Hair Today, Gone Tomorrow

Cynthia Griffith, MPAS, PA-C

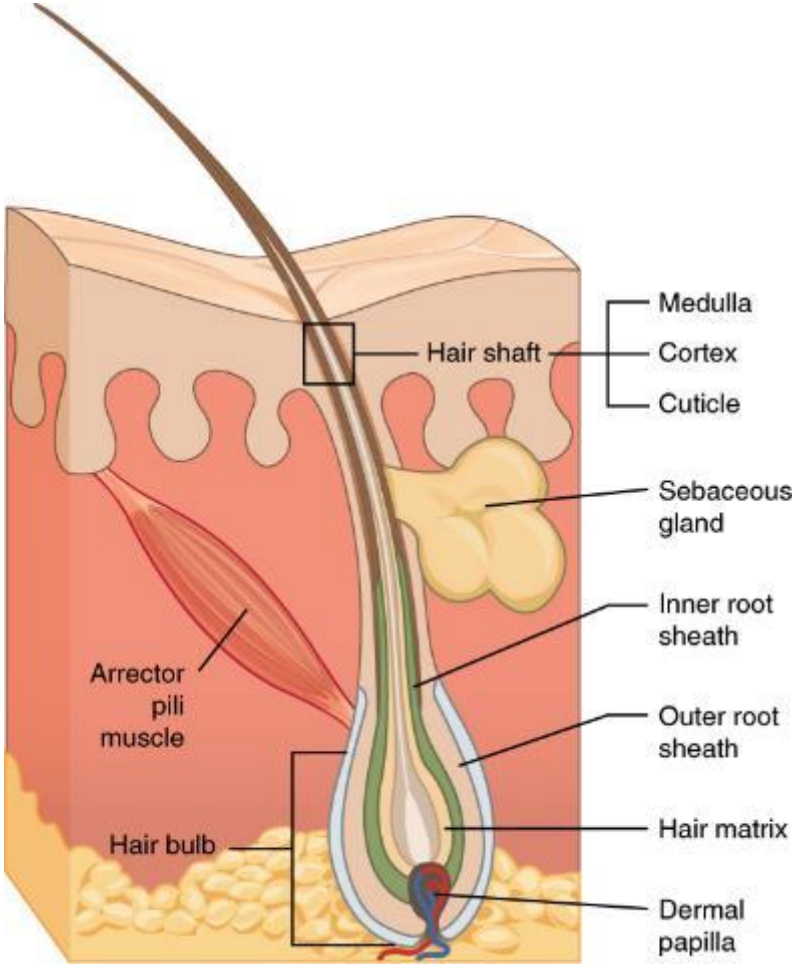
Hair Factoids – normal Hair Growth

- ~100,000 hairs per head
- 85-90% growing at any time
- Growth phase lasts 2-6 years
- ~100 hairs lost per day
- Shaving/plucking does not make hair grow faster

Hair

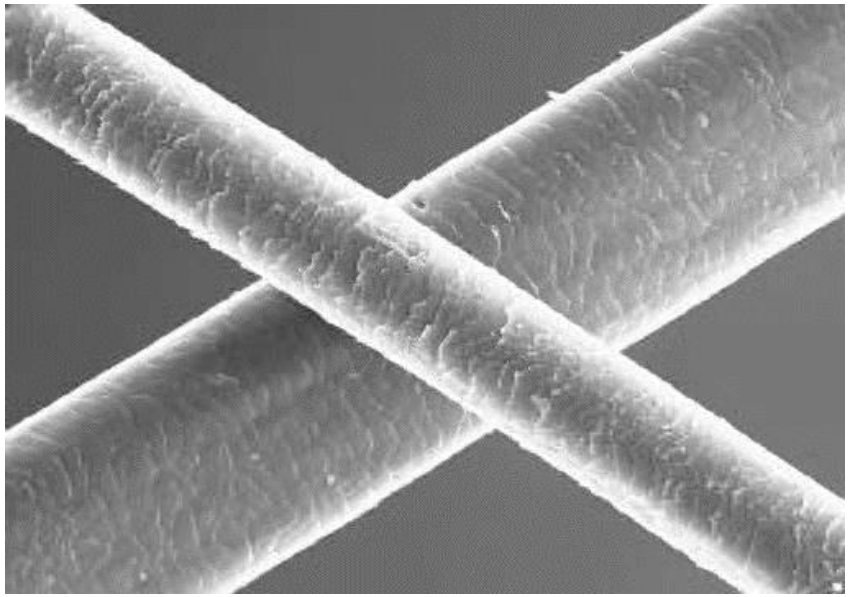
- Two types:
  - Vellous
    - "peach fuzz"- thin, fine, relative lack of pigment
  - Terminal
    - Pigmented, thicker
- All follicles can produce either type
- Follicular activity is intermittent (cyclical)
- Hair on your head grows approx. ½ in per year
- As you age your rate of hair growth slows

Hair Shaft Anatomy



Follicular Stages

- Anagen (active growth), about 3 years
- Catagen (resting/transitional), about 3 weeks
- Telogen (cessation and shedding), about 3 months



Types of Hair loss

Scarring (Cicatricial)

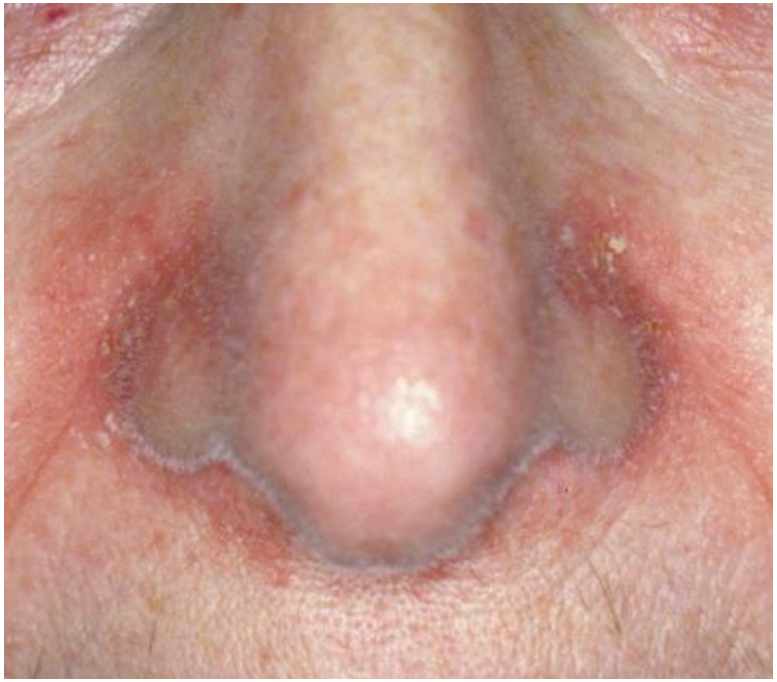
- Central Centrifugal Cicatricial alopecia
- Discoid Lupus Erythematosus
- Lichen Planopilaris
- Dissecting Cellulitis of the Scalp
- Folliculitis Decalvans

Non Scarring

- Androgenic alopecia
- Anagen Effluvium
- Telogen Effluvium
- Alopecia Areata
- Tricotillomania
- Secondary Syphillis

Seborrheic Dermatitis

- Clinical presentation: Itching, Redness, Scaling
- Scalp, eyebrows, nasolabial folds, ears
- Can flare seasonally or with stressors



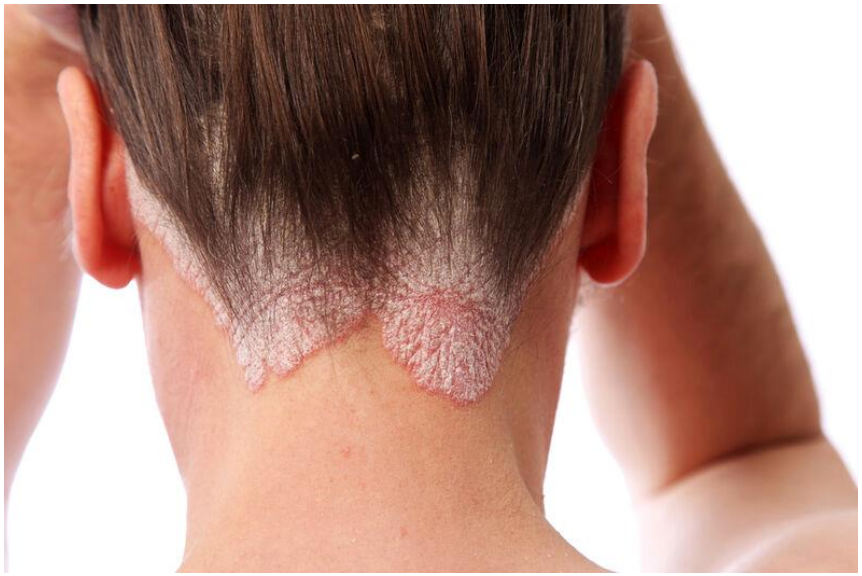
Seborrheic Dermatitis

Treatment:

- Washing hair more frequently rather than less frequently
- Ketoconazole shampoo 1% or 2% allow to sit on the scalp 5-10 minutes then rinse off
- Shampoos with coal tar or tea tree oil, salicylic acid can be beneficial
- Topical fluocinonide solution 0.05% to use as needed for itching
- Intralesional kenalog injections

Psoriasis

- Clinical presentation: Itching, Redness, Scaling
- Scalp (behind ears and occipital scalp)
- Check or ask about other body surface area involvement, joint involvement or family history



