



—BELMATT—
HEALTHCARE TRAINING

Essential Dermatology

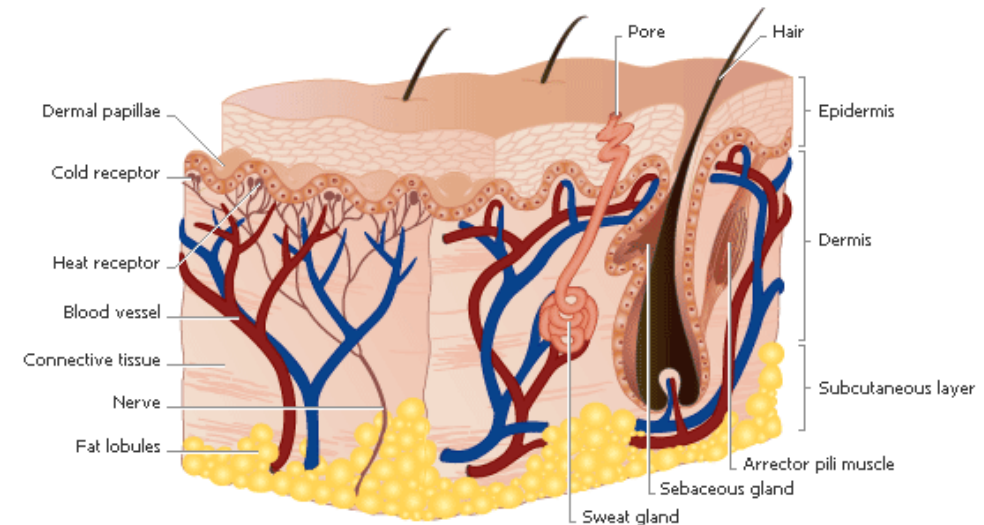
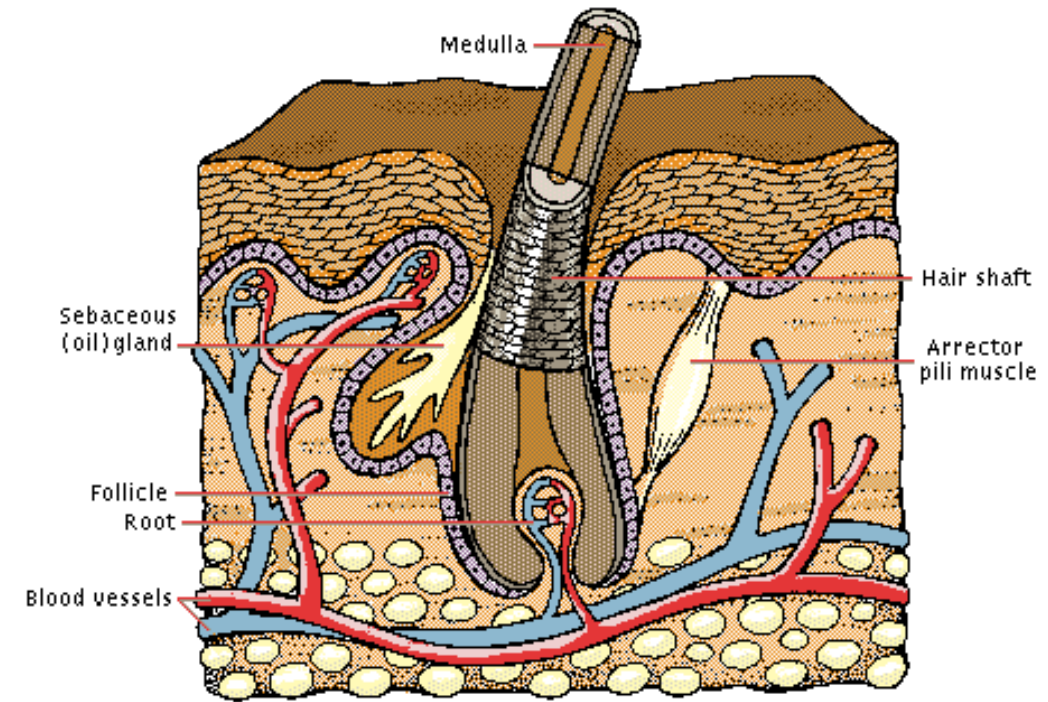


