Prescribing in Dermatology

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What skin is that?

- Cheetah
- Jaguar
- Giraffe
- Leopard
What skin is that?

- Cheetah
- Jaguar
- Giraffe
- Leopard

What skin is that?

- Armadillo
- Rattlesnake
- Blue tongue lizard
- Brown snake
What skin is that?

• Armadillo
• Rattlesnake
• Blue tongue lizard
• Brown snake

What skin is that?

• Giraffe
• Cheetah
• Leopard
• Jaguar
What skin is that?
- Giraffe
- Cheetah
- Leopard
- Jaguar

What skin is that?
- Cheetah
- Jaguar
- Giraffe
- Leopard
What skin is that?

- Cheetah
- Jaguar
- Giraffe
- Leopard

What skin is that?

- Aligator
- Armadillo
- Crocodile
- Blue tongue lizard
What skin is that?

- Alligator
- Armadillo
- Crocodile
- Blue tongue lizard

What skin is that?

- Rhinoceros
- Elephant
- Komodo dragon
- Galapagos tortoise
What skin is that?

- Rhinoceros
- Elephant
- Komodo dragon
- Galapagos tortoise

What skin is that?

- Galapagos tortoise
- Salmon
- Komodo dragon
- Brown snake
What skin is that?

- Galapagos tortoise
- Salmon
- Komodo dragon
- Brown snake

Declaration of Interest

Clinical trials conducted at Sinclair Dermatology, September 2015

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Clinical trial title</th>
<th>Start date</th>
<th>Planned end date</th>
<th>Completed by June 30, 2016?</th>
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<tbody>
<tr>
<td>Novartis Pharmaceuticals</td>
<td>A multicenter, double-blind, randomized withdrawal extension study of subcutaneous secukinumab in pre-filled syringes to demonstrate long-term efficacy, safety and tolerability up to 4 years in subjects with moderate to severe chronic plaque-type psoriasis completing preceding psoriasis phase 3 double-blind placebo-controlled studies</td>
<td>Dec 2011</td>
<td>2017</td>
<td>No</td>
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<td>Novartis Pharmaceuticals</td>
<td>A randomized, double-blind, placebo-controlled, multicenter study to demonstrate the efficacy of secukinumab 150 and 200 mg s.c. as add-on therapy in psoriasis, including long-term efficacy up to 102 weeks in subjects with moderate to severe plaque-type psoriasis</td>
<td>22 Oct 2013</td>
<td>2016</td>
<td>No</td>
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<tr>
<td>Novartis Pharmaceuticals</td>
<td>A multicenter, double-blind, placebo-controlled, randomized withdrawal extension study of subcutaneous secukinumab in pre-filled syringes to demonstrate long-term efficacy, safety and tolerability up to 4 years in subjects with moderate to severe chronic plaque-type psoriasis completing preceding psoriasis phase 3 double-blind placebo-controlled studies</td>
<td>24 Sep 2014</td>
<td>2016</td>
<td>No</td>
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<tr>
<td>Novartis Pharmaceuticals</td>
<td>A 12-week, multicenter, randomized, double-blind study of subcutaneous secukinumab in subjects with moderate to severe plaque-type psoriasis</td>
<td>22 May 2014</td>
<td>2016</td>
<td>No</td>
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<td>Merck</td>
<td>A 52-Week, Phase II Randomized Double-Blind Placebo-Controlled Rosh Design Study to Evaluate the Efficacy and Safety of a New Oral Anti-Inflammatory in Subjects With Moderate-to-Severe Chronic Plaque Psoriasis (Protocol No. MK-3222-010)</td>
<td>26 Apr 2013</td>
<td>2019</td>
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<td>Celgene</td>
<td>A Phase 3B, multicenter, randomized, placebo-controlled, double-blind, double-dummy study of the efficacy and safety of apremilast (CC-10004), Etanercept, and placebo in subjects with moderate to severe plaque psoriasis</td>
<td>13 Feb 2014</td>
<td>2016</td>
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<td>Coherus Biosciences</td>
<td>A Double-blinded, randomised, parallel-group, active-control study to compare the efficacy and safety of CHS-0214 versus Enbrel in subjects with chronic Plaque Psoriasis (CHS-0214-04) (RaPsOdy)</td>
<td>23 Oct 2014</td>
<td>2016</td>
<td>No</td>
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<td>Janssen Research &amp; Development</td>
<td>A Phase 3, multicenter, randomized, double-blind, placebo- and active comparator-controlled study comparing the efficacy and safety of Opro-E 0334B versus Ego-Finco in subjects with chronic Plaque Psoriasis (Opro-E 0334B-h1H) (Opro-E 0334B-h1H)</td>
<td>23 Oct 2014</td>
<td>2016</td>
<td>No</td>
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<td>Regeneron</td>
<td>A randomized, placebo-controlled study to demonstrate the efficacy and long-term safety of subcutaneous Raloximab to adult subjects with moderate to severe plaque psoriasis</td>
<td>19 Mar 2015</td>
<td>2018</td>
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<td>MedImmune</td>
<td>A randomized, placebo-controlled study to demonstrate the efficacy and safety of Tolakumab in adult subjects with moderate to severe plaque psoriasis</td>
<td>14 Apr 2015</td>
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</table>
TOPICAL THERAPY