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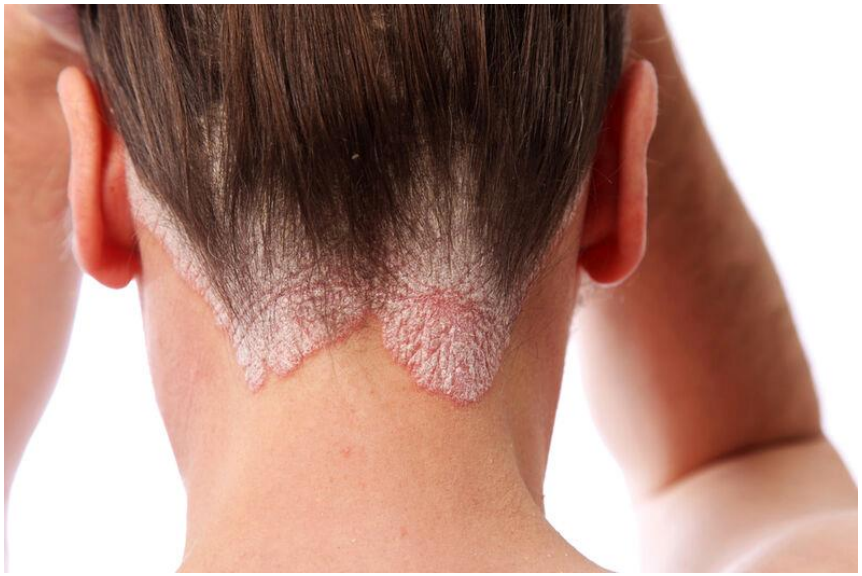
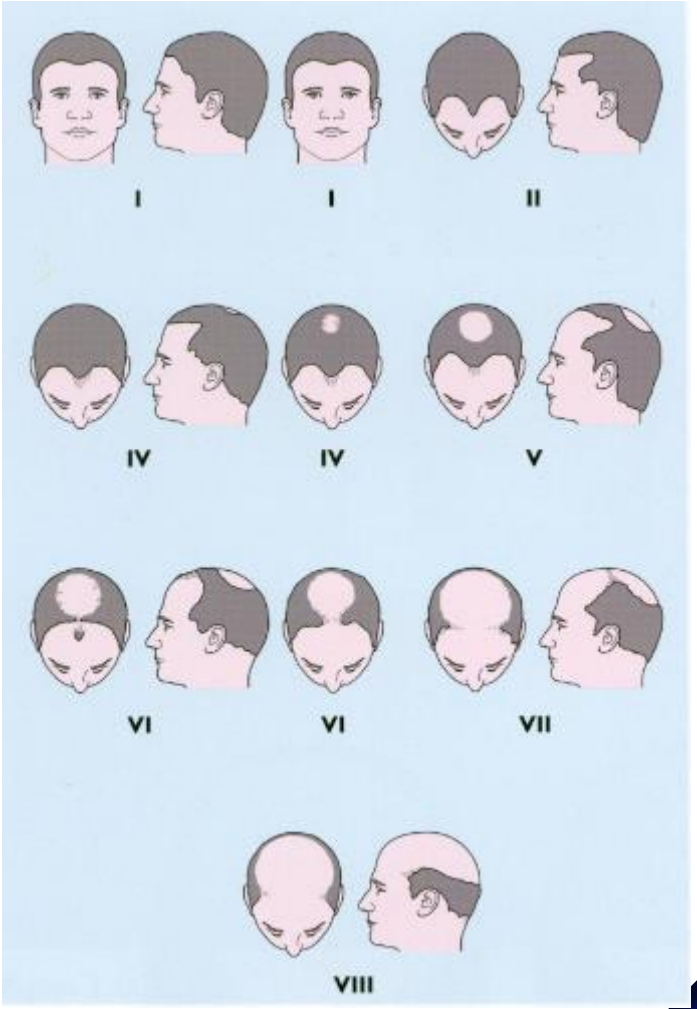
- Phototherapy
- Systematic therapy: methotrexate, acitretin, biologics



Non Scarring Alopecia

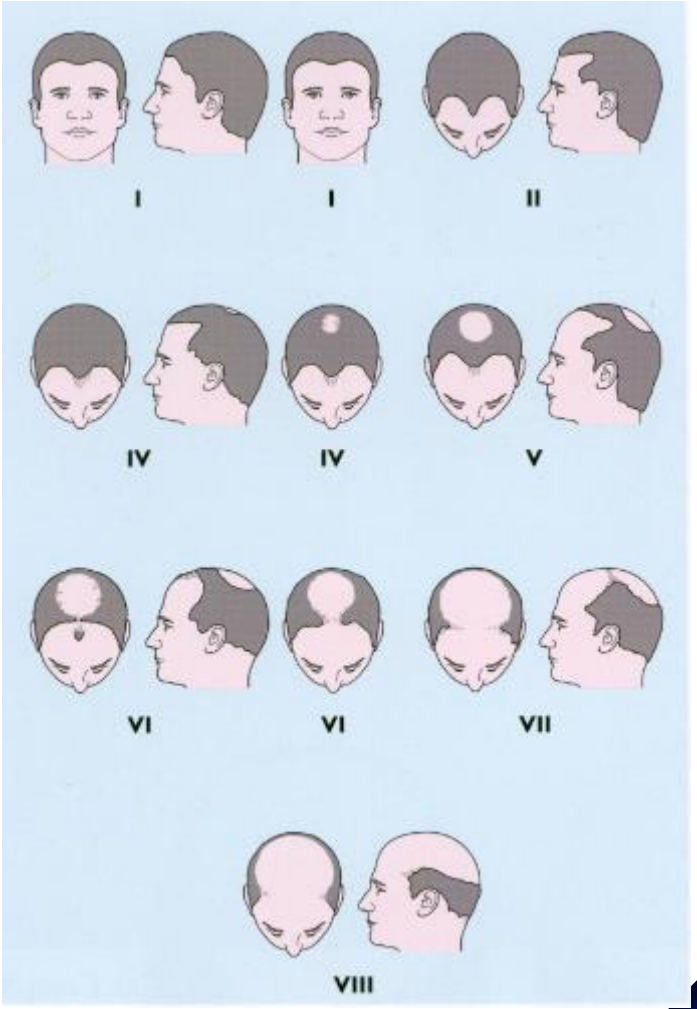
Androgenetic Alopecia

- "Male Pattern" baldness
- Genetic predisposition
- Terminal hairs transition to vellous.
- Polygenic in origin
- Can start in teens, 20s, 30s or later (menopause)



Androgenetic Alopecia

- Treatment:
  - Minoxidil (2 or 5%) bid
  - Finasteride 1mg qd

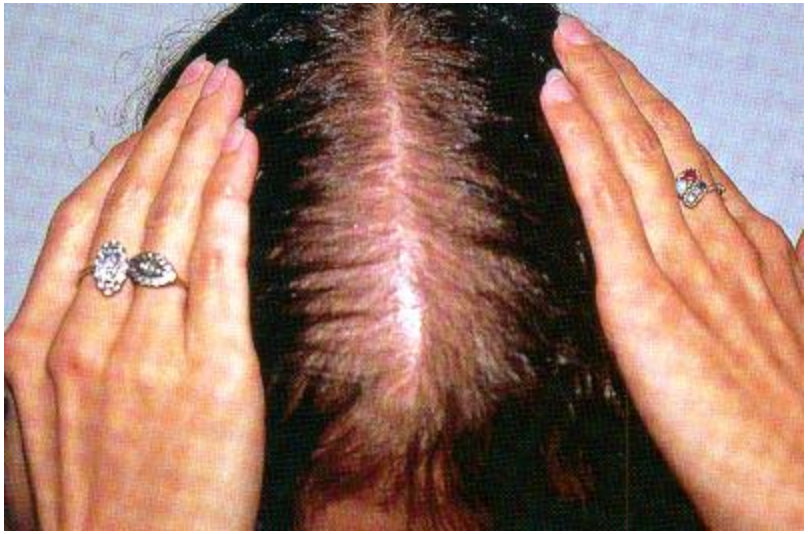


Finasteride

- 5-alpha reductase inhibitor- treats BPH by blocking the body's production of a male hormone that causes the prostate to enlarge. Finasteride treats male pattern hair loss by blocking the body's production of a male hormone in the scalp that stops hair growth.
- Contraindicated in
  - women of child bearing potential as it is cause preterm birth and impaired cognitive functioning in the newborns
  - present in semen so men whose partners are attempting pregnancy should not take this
  - children
  - caution if hepatic impairment
  - caution if other urological disease (BPH use)

Androgenetic Alopecia (Female Pattern)

- Preservation of the frontal hairline and occipital scalp
- Genetic in origin

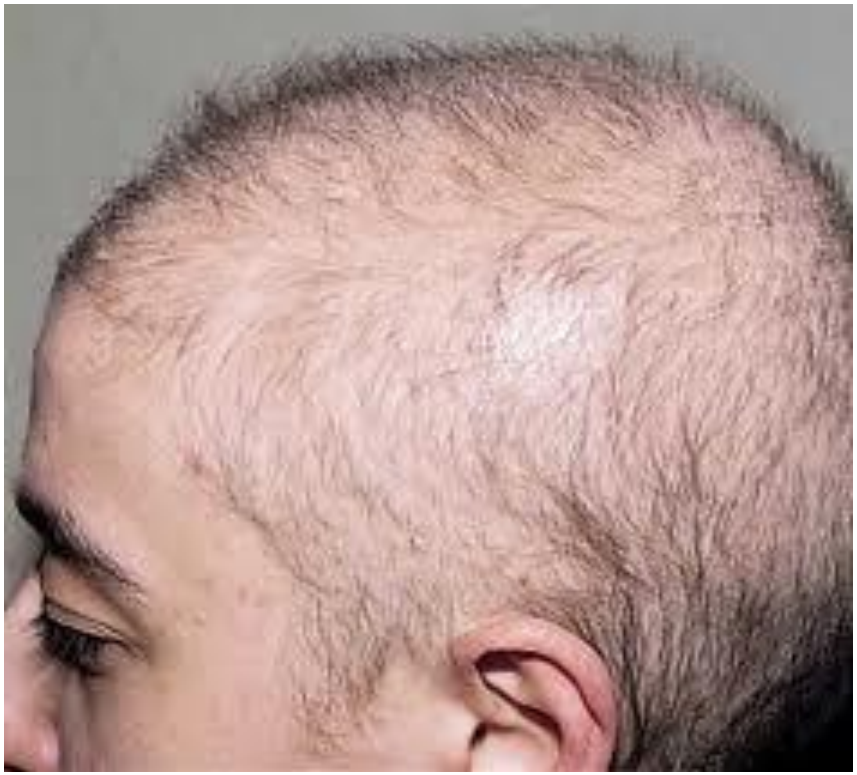


Minoxidil

- Vasodilator, increases hair flow to the hair follicles
- 2% and 5% foam and solution
- 1 mL twice daily for 4-6 months