Kirsty Armstrong

ANP in OOH, Expert Witness

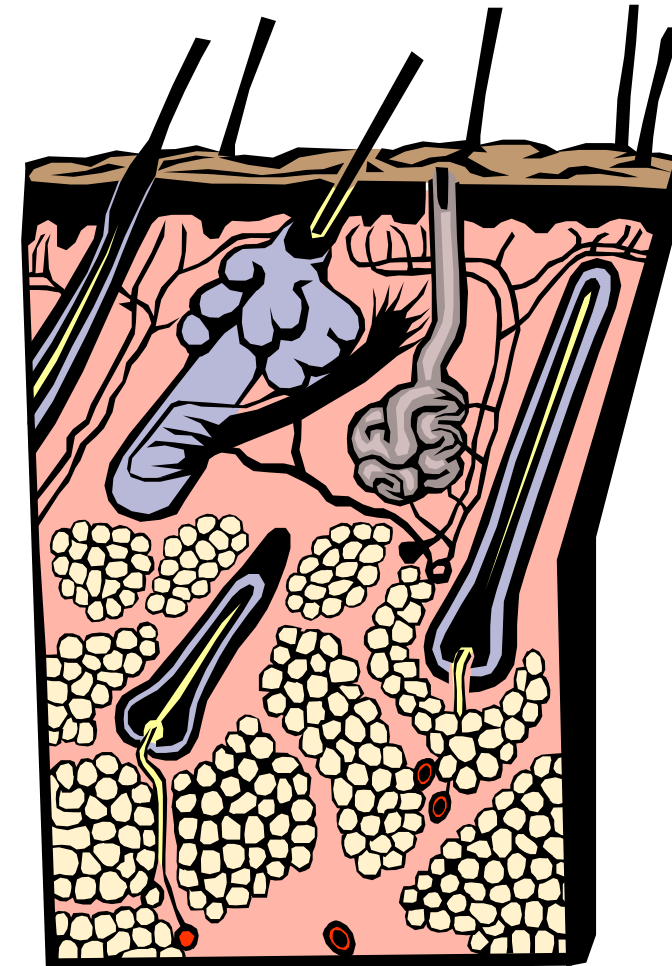
SKIN FUNCTIONS

- Body Covering
 - Keep tissue fluids in
 - Keep chemicals out
 - Keep bacteria, fungi, and viruses out
- Permit movement of underlying muscles & joint
- Sensors for touch, pain, and temperature
- Adornment
- Vitamin D production
- Temperature regulation
 - sweating, blood flow
- Sun protection
 - Detoxification/activation of drugs and chemicals
- Immunosurveillance
 - Langerhans cells, t-lymphocytes



Anatomy Of Skin

- Epidermis
 - Outer layer contains the stratum corneum
 - The rate limiting step in dermal or percutaneous absorption is diffusion through the epidermis
- Dermis
 - Much thicker than epidermis
 - True skin & is the main natural protection against trauma
 - Contains
 - Sweat glands
 - Sebaceous glands
 - Blood vessels
 - Hair
 - Nails
- Subcutaneous Layer
 - Contains the fatty tissues which cushion & insulate



Examination

PRIMARY

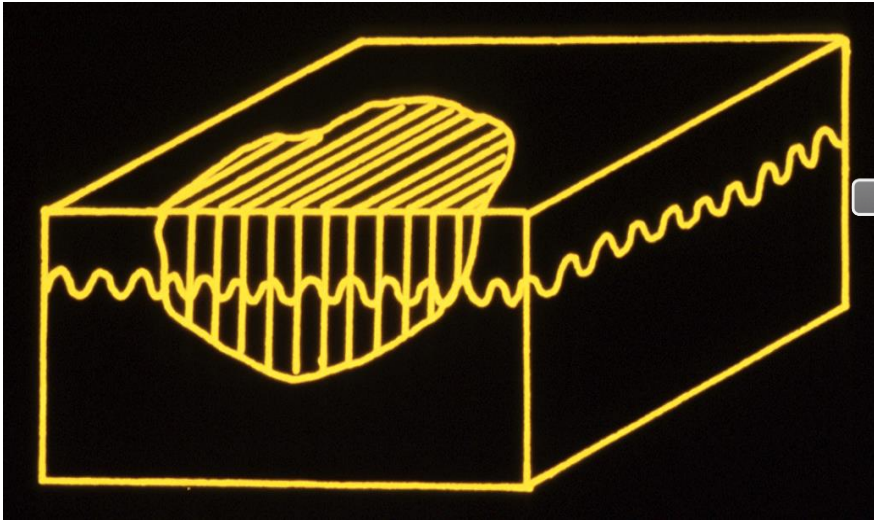
- Macule → Patch (plaque)
- Papule → Nodule
- Weal
- Vesicle → Bulla
- Pustule
- Purpura