BASES: CREAMS:
Creams are a mixture of oil and water, appear white, and rub in well to the skin. Surfactants prevent the oil and water separating. Preservatives prevent bacterial and fungal contamination. Drugs such as steroids can be applied to the skin in a cream base, or creams can be used as moisturisers.

OINTMENTS:
Ointments are oils and greases, are clear (look like Vaseline), and do not rub in well to the skin. Some patients do not like them because they can be greasy to use.
Ointments do not require surfactants or preservatives.

LOTIONS:
Lotions are liquids. They contain a large proportion of either water or alcohol.

MOISTURISERS:
In general moisturisers act by either placing a waterproof seal on the skin that prevents transepidermal water loss or by merely adding an oil to the S.corneum. Rather than evaporating from the skin surface water may be trapped within the skin so moisturising it.
The heavier the moisturiser the more effective it will be at trapping water in the skin. Moisturisers can be made heavier by reducing the proportion of water, or adding a denser oil (paraffin).
Examples of light moisturisers include:
aqueous cream sorbolene cream
Examples of intermediate moisturisers include:
5% peanut oil in aqueous cream 10% olive oil in aqueous cream
10% glycerine in sorbolene cream 10% urea cream
Examples of heavier moisturisers include:
50% white soft paraffin in liquid paraffin emulsifying ointment yellow soft paraffin or white soft paraffin alone.
EMOLIENTS

Preservatives are added to products with high water content, e.g. creams, lotions, and shampoos, to inhibit the growth of moulds or bacteria and prevent spoilage. All preservatives are capable of producing irritant or allergic contact dermatitis.
ABSORPTION ENHANCEERS

- A number of chemical agents can be added to the vehicle base to enhance percutaneous absorption of certain drugs. These agents include propylene glycol, dimethyl sulfoxide (DMSO), cetrimide, and sodium lauryl sulfate.

ANTIOXIDANTS

- Antioxidants are sometimes added to topical preparations to increase the stability of formulations that are susceptible to oxidation. These agents act either by reacting with free radicals and blocking oxidation by competing for oxidation (reducing agents), or by enhancing the action of other antioxidants.
EMULSIFIERS

• Emulsifiers are added to stabilize complex ingredients, vehicles, and additives. For water-based preparations, the issue of ion compatibility must be considered when emulsifiers are selected.

CALAMINE

• Calamine is zinc carbonate or zinc oxide powder mixed with a small amount of ferric oxide, which gives it its pink colour. It is a mild astringent and antipruritic, and is used as a soothing and protective application in dusting powders, creams, lotions, and ointments.
MENTHOL

- Menthol is a crystalline substance obtained from mint oils or prepared synthetically. When applied topically, it will dilate blood vessels and cause a cooling and analgesic effect. It is used in creams and ointments to relieve itching in pruritus. However, it has the potential to cause allergic reactions and contact dermatitis, and may sting if applied to broken skin.

KERATOLYTICS

- Keratolytics are used to remove hyperkeratotic skin in conditions such as dermatitis, seborrhoeic dermatitis, ichthyosis, psoriasis, palmoplantar keratoderma, warts, and acne.
- Salicylic acid and benzoic acid are keratolytic agents with mild bacteriostatic and antifungal properties. They are both mild irritants and can themselves cause dermatitis.
KERATOLYTICS

- Urea is a mild bactericidal keratolytic agent and promotes hydration of the skin by increasing the ability of the epidermis to absorb water. It is used as a 10% cream for moisturizing, or a 20 to 60% soak solution for the treatment of hyperkeratotic dermatitis.
- Propylene glycol is a keratolytic agent with some bactericidal and fungicidal properties. A 40 to 60% solution applied under occlusion can be used to clear scaling skin in hyperkeratotic eczema.