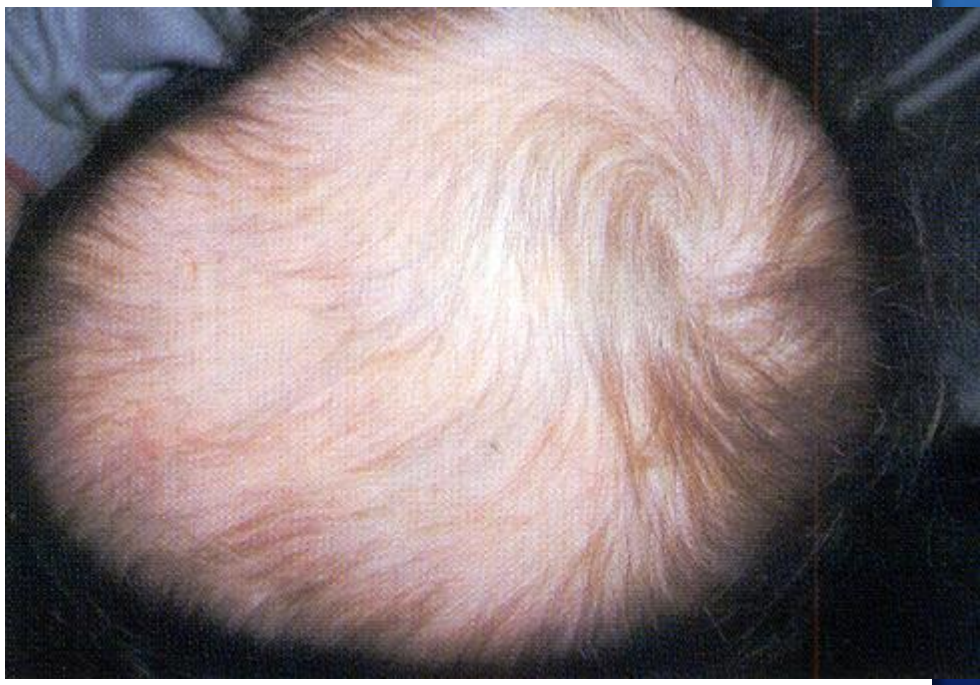
Anagen Effluvium

- Shedding occurs during growth (anagen) phase
  - Chemotherapy
  - Poisoning
  - Radiation therapy



Telogen Effluvium
(effluvium="outflow")

- Massive hemorrhage
- Childbirth
- Crash diets
- Drugs
- Fever
- Thyroid disease
- Stress
- Severe illness
- Spontaneous non-scarring recovery typically seen within six months

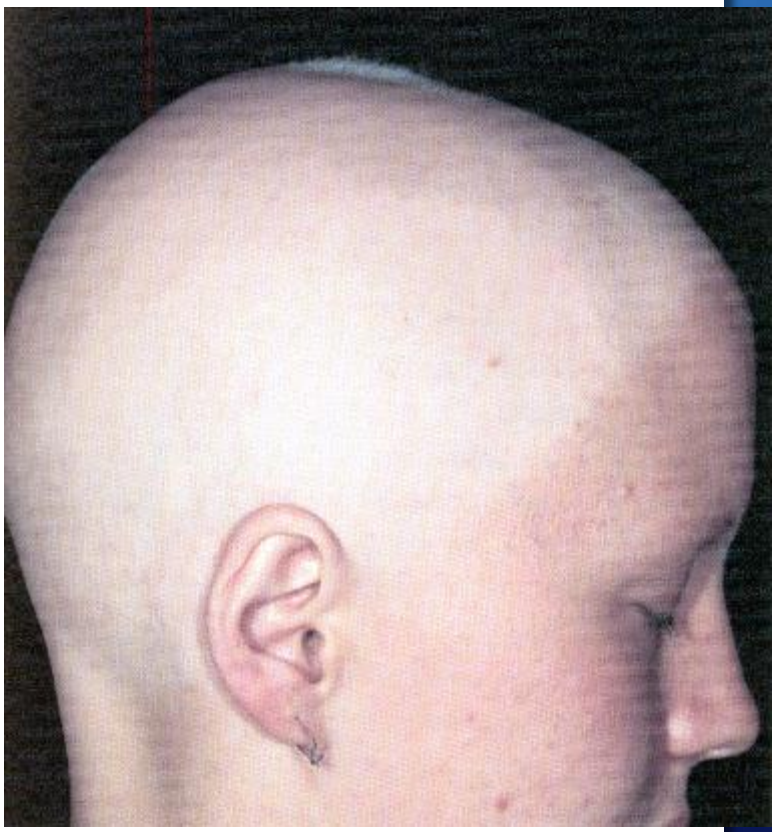


Alopecia Areata

- Common autoimmune disorder characterized by rapid onset of hair loss in well-circumscribed areas.
- If involvement is limited regrowth is typical.
- New hair may be finer and white.
- Treatment can include topical, intralesional and IM steroids.

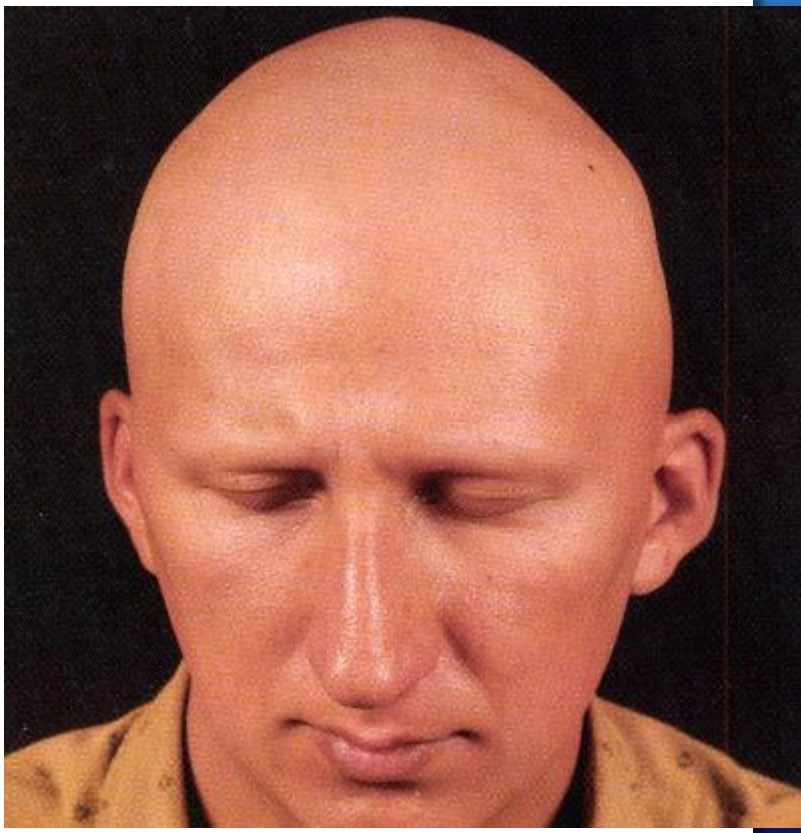
Alopecia Areata Totalis

- Total loss of scalp hair.
- Seen primarily in younger patients with alopecia areata.
- Long term regrowth prognosis is poor.



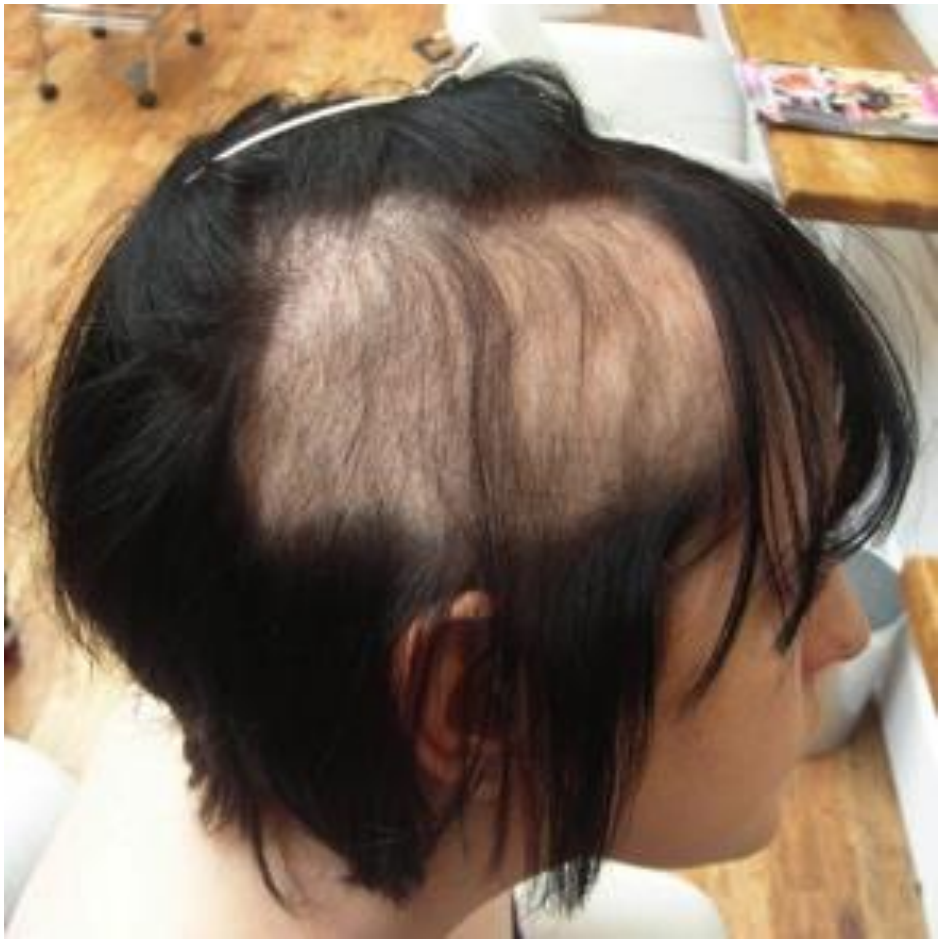
Alopecia Areata Universalis

- Very rare complication of alopecia areata.
- Complete and total loss of all body hair.
- May spontaneously re-grow.