Secondary Lesions

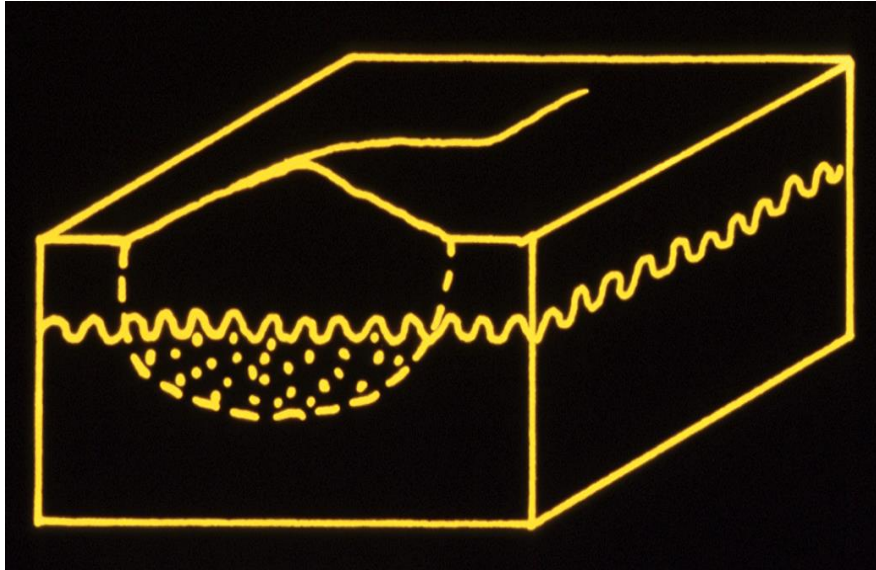
- Scale
- Crust
- Excoriation
- Erosion → Ulcer
- Scar
- Lichenification

Macule (Macular)



- Level with normal skin
- Not Palpable
- E.g. Freckle (lentigo)

Papule (<5mm) 'Papular'



- Raised above normal skin
- Palpable
- E.g. pimple / comedone

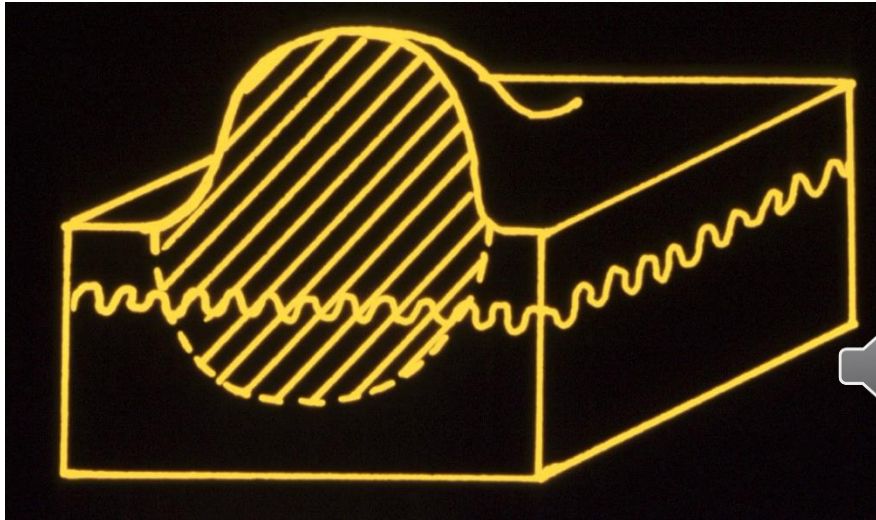
Varicella



Molluscum contagiosum



Nodule ($\geq 5\text{mm}$)



- Raised above skin level
- Palpable (larger than papule $\geq 5\text{mm}$)
- Can involve any or all layers of the skin
- E.g. skin cancer such as Basal Cell Cancer, Squamous Cell Cancer

Nodules-BCC



Other derm vocab

- Erythematous, Violaceous, golden, flesh coloured, pigmented
- Hypopigmented, hyperpigmented, depigmented
- Atrophic, hypertrophic, lichenified
- Xerotic, excoriated, photodamaged
- Annular, Serpiginous, linear
- Monomorphic, pleomorphic
- Follicular, perifollicular
- Acral, truncal, facial, plantar, palmar, flexural, extensor
- Discreet, well demarcated, poorly demarcated, coalesce, confluent



