoriasis, and acne.

Investigations for Seborrhoeic Dermatitis

Histopathology

Acute lesions

- Folliculocentric scale crust composed of orthokeratosis and focal parakeratosis with scattered neutrophils
- Focal spongiosis
- Sparse, superficial, perivascular infiltrate of lymphocytes and histiocytes

Subacute lesions

- Numerous yeast species in the stratum corneum
- Mild psoriasiform hyperplasia
- Features of acute lesion

Chronic lesions

- Prominent psoriasiform hyperplasia
- Crusting scales in a folliculocentric distribution (supports seborrhoeic dermatitis when it needs to be differentiated from [psoriasis](#))
- Superficial dilation of capillaries and venules
- Minimal spongiosis

Serology

In adults with severe, atypical widespread or treatment-resistant forms, seborrhoeic dermatitis acts as a **cutaneous marker** for the presence of **HIV/AIDS**. Thus, an ELISA test for antibodies may be done when CD4+ counts are between 200 and 500 cells/mm³.

Differential Diagnosis

While the diagnosis is usually easily established on clinical grounds, a number of conditions may lead to some confusion.

Rosacea: owing to similarities in distribution

Tinea capitis: can be differentiated from seborrhoeic dermatitis of the scalp on examination. The superficial skin scrapings, prepared with potassium hydroxide, are used to confirm the diagnosis.

Wiskott-Aldrich syndrome: mimics seborrhoeic dermatitis in young patients, but

purpura and petechiae also occur in this syndrome.

In infants: the most common entity causing confusion is atopic dermatitis, followed by scabies and psoriasis. Langerhan's cell histiocytosis must be ruled out before making a definitive diagnosis.

Other differentials include

- Contact dermatitis
- Erythrasma
- Dermatomyositis
- Vitamin B deficiency
- Zinc deficiency
- Drug eruption

Site	Differential Diagnosis
Scalp	Psoriasis, dandruff, atopic dermatitis
Face	Psoriasis, impetigo, contact dermatitis
Ear canal	Psoriasis, contact dermatitis
Eyelids	Atopic dermatitis, Demodex folliculorum infestation
Chest and trunk	Pityriasis rosacea, pityriasis Versicolor
Intertriginous areas	Psoriasis, candidiasis
All sites, rule out	Secondary syphilis, pemphigus

Management of Seborrhoeic Dermatitis

The goals of therapy are:

- Loosening and removing scales and crusts
- Inhibiting yeast colonization
- Controlling secondary infection
- Reducing erythema and itching

In **adults**, the condition is usually **chronic**, and therapy is directed at controlling the disease rather than curing it. In infants, the disease is benign and self-limited with a good prognosis.

Treatment for infants

Scalp

- Removal of crusts with 3% salicylic acid in olive oil
- Application of low potency glucocorticoids in a cream or lotion for a few days
- Topical antifungal agents like imidazoles
- Mild baby shampoo
- Proper skincare with soft pastes and creams

Intertriginous areas

- Drying lotions, such as 0.2-0.5% clioquinol zinc lotion or zinc oil
- Nystatin or amphotericin B for candidiasis followed by soft and stiff pastes
- 0.1-0.25% gentian violet in cases of oozing mastitis

Treatment for adults

Scalp

- Frequent shampooing with shampoos containing 1-2.5% selenium sulfide, imidazoles, zinc pyrithione, benzoyl peroxide, salicylic acid, coal or juniper tar
- Overnight application of glucocorticoids or salicylic acid to remove crusts or scales
- Avoid tinctures, alcoholic solutions, hair tonics, etc. since they aggravate the condition

Face and trunk

- Avoid greasy ointments and reduce or omit the use of soaps
- Alcoholic solutions are not recommended.
- Low potency glucocorticoids helpful in early stage

Seborrhoeic otitis externa



Image:
"Demodex
folliculorum."
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- Low potency glucocorticoids based cream are the treatment of choice
- Otic preparations that contain neomycin should be avoided
- Once under control, discontinue glucocorticoids and apply aluminum acetate containing solution
- Topical pimecrolimus is effective

Seborrhoeic blepharitis

- Hot compresses with gentle debridement with a cotton-tipped applicator and baby shampoo once or twice daily

- Resistant cases may use a topical [antibiotic](#) such as sodium sulfacetamide ophthalmic ointment
- If *Demodex folliculorum* mites occur in large numbers, antiparasitic drugs like permethrin and benzoyl benzoate may be used.

Systemic Treatment for adults

Systemic antifungal therapy might be indicated in more severe cases of seborrhoeic dermatitis.

Itraconazole:

- A daily dose of 200 mg orally for one week followed by a maintenance dose of once 200 mg every other day for one month.
- Liver toxicity has been reported, but it is rare.

Terbinafine:

- It is given in an oral formulation in the dose of 250 mg once daily for 4 to 6 weeks.
- It might be associated with a low risk of tachycardia and insomnia.

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