Trichotillomania

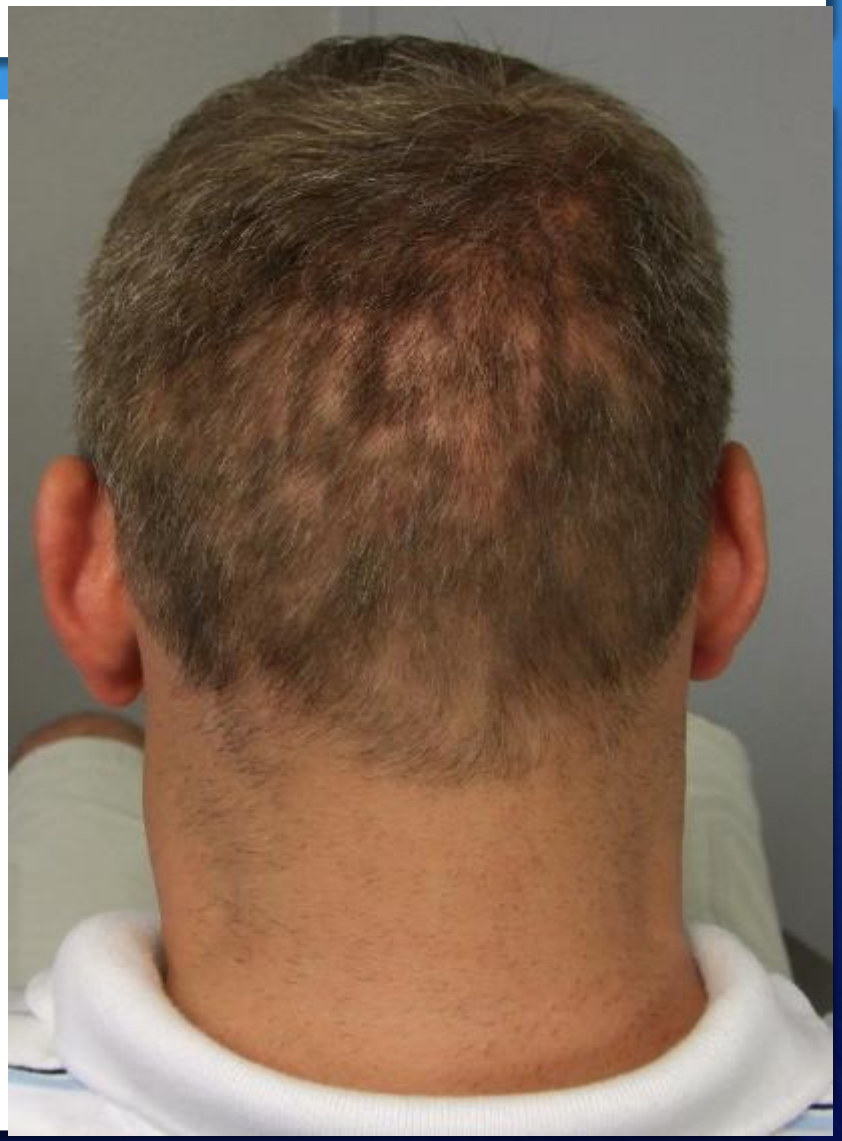
- The act of manually removing hair by manipulation.
- An obsessive-compulsive disorder seen in a 2.5:1 female to male ratio.
- May require lifelong psychotherapy and medication for control.
- May resolve after menopause onset.



Trichotillomania

Secondary Syphilis

- Classic "moth-eaten" alopecia with irregular, patchy, non-scarring alopecia that may also affect the eyebrows and beard areas



Scarring Alopecia

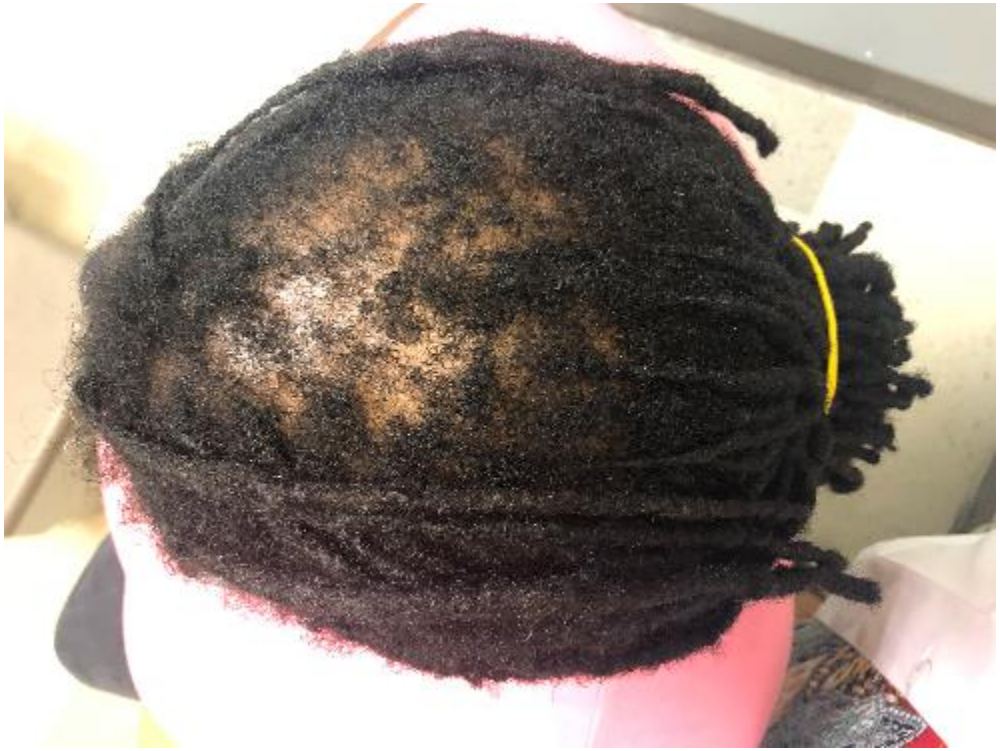
Cicatricial Aloepcia

Central Centrifugal Cicatricial alopecia

- Can initially present as hair breakage, scalp pruritus and progress to scarring hair loss

Central Centrifugal Cicatricial alopecia

- With preservation of the occipital and frontal hairline



Central Centrifugal Cicatricial alopecia

- DDx: Androgenic Alopecia, Other Scarring alopecias like Discoid lupus Erythematous (DLE) or Lichen Planopilaris (LPP)
- Diagnosis: Clinical but if doubtful you can biopsy and send to a dermatopathologist that has experience in alopecia

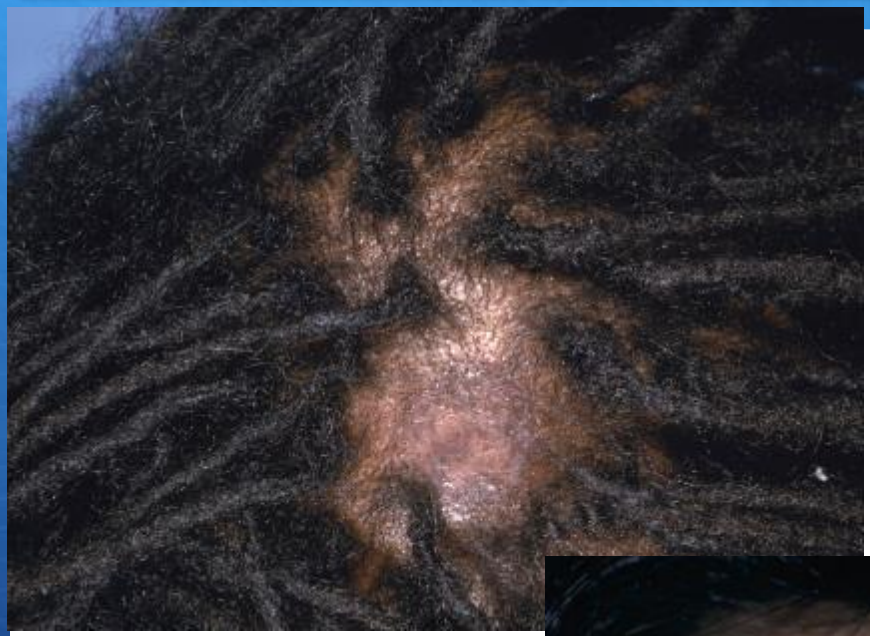
Discoid Lupus Erythematosus (DLE)