Eczema (dermatitis)

- Inflammatory condition of the epidermis causing itch and breaking of the skin
- Several type of which you are most likely to encounter:
 - Atopic
 - irritant
 - allergic/contact
 - dishidrotic (pompholyx)



Dyshydrotic eczema/pompholyx



Eczema treatment

- Total Emollient Therapy
- Steroids
- Topical immunosuppressant's
- Oral antihistamines (break the itch scratch cycle!!!)
- Antibiotics/antiseptics (oral abx, salt baths, bleach baths, chlorhexidine soap)
- (wet wrapping, occlusion, life style change)
- Phototherapy
- Immunosuppressant therapies




Irritant Contact Dermatitis



Allergic Contact Dermatitis



Psoriasis

- Common chronic inflammatory condition of the skin characterised by red scaly plaques (can affect joints and soft tissues)
- Several types of which you are most likely to encounter:
 - Chronic plaque psoriasis
 - Scalp
 - Guttate
 - Flexural

Treatment

- Emollients
- Vitamin d analogues
- Steroids
- Tar
- Salicylic acid
- Phototherapy
- Immunosuppression and biologics



Ointments

- **The occlusive effect of ointments can cause folliculitis. If this occurs, occurs, stop the ointment (consider switching to a cream), and prescribe an antibiotic, if necessary.**
- **Aqueous cream is generally not recommended because of the high risk of developing skin reactions.**
 - A clinical audit found that the use of aqueous cream results in a significant proportion of people developing sensitization reactions, so it should be avoided [[Cork et al, 2003](#)].
 - The Medicines and Healthcare products Regulatory Agency (MHRA) warns that aqueous cream may cause local skin reactions, such as stinging, burning, itching, and redness, when it is used as a leave-on emollient, especially in children with atopic eczema [[MHRA, 2013](#)]. The reactions, which are not generally serious, often occur within 20 minutes of application but can occur later, and may be due to sodium lauryl sulfate or other additives [[MHRA, 2013](#)].
- If a topical corticosteroid is prescribed, they should wait several minutes after application of an emollient (about 15–30 mins if possible) before applying the topical corticosteroid [[Primary Care Dermatology Society, 2016](#)].

Emollients

Some emollients contain:

- Urea (a keratin softener and hydrating agent), for example Aquadrate[®], Balneum[®] Plus, Calmurid[®], E45[®] Itch Relief Cream, and Eucerin[®] Intensive.
 - Lauromacrogols (which have local anaesthetic properties, and soothes and relieves itchy skin), for example Balneum[®] Plus and E45[®] Itch Relief Cream.
 - Lanolin or lanolin derivatives, for example hydrous ointment, E45[®] cream and lotion, and Oilatum[®] emollient bath additive.
 - Antiseptic, for example Dermol[®] preparations (cream, lotion, shower, and bath emollient), Emulsiderm[®] liquid emulsion, and Oilatum Plus bath additive[®].
- Emollients containing active ingredients are not generally recommended because they increase the risk of skin reactions. However, they may be useful in some people.
- **All emollients are available on the NHS, but some are classified as borderline substances and as such their prescriptions should be endorsed with 'ACBS' (Advisory Committee on Borderline Substances).** These include Aveeno[®] products (bath oil, cream, and lotion) and E45[®] products (emollient bath oil, emollient wash cream, and lotion).
 - If a topical corticosteroid is prescribed, they should wait several minutes after application of an emollient (about 15–30 mins if possible) before applying the topical corticosteroid [[Primary Care Dermatology Society, 2016](#)].
 - [[NICE, 2007a](#); [Primary Care Dermatology Society, 2016](#)].

Topical corticosteroids are available in four potencies: mildly potent, moderately potent, potent, and very potent.

- These include creams, ointments, lotion, gel, and/or scalp applications, available as non-proprietary and/or proprietary products.
- Examples include:
 - Mildly potent — hydrocortisone 0.1%, 0.5%, 1.0%, and 2.5%
 - Moderately potent — betamethasone valerate 0.025% (Betnovate-RD®) and clobetasone butyrate 0.05% (Eumovate®)
 - Potent — betamethasone valerate 0.1% (Betnovate®) and betamethasone dipropionate 0.05% (Diprosone®)
 - Very potent — clobetasol propionate 0.05% (Dermovate®) and diflucortolone valerate 0.3% (Nerisone Forte®)
- All are available on the NHS with an FP10 form. See the British National Formulary ([BNF](#)) for a complete list of all the topical corticosteroids available in the UK.
- **Note that:**
 - Hydrocortisone 1% is available over-the-counter for the treatment of mild-to-moderate eczema not involving the face or genitals.
 - Very potent topical corticosteroids should usually only be prescribed by specialists. [[BNF 72, 2016](#)]

Important Factors not to overlook

- Alcohol
- Stress
- Trauma (including infections ☹️)
- Medications: NSAIDS, steroids, beta blockers, antimalarials, lithium
- Obesity



- When examining: ALWAYS THINK TO CHECK:
 - scalp
 - nails
 - Butt crack







Urticaria

- A transient vascular reaction of the skin marked by erythematous smooth plaques (wheals) and usually severe itching. Angiodema can also be present
- Many types, of which you are most like to encounter:
 - Acute urticaria (virus, insect bites, bacteria, food allergy, drug allergy, drug pseudoallergy, opiates and nsaid)
 - Chronic urticaria
 - cold urticaria
 - pressure urticaria

Treatment

- Nothing
- Avoiding triggers
- Antihistamines (cetirizine, loratadine, fexofenadine)
- Oral steroids
- Emollient lotions
- Biologics
- Ciclosporin
- Monteleukast



Important things to note

- Angioedema
- Tongue/throat symptoms
- Respiratory involvement
- Abdominal involvement
- CVS involvement



Scenario

- A teenager presents to you with this rash following eating a prawn sandwich for lunch. The school nurse gave him some piriton. What questions should you be asking?



Urticaria



HSV

- Type 1: Primary herpetic gingivostomatitis → cold sores
- Type 2: Genital
- NB: these days the two really overlap!



- No treatment
- Paracetamol and Ibuprofe
- (Topical acyclovir)
- (Anaesthetic creams)
- (antiseptic mouth washes
- ((oral antivirals))
- (sun block)




Recurrent HSV1



Self care measures

- **Self-care measures** may be useful for some people. If appropriate, advise the person to:
 - Clean the affected area with plain or salt water to help prevent secondary infection and promote healing of lesions.
 - Apply vaseline or a topical anaesthetic (for example lidocaine 5%) to lesions to help with painful micturition, if required.
 - Increase fluid intake to produce dilute urine (which is less painful to void). Urinate in a bath or with water flowing over the area to reduce stinging.
 - Avoid wearing tight clothing
 - Take adequate pain relief.
 - Avoid sharing towels and flannels with household members on
 - **Advise all people to abstain from sexual intercourse** (including non-penetrative and oro-genital sex) until follow-up or until lesions have cleared.

Primary Genital HSV

- **Oral antivirals are the primary treatment for genital herpes simplex infection** — treatment should commence within 5 days of the start of the episode, or while new lesions are forming for people with a first clinical episode of genital herpes simplex virus (HSV).
-  **Prescribe** oral aciclovir 400 mg three times a day for 5–10 days, or 200 mg five times a day for 5–10 days, or alternatively:
 - Valaciclovir 500 mg orally twice a day for 5–10 days.
 - Famciclovir 250 mg orally three times a day for 5–10 days.
- Topical antiviral drugs are not recommended, as they offer minimal clinical benefit.

Recurrent Genital HSV

- If self-care measures are not controlling symptoms, management decisions should be made in partnership with the person. Options include:
 - **Episodic** antiviral treatment — if attacks are infrequent (less than six attacks per year).
 - Prescribe oral aciclovir 800 mg three times a day for 2 days, famciclovir 1000 mg twice a day for 1 day, or valaciclovir 500 mg twice a day for 3 days.
 - Alternatively, for 5-day treatment regimens: prescribe aciclovir 200 mg five times a day (or 400 mg three times a day) valaciclovir 500 mg twice a day, or famciclovir 125-250 mg twice a day.
 - Consider self-initiated treatment, so antiviral medication can be started early in the next attack.
 - **Suppressive** antiviral treatment — if attacks are frequent (six or more attacks per year), causing psychological distress, or affecting the person's social life.
 - Prescribe aciclovir 400 mg twice a day (or 200 mg four times a day), famciclovir 250 mg twice a day, or valaciclovir 500 mg once a day.
 - If breakthrough recurrences occur, the dosage should be increased. Consider seeking specialist advice.
 - Continue treatment for a maximum of one year, after which it should be stopped to assess recurrence (for a minimum of two recurrences). Consider restarting treatment in people who have high rates of recurrence.