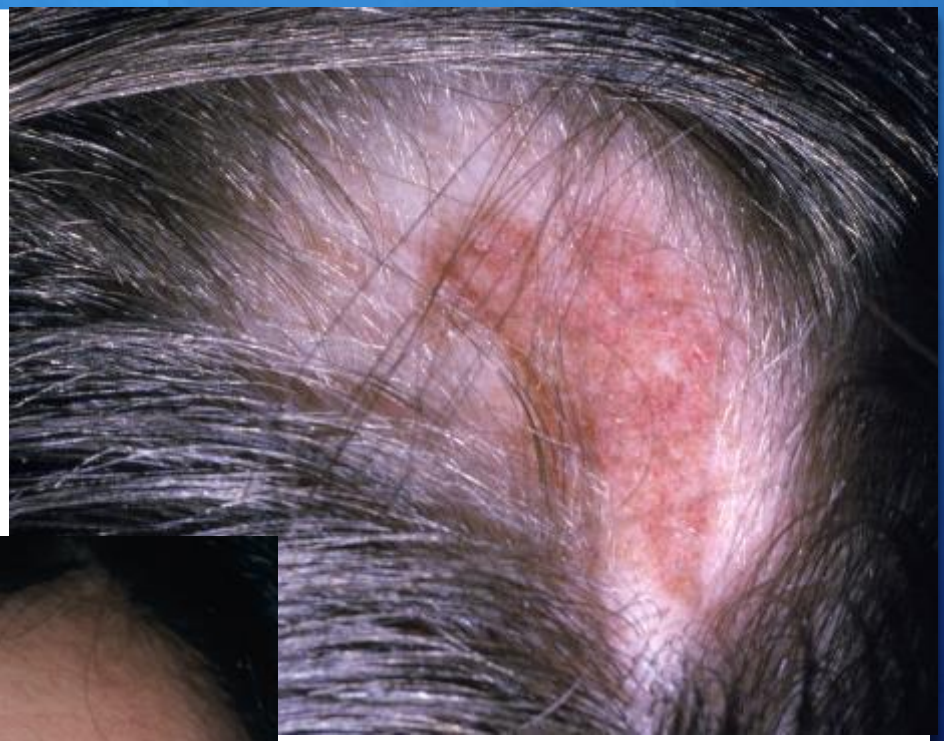
Clinical appearance: Disfiguring, erythematous scaly atrophic plaques that can result in pigmentary changes mainly on the head and neck and conchal bowls of the ear

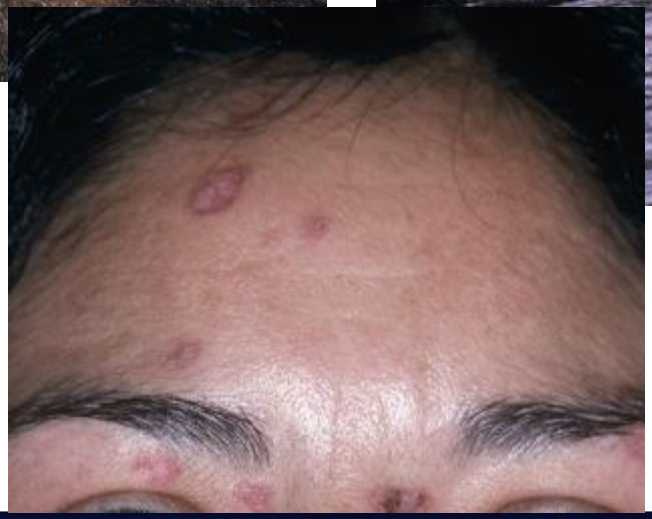
- 5-10% of patients with DLE will have systemic lupus erythematosus
- Of patients with SLE 20% will have Discoid lesions
- Risk factors for development of SLE:
  - Widespread DLE
  - Arthritis, arthralgias
  - Nail changes
  - Anemia
  - Leukopenia
  - Elevated ESR
  - Positive ANA

Discoid Lupus Erythematosus (DLE)

Discoid Lupus Erythematosus (DLE)







Discoid Lupus Erythematosus (DLE)

DDx: Lichen planopilaris, Sarcoidosis, Subacute cutaneous lupus erythematosus

- Diagnostic work up: punch biopsy of the erythematous portion of the plaque
- To aid in diagnoses of systemic lupus erythematosus:
  - ANA, Double stranded DNA, Anti-Ro (SSA), anti-La (SSB)
  - CBC with diff, ESR, CMP, UA

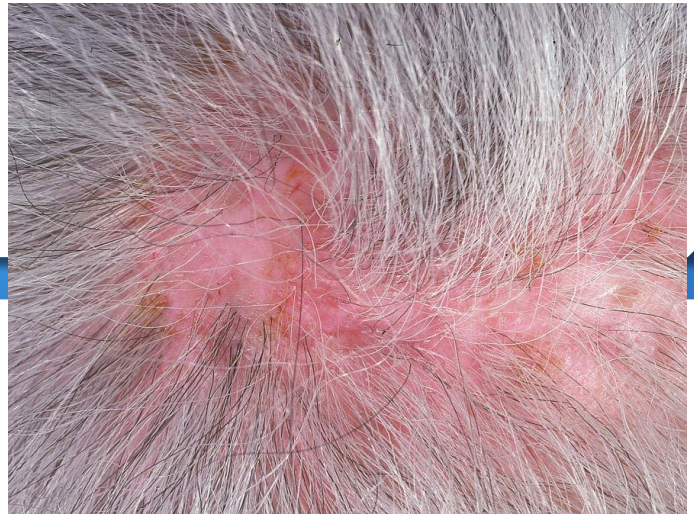
SLE should be excluded. Patients with systemic involvement may require referral to a rheumatologist and/or a nephrologist.

Discoid Lupus Erythematosus (DLE)

Treatment

- Sunscreens, sun-protective clothing, and sun avoidance
- High-potency topical corticosteroids on active areas
- Intralesional triamcinolone can be effective in active lesions, with injections repeated every month while the lesion is active
- Hydroxychloroquine 200 mg twice daily alone or in combination with quinacrine 100 mg/day
- Dapsone (100-200 mg by mouth daily), methotrexate, mycophenolate mofetil, and other immunosuppressives have also been used

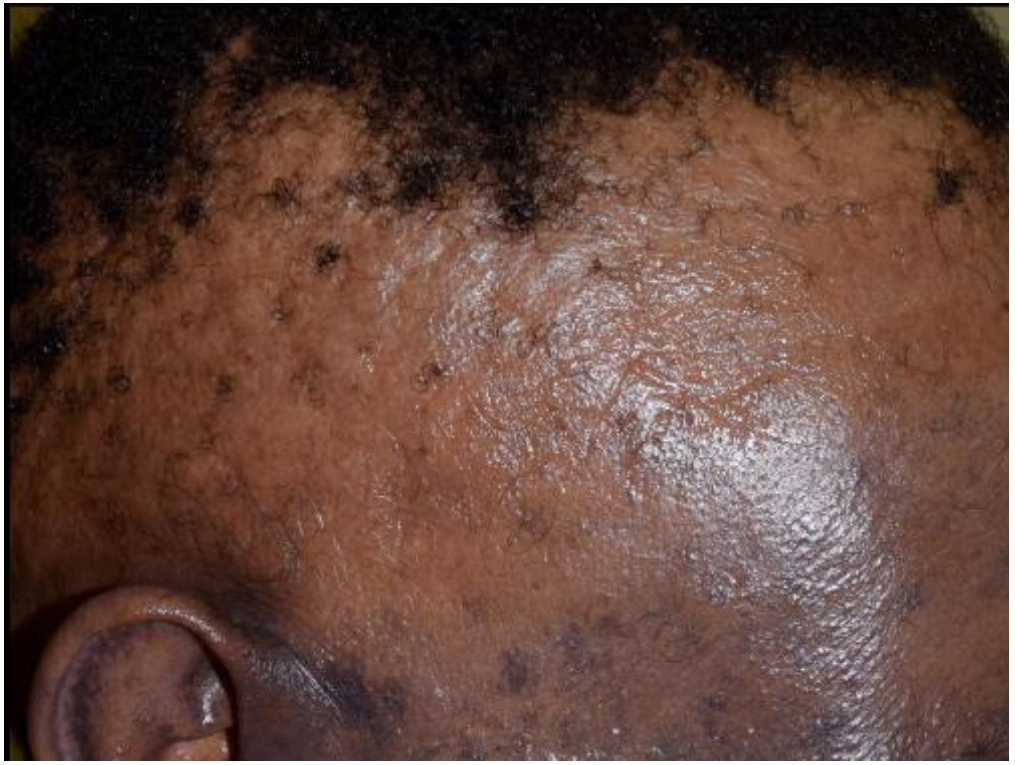
Lichen Planopilaris



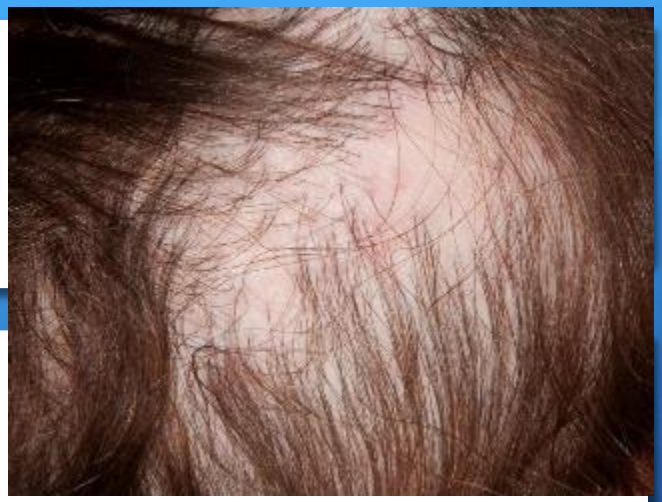
- characterized by perifollicular erythema and scale that can progress to cicatricial (scarring) alopecia over time
- affects women more commonly than men
- skin phototypes are more often affected than individuals with darker skin phototypes
- Typical age range is 40-60 year olds
- Increased hair shedding, severe itching, scaling, burning, and tenderness are common symptoms