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A simple approach to generalised itching

1. Can you see a rash?

No: think systemic disease, psychological disease, menopause, drugs/alcohol, neuropathic or URTICARIA



Yes:

Is there an obvious distribution → eczema, psoriasis, seb derm

No clear distribution → xerosis, ichthyosis, scabies, bites

2. Is it urticated? → urticaria

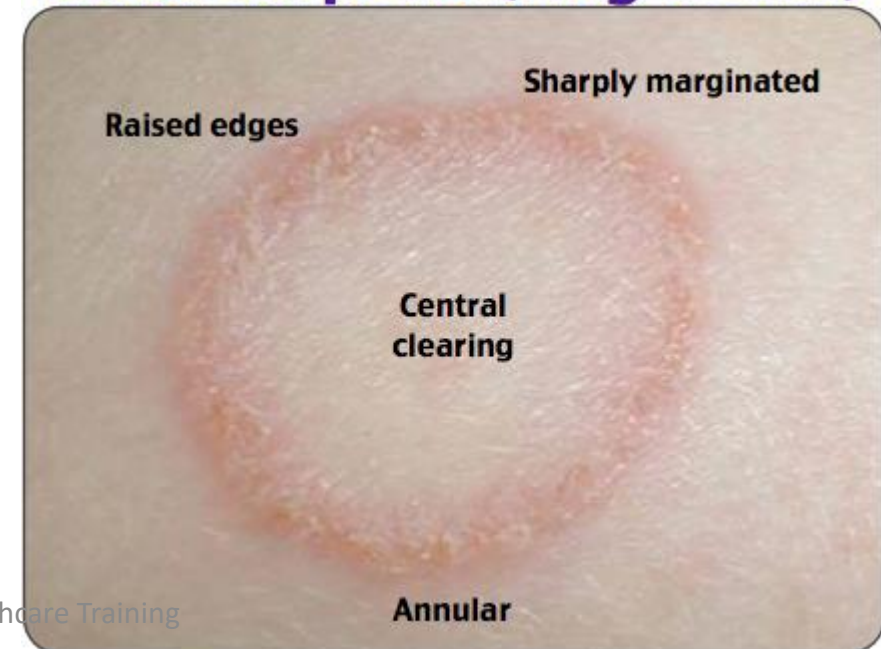
Fungal Skin infections

- Yeasts and fungi can commonly over grow on the skin causing a dermatitis. Usually not serious but often unsightly or itchy.
- There are many forms of which you will most likely see:
 - Tinea corporis
 - Tinea Pedis
 - Tinea Mannuum
 - Tinea Cruris
 - Tinea Capitus
 - Tinea Unguum
 - Seborrheic dermatitis
 - Pityriasis Versicolour





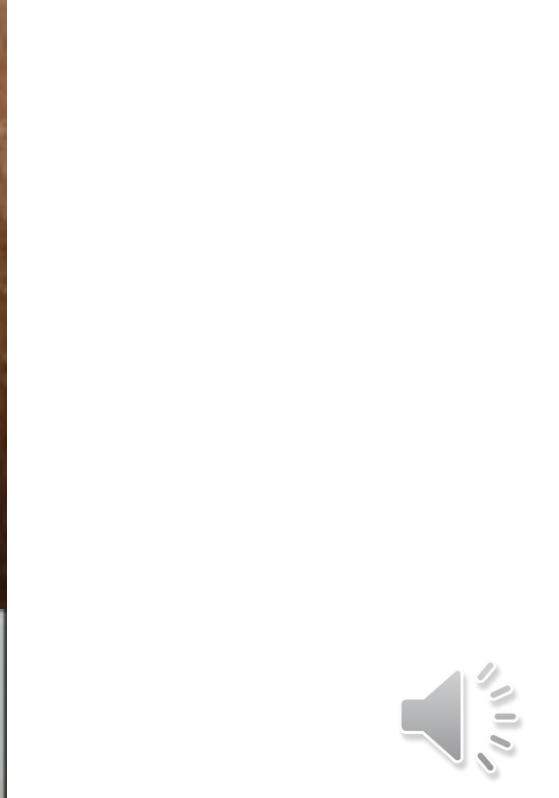
Tinea corporis (ring worm)





Treatment

- **If an extensive area is involved, prescribe an antifungal shampoo:**
 - Ketoconazole 2% shampoo — apply once-daily to affected areas for 5 days.
 - When applying the shampoo, lather, and leave it on for 5 minutes, before thoroughly rinsing off.
 - Selenium sulphide 2.5% shampoo (commonly used, but this is an off-label indication, and is contraindicated in pregnancy) — apply once-daily to the affected areas for 7 days.
 - When applying the shampoo, lather, and leave it on for 10 minutes, before thoroughly rinsing off.
 - It is more likely to cause skin dryness and irritation than ketoconazole shampoo, and some people find the odour unpleasant.
- **If only small areas are involved, consider prescribing an antifungal cream as an alternative.**
 - Imidazole creams (such as clotrimazole [preferred in pregnancy], econazole, or ketoconazole) can be applied twice a day.
 - Apply for 2-3 weeks.
- **Do not prescribe topical or oral corticosteroids.**



Source: Usatine RP, Smith MA, Mayeaux EJ, Chumley HS: *The Color Atlas of Family Medicine, Second Edition*: www.accessmedicine.com
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Fungal Nail Vs Psoriatic Nail

Treatments

- Topical antifungals
- Topical antifungals with steroid (tinea incognito)
- Antifungal shampoos
- **Oral antifungals**
- Lifestyle change



Drug Therapy

Dermatophyte only:

- Griseofulvin
- Terbinafine

Candida only:

Nystatin

Amphoteroicin



Both Dermatophyte and Candida:

Fluconazole


Itraconazole

Ketoconazole

Itraconazole

- **Dose regime for itraconazole**
- Various regimes for itraconazole have been found successful; typical doses are listed below. Courses can be repeated and the medication can be continued for months if necessary.
- [Tinea corporis](#), [tinea cruris](#): 200 mg daily for one week OR 100mg daily for 2 weeks
- [Tinea pedis](#), [tinea manuum](#): 200 mg twice daily for one week OR 100mg daily for 2-4 weeks
- [Vulvovaginal candidiasis](#): 200 mg twice daily for one day OR 200 mg daily for 3 days
- [Oral candidiasis](#): 100 mg daily for two weeks
- [Tinea unguium](#): 200 mg/day for 6-8 weeks (fingernails) or 3-4 months (toenails), OR 200 mg twice daily for 7 days, repeated monthly for 2 months (fingernails) or 3–4 months (toenails)
- [Pityriasis versicolor](#): 200 mg/day for 10 days, with a preventative dose of 200mg once monthly for 6 months.

Impetigo

- A common infection of the skin with staph aureus causing honey coloured crusting erosions or sometimes bullae.
- Also called school sores
- Most common in children 
- Easily treated with oral or topical abx
- Almost always minor and quick to respond to treatment
- Very rarely can cause severe infection/cellulitis/sepsis/ Staph scalded skin syndrome/rheumatic fever



- **Non-bullous infection** requires treatment with topical or oral antibiotics, and management of the underlying cause (if applicable).
 - **For localized infection, treat with topical fusidic acid** (three to four times daily, for 7 days).
 - Before the initial application of topical antibiotics, advise the person (or parent) to remove crusted areas by soaking them in soapy water, as long as this does not cause discomfort.
 - **For extensive infection, areas on which it would be impractical to use topical drugs, or severe infection (including systemic symptoms), treat with an oral antibiotic.**
 - Oral flucloxacillin (four times daily for 7 days) is recommended first-line.
 - Oral clarithromycin (twice daily for 7 days) or erythromycin (four times daily for 7 days) are alternatives if the person is allergic to penicillins.
 - The most likely underlying conditions that may be associated with impetigo are atopic eczema, scabies, or head lice. For more information on the management of these conditions, see the CKS topics on [Eczema - atopic](#), [Scabies](#), and [Head lice](#).
- **Bullous infection usually requires treatment with an oral antibiotic** (flucloxacillin or clarithromycin/erythromycin).
- **Routine follow-up is not required**, but advise the person to return if there is no significant improvement 7 days after initiation of treatment (or sooner if the condition is worsening).