Lichen Planopilaris

- There is a variant of LPP called Frontal fibrosing alopecia characterized by a band like hair loss from the frontal scalp
- affects women



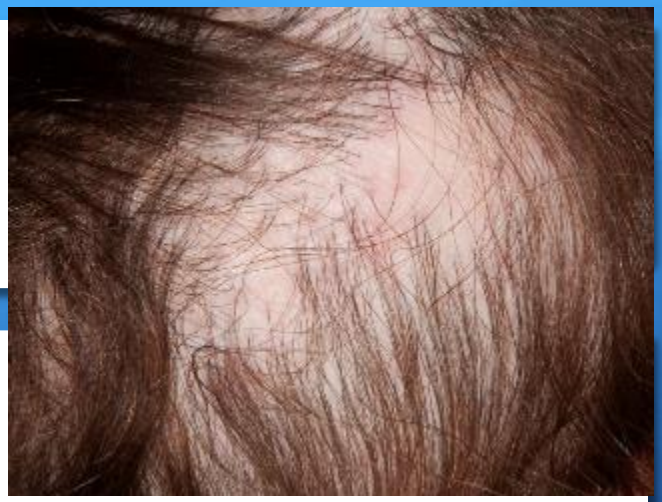
Lichen Planopilaris



- Diagnosis: clinical diagnosis +/- biopsy
- Management of LPP can be quite challenging, with frequent treatment relapses, and thus may require continued follow-up with a dermatologist.

  The goal of treatment of LPP is to stop the inflammatory process quickly to minimize the number of hair follicles permanently lost.

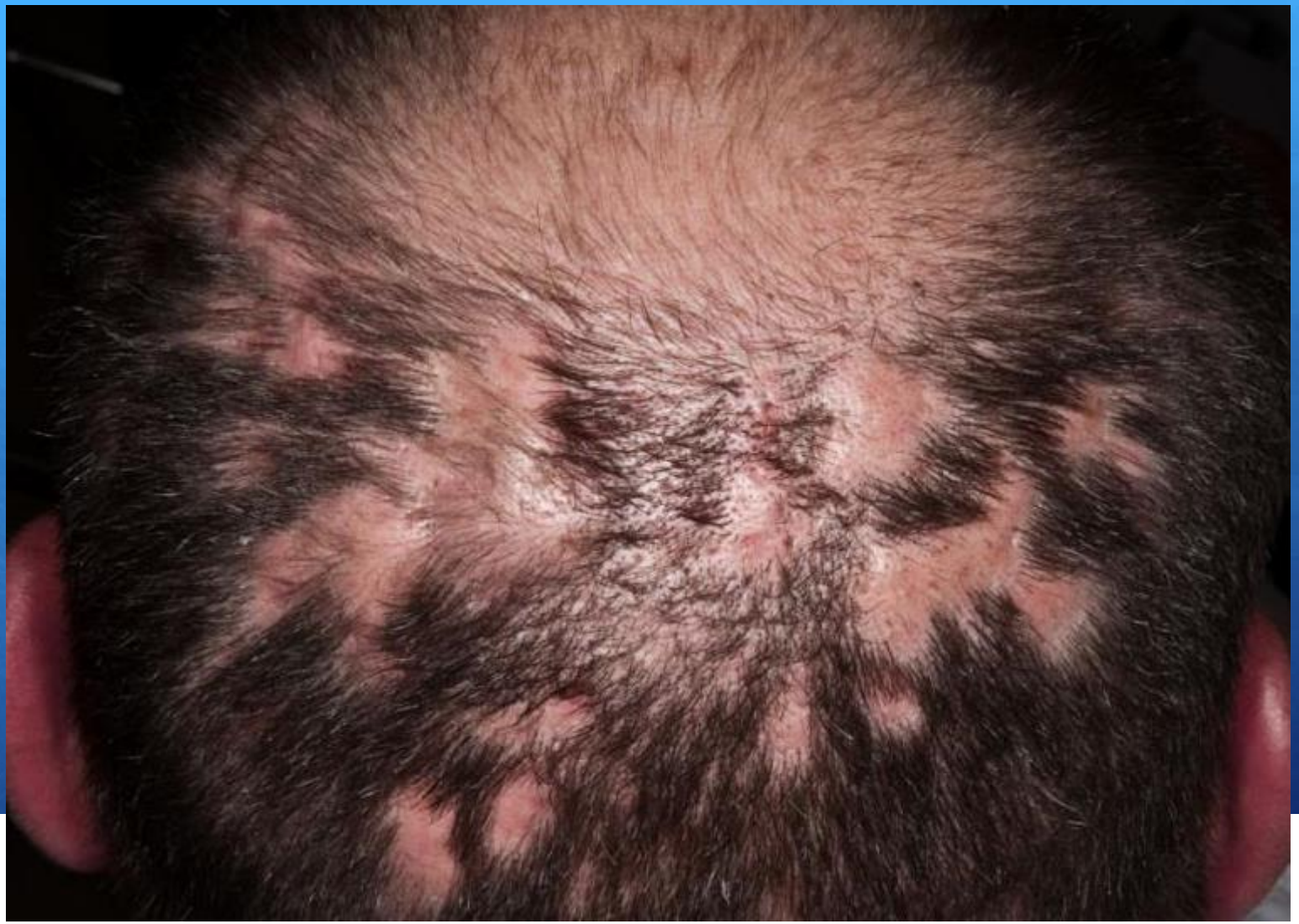
Lichen Planopilaris



- Treatment:
- For localized disease, topical and intralesional steroids may be used: Topical corticosteroids (class 1-2) – Clobetasol cream, ointment applied every 12 hours (30, 45, 60 g)
- Intralesional corticosteroids – Triamcinolone acetonide 2.5-10 mg/ml up to a total of 2 ml every 4-6 weeks
- Generally considered first line for recalcitrant or aggressive disease: Hydroxychloroquine 200 mg by mouth twice daily for at least 3 months

Dissecting Cellulitis of the Scalp

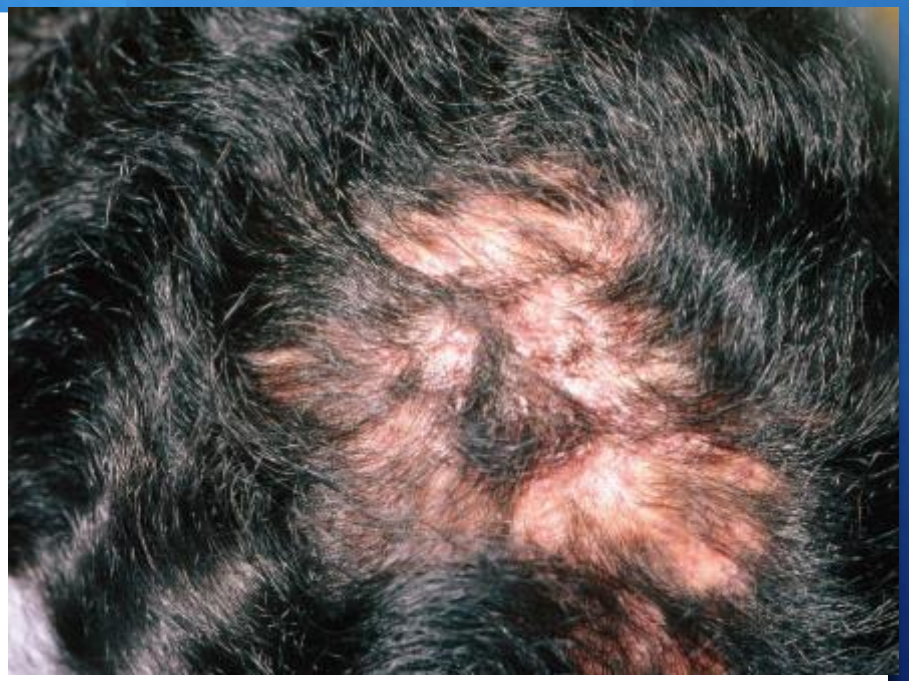
- AKA: Perifolliculitis capitis abscedens et suffodiens (PCAS)
- neutrophilic scarring alopecia with an abnormal inflammatory response to staphylococcal antigens
- follicle occludes, dilates, and ruptures, and the keratin promotes an inflammatory response in conjunction with a secondary staphylococcal infection attracting neutrophils
- typically affects African-American men between the ages of 20 and 40, but it can occur in other races, in women, and in children



usually affects the vertex (although the entire scalp can be involved), producing boggy or fluctuant pustules and nodules