Scabies Burrows (arrows point to mites)



Headlice

- A physical insecticide — these silicone or fatty acid ester-based products kill the lice by physically coating their surfaces and suffocating them, so resistance is unlikely to develop.
 - They include **dimeticone** 4% gel, lotion, or spray (Hedrin® Once or Lotion; Chemists' Own® Head Lice Spray); dimeticone 92% spray (NYDA®); dimeticone > 95% lotion (Linicin® Lotion); isopropyl myristate and cyclomethicone solution (Full Marks Solution®); and isopropyl myristate and isopropyl alcohol aerosol (Vamousse® Head Lice Treatment), all of which are available on the NHS.
- ◦ A chemical or traditional insecticide — these poison the lice by chemical means.
 - In the UK, the only chemical insecticide that is currently recommended is **Malathion 0.5%** aqueous liquid (Derbac-M®), but resistance has been reported.
- ◦ **Wet combing** — this is the systematic combing of wet hair with a louse detection comb to remove head lice.
 - The Bug Buster® kit is the only head lice removal (and detection) method that has been evaluated in randomized controlled trials, and it is available on the NHS.
 - Other nit combs listed in the Drug Tariff include Nitty Gritty NitFree comb®, Nitcomb-S1®, and Nitcomb-M2®.

Pubic Lice

- ■ Screen the individual for Chlamydia and other sexually transmitted infections as appropriate.
- ■ Treat the individual with a topical insecticide: two applications of **malathion 0.5% aqueous lotion or permethrin 5% dermal cream, 7 days apart.** 
- ■ Consider follow-up in a GUM clinic in about a week to screen for sexually transmitted infections.
- ■ Advise the individual to avoid close body contact until they, and their current partner, have been treated.
- ■ Recommend that the person informs their partners of the previous 3 months that they should be examined for pubic lice and treated if infested.

Scabies:


- **Treat the person and all contacts with an insecticide.**
- Use **permethrin** 5% dermal cream as a first-line treatment.
- Use **malathion 0.5%** aqueous liquid if permethrin is inappropriate (e.g. the person has an allergy to chrysanthemums).
- For children under 2 months old, seek specialist advice from a paediatric dermatologist.
 - Scabies is rare in children under 2 months old.
- If malathion is used, an aqueous preparation is preferred to the alcohol-based lotion.
- Children under 6 months old require a prescription for an insecticide to treat scabies. If parents prefer to purchase an insecticide over the counter:
 - Malathion 0.5% aqueous liquid can be purchased for children over 6 months old.
 - Children under 2 years old require a prescription for permethrin 5% dermal cream.

Warts and Veruccas



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Acne/rosacea/folliculitis

- Acne: think about antibiotic stewardship, think about resistance, think about scarring, think about roaccutane
- Rosacea: think about life style  change, remember newer agents: ivermectin/brimonidine, metrogel not so good, azelaic acid
- Folliculitis: chlorhexidine scrubs, rescue antibiotics, prophylactic antibiotics, does it need drainage? Is it something else?

Things that should make you say 'Oh dear'

- Meningococcal disease
- Urticaria with angioedema/resp involvement/systemic involvement
- Eczema herpeticum
- Steven Johnson syndrome
- Vasculitis
- Zoster of the face/ear
- Anything genital



Facial zoster/shingles



When I find things go wrong

- Inadequate examination/inadequate exposure
- Not looking at meds or drug chart
- Not asking about hobbies/job/OTC
- Not reviewing diagnosis when not responding
- Inadequate safety advice
- Not treating for long enough... oral antifungals, topical steroids
- Not being realistic about prognosis. Use the word CHRONIC

Life goals

- Have eczema, psoriasis and tinea (in their purist forms) really clear in your head
- Then start to understand their overlapping and atypical forms
- Be totally proficient in common day to day dermatological infections such as warts, molluscum, impetigo, know the guidelines and rationale and be able to explain them to people
- Know about the other treatments available for common skin conditions even if they are outside of your scope of practice, it is great to be able to advise and educate patients
- Feel confident about your own traffic light system

Traffic lights for Pharmacists and Nurses

(Make your own)

Independent Management:

Seb derm
Tinea Pedis
Plantar and palmar warts
(not genital and not elsewhere)
Head lice
Scabies
Nappy rash
Dry skin
Oral Herpes
Acute Urticaria
Skin tags

Share Management:

Eczema
Psoriasis
Genital herpes
Lichen Planus
Chronic urticarial
Chronic Ulcers




Refer Management:

Eczema herpeticum
Non blanching exantham
Vasculitis
Suspected malignancy
Drug eruptions
Blistering skin eruptions

Sources of info...

- Patient UK
- Dermnet
- BAD
- UKPCDS
- CKS
- Dermis

Some common mantras

- Description is key, then you can get help
- Diagnosis is essential, everything else is googleable (and should be googled)
- Be safe: competency, honesty,  safety netting, referral
- Aim to be experts at the simple stuff, this will get you very far
- Try to reference what you are doing (NICE, Sign, CKS, local protocol)