Dissecting Cellulitis of the Scalp

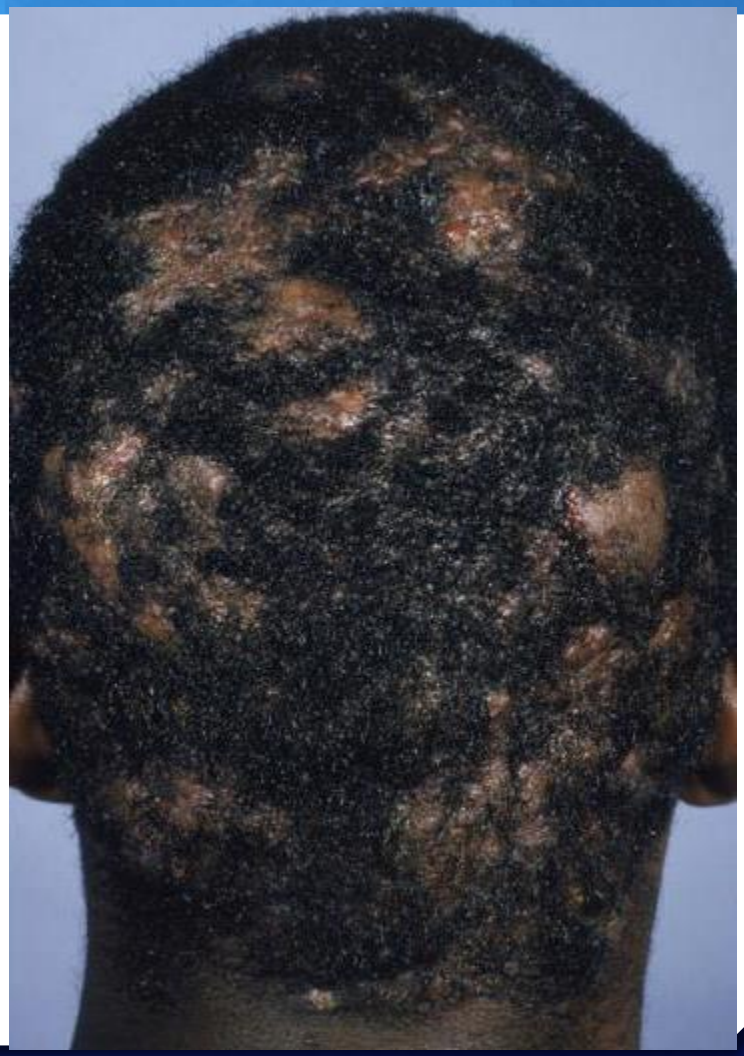
- may occur alone or as part of a follicular occlusion triad that includes acne conglobata and hidradenitis suppurativa or a tetrad including pilonidal cysts
- On the scalp, look for boggy or fluctuant pustules and nodules, which may exude pus, on the vertex. As the disease progresses, look for sinus tracts and hypertrophic scars, keloids, and overlying patchy alopecia.



Dissecting Cellulitis of the Scalp

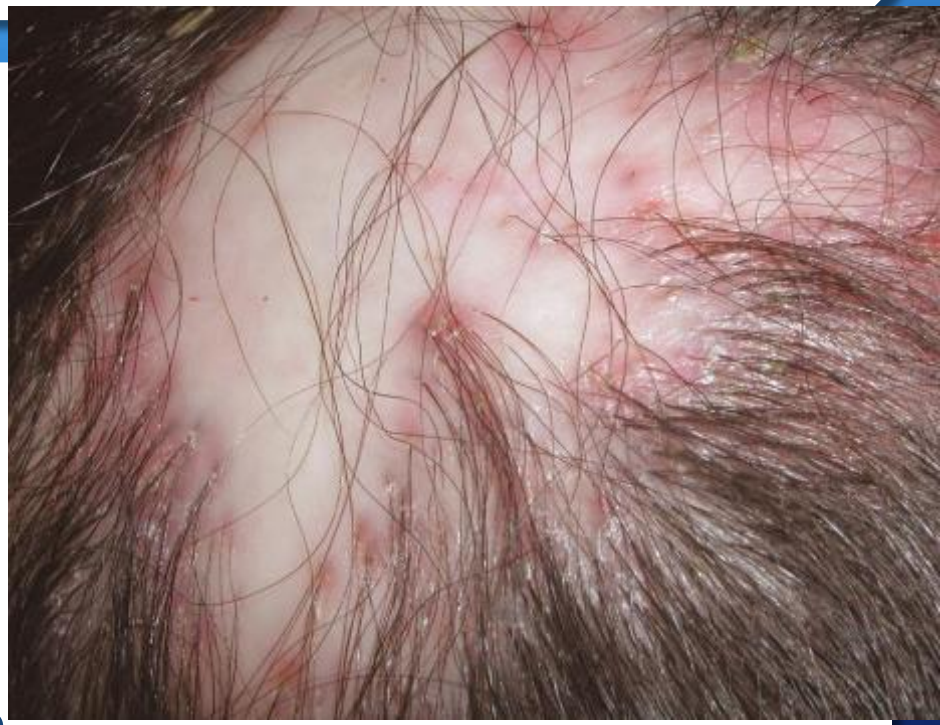
- Diagnosis: Clinical + biopsy + culture
- Treatment: a difficult condition to treat; management by a dermatologist is recommended
- course is chronic and relapsing
- Antibiotics, typically of the tetracycline class: minocycline 100 mg by mouth twice daily.

  Oral antibiotics can be combined with topical antibiotic soaps, chlorhexidine, or benzoyl peroxide



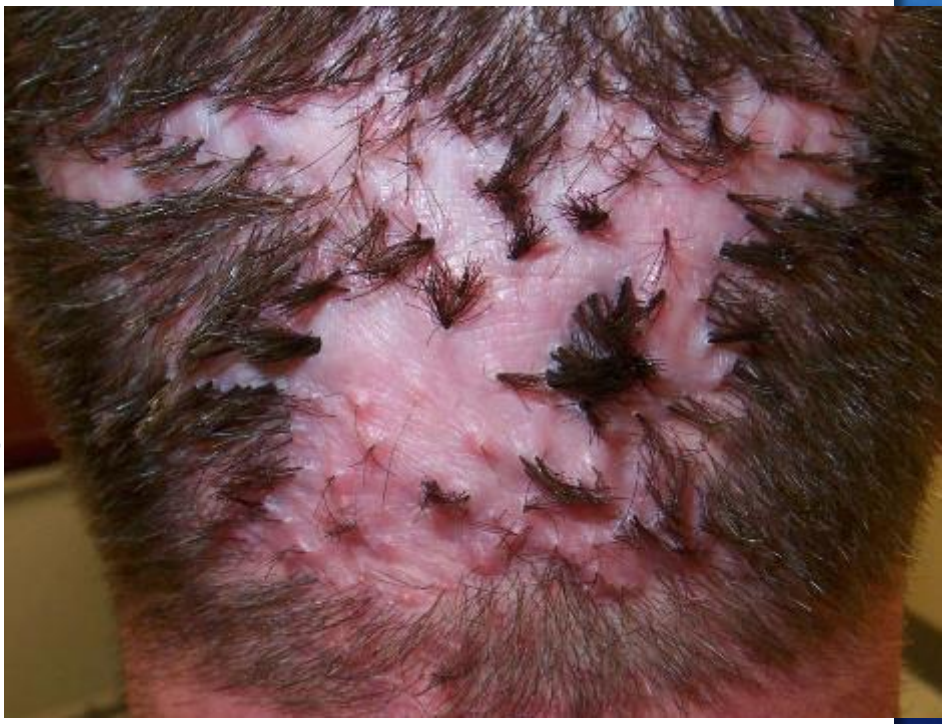
Folliculitis Decalvans

- common form of scarring alopecia characterized by suppurative folliculitis with destruction of the hair follicle
- *Staphylococcus aureus* is often isolated from the follicular pustules, and it is thought that an abnormal host response occurs to this organism



Folliculitis Decalvans

- Look for crops of perifollicular pustules, most commonly on the crown of the scalp
- Characteristically, there may be several residual hairs growing out of a single hair follicle, so-called "tufting," "tufted folliculitis," or "doll's hair."



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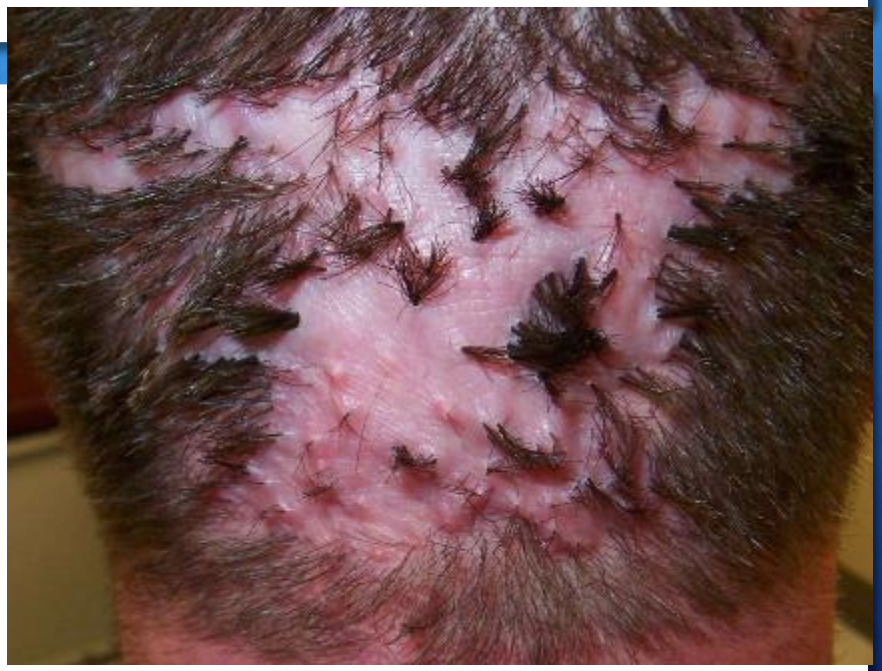
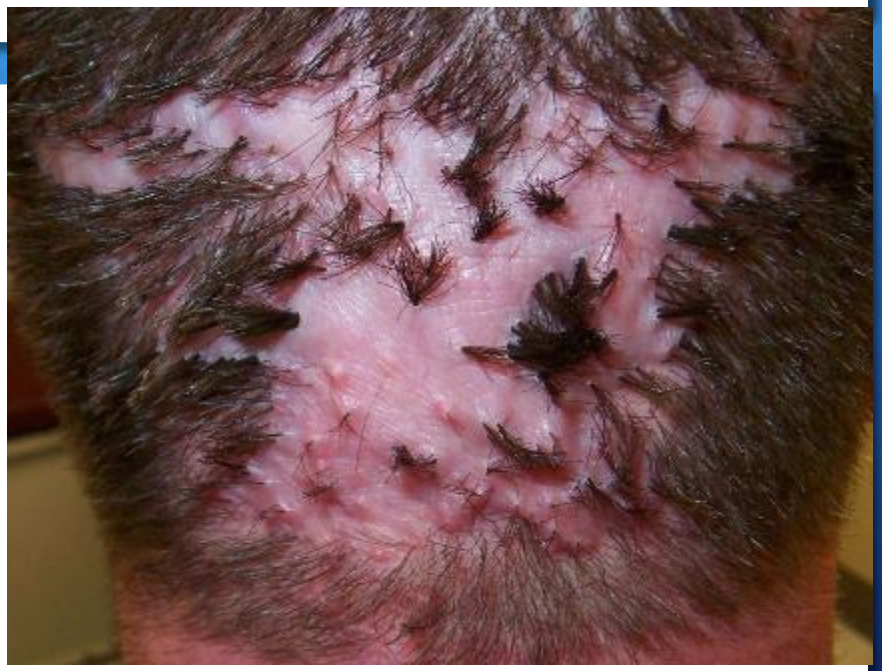


- Diagnoses: Biopsy and culture
- can be resistant to treatment
- Treatment:
  - Topical antistaphylococcal antibiotics (eg, clindamycin 1% lotion, erythromycin 2% gel, mupirocin 2% ointment) 2-3 times per week.
  - Topical tacrolimus 0.1% ointment.
  - Intralesional triamcinolone 5-10 mg/mL once every 3 months in patients with active inflammation.
  - Vitamin D derivatives (calcipotriol) in patients with desquamation and seborrhea, salicylic acid in patients with hyperkeratosis, and minoxidil in patients with coexisting androgenic alopecia may be helpful adjuncts.

Folliculitis Decalvans

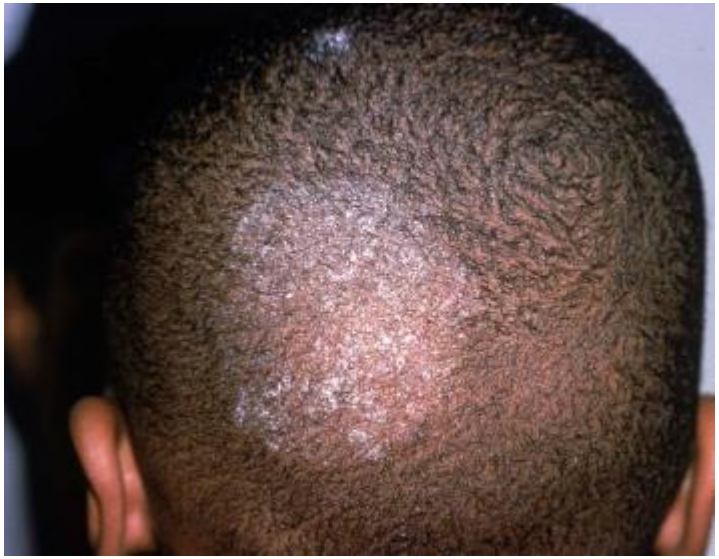


Treatment:

- **Oral treatment options include:** For mild to moderate disease (largest alopecic patch < 5 cm): Doxycycline or minocycline 100 mg daily for 8-12 weeks for active inflammation.
- Azithromycin: 500 mg daily 3 days a week for 3 weeks if there is bacterial resistance.

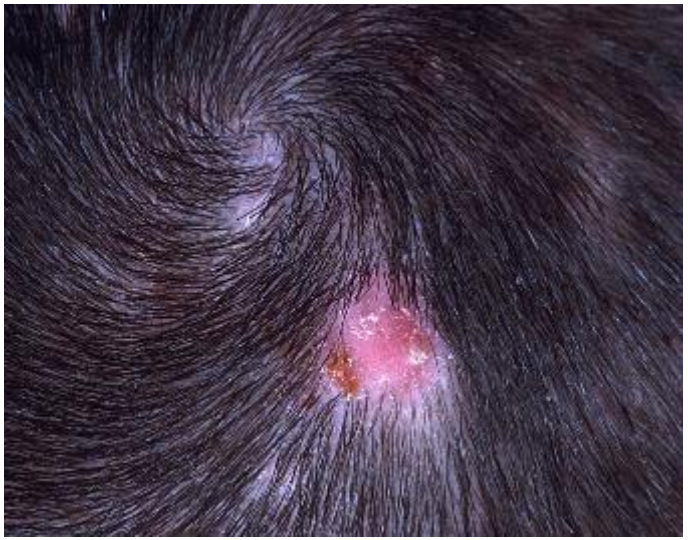
Tinea Capitis (Scalp fungal infection)

- Most cases occur between the ages of 3 and 7 years
- In the United States and Great Britain, the most common causative agent is *Trichophyton tonsurans*. The most common agent worldwide, however, is *Microsporum canis*.



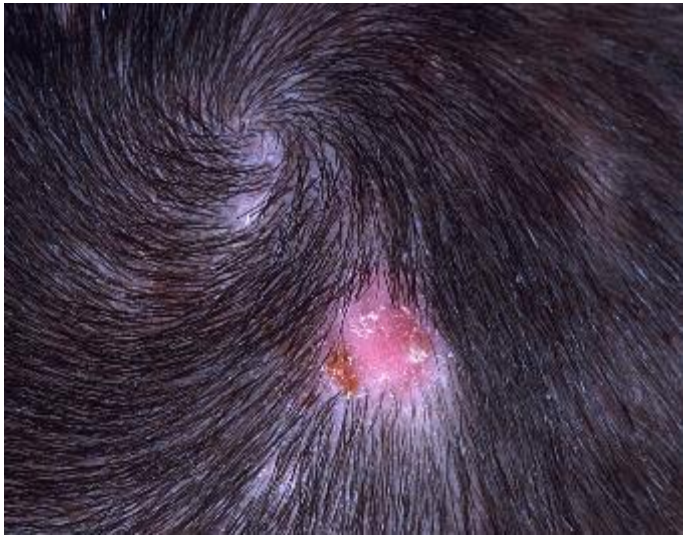
Tinea Capitis (Scalp fungal infection)

- presents as numerous scaly macules and patches of broken hairs and alopecia on the scalp
- severe forms are associated with inflammatory papules, pustules, and plaques can have lymphadenopathy



Tinea Capitis (Scalp fungal infection)

- Tinea capitis should be in the differential diagnosis in any child who presents with alopecia

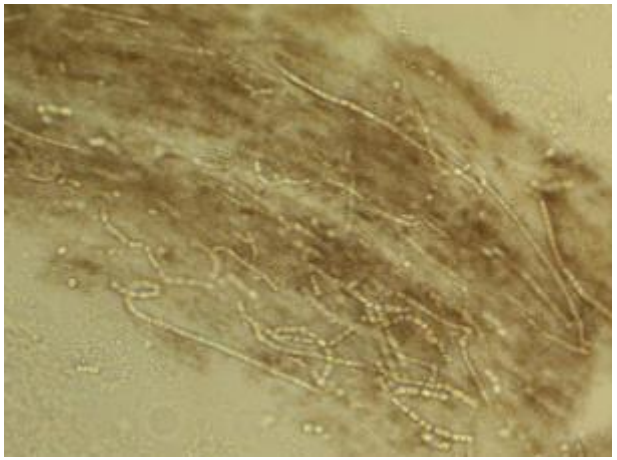


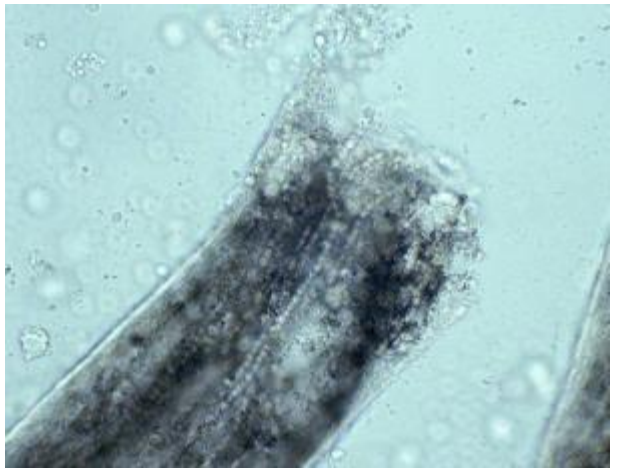
Tinea Capitis (Scalp fungal infection)

- Secondary bacterial infections can occur and should be considered in any patient with purulent discharge

Diagnosis:

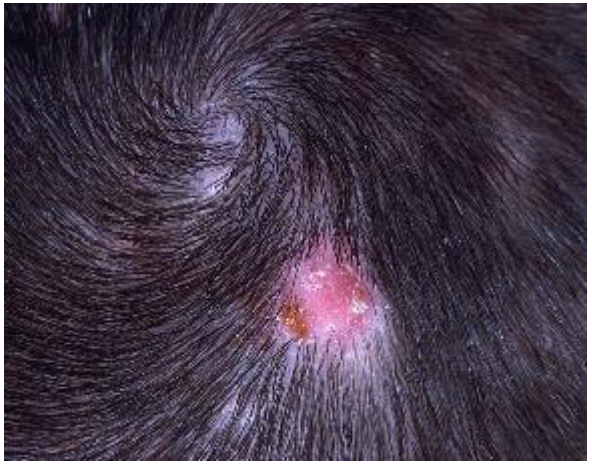
- Light microscopy may be performed using a plucked hair, although this cannot determine the causative organism.
- Fungal culture allows for the determination of the causative organism





Tinea Capitis (Scalp fungal infection)

- Terbinafine is dosed based on weight. Duration of treatment is 4-8 weeks.
  10-20 kg: 62.5 mg every 24 hours
- 20-40 kg: 125 mg every 24 hours
- Weighing greater than 40 kg: 250 mg every 24 hours



Tinea Capitis (Scalp fungal infection)

- Alternative agents: Fluconazole, Itraconazole or Griseofulvin

  (Weight based) look out for medication interactions