SUNSCREEN

- Sunscreen active agents work by either absorbing or reflecting UV radiation. Absorbent sunscreen chemicals act mainly in the UV range, whereas reflectants provide a barrier against UV, visible light, and infrared radiation.
- The majority of sunscreen products combine agents that absorb in the ultraviolet B (UVB) range (wavelengths 290–320 nm) with agents that absorb in the UVA range (wavelengths 320–360 nm) to provide broad-spectrum coverage.
- Many products also include a reflectant, such as titanium dioxide, which increases the protection but can give the skin a white appearance. Zinc oxide is used as a physical sun barrier for the protection of the ears and nose, which often receive high sun exposure.
SUNSCREEN

Physical blockers (reflectants)
- Zinc oxide, titanium dioxide, talc, red petrolatum

UVB absorbers
- Salicylates—octyl salicylate, homosalate
- Cinnamates—octyl and isooctyl p-methoxycinnamate
- Camphor derivatives—4-methylbenzylidene camphor
- Aminobenzoates—p-amino benzoic acid (PABA), padimate-O (octyl dimethyl PABA), methyl anthraquinil

UVA absorbers
- Benzophenones—benzophenone-6, oxybenzone
- Dibenzoylmethanes—dibenzylmethane, avobenzone (butylmethoxydibenzyl methale)

TOPICAL STEROIDS

- Topical steroids are arbitrarily divided according to potency into four groups. Each group is approximately 5 to 10 times stronger than the next group.
### TOPICAL STEROIDS

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clobetasol dipropionate</td>
<td>Beteamethosone dipropionate 0.05%</td>
<td>Beteamethosone Valerate 0.02%</td>
<td>Clobesone butyrate 0.05%</td>
</tr>
<tr>
<td>Betamethosone dipropionate OV</td>
<td>Triaminolone acetonide 0.05%</td>
<td>Betamethosone Valerate 0.1%</td>
<td>Desonide 0.05%</td>
</tr>
<tr>
<td>Betamethosone Valerate 0.1%</td>
<td>Mometosone Furoate 0.1%</td>
<td>Methylandroisone acepronate 0.05%</td>
<td>Methylprednisolone aceponate 0.05%</td>
</tr>
</tbody>
</table>

Steroid creams are less greasy than ointments and are most appropriate for:
- weeping or oozing skin conditions
- skin diseases involving the flexures
- hairy areas such as the scalp
- skin diseases not associated with dry skin
- patients who have dry skin but do not like to use ointments

Steroid ointments act as strong moisturisers and enhance the penetration of their active ingredient into the skin. They are most appropriate for:
- patients with dry eczema
- patients with other dry skin conditions, e.g. psoriasis

Steroid lotions tend to dry out the skin and are not appropriate for dry skin conditions such as eczema. They are most useful for treating conditions of the scalp as ointments can be difficult to apply and remove from hairy skin.
TOPICAL STEROIDS

- Topical steroids are arbitrarily divided according to potency into four groups. Each group is approximately 5 to 10 times stronger than the next group.

TOPICAL STEROIDS

Potential side-effects of steroid preparations include:
- skin atrophy
- stretch marks
- telangiectasia
- easy bruising
- folliculitis (especially on the legs)
- peri-oral dermatitis if class 2, 3, or 4 steroids are used on the face
- cataracts and glaucoma if applied to eyelids
- those attributable to systemic absorption of systemic steroids
CRUDE COAL TAR (CCT) IS:
- thick, black, and has strong odour
- usually prescribed in percentages from 0.5% to 10%
- 3 to 5 times stronger than LPC (w/w)
- is insoluble in water and thus not normally used in creams

LIQUOR PICIS CARBONIS (LPC) IS:
- fractionated coal tar (easier to use than crude coal tar)
- grey and has a mild odour
- usually prescribed in percentages from 3% to 12%
- is soluble in water and thus can be used in creams

Tar products may irritate the skin and can produce folliculitis.
Initially a weak strength is prescribed and in the absence of irritation, the concentration of the tar preparation is gradually increased.
DITHRANOL

- Dithranol cream is thick, yellow in colour and has a mild odour. It has a limited shelf life of about 6 weeks. It turns yellow when oxidised and no longer active. The shelf life is prolonged by the addition of salicylic acid.

DITHRANOL

- is prescribed in concentrations of between 0.1% and 3%
- is usually prescribed with salicylic acid 3% to 6%
- frequently irritates non-lesional skin and so is often put into a thick non-runny base so as to be more precisely applied to lesional skin
- may irritate lesional skin and so is usually prescribed in low concentration, which in the absence of irritation is gradually increased
- may stain skin, clothing and bathroom fixtures
DITHRANOL

Short contact dithranol therapy:
• utilises the concept that dithranol is absorbed better through plaques of psoriasis than normal skin
• allows higher initial concentrations of dithranol to be used without irritation
• the cream is applied for 10 minutes before being washed off with a paraffin soaked cloth
• in the absence of irritation the cream is progressively left on for longer periods before being removed.

TACROLIMUS/PIMECROLIMUS

• Both Pimecrolimus and tacrolimus can be formulated as topical agents. They have anti-inflammatory activity similar to a Class I or Class II topical corticosteroid and are used in atopic dermatitis, seborrhoeic dermatitis, lichen planus, vitiligo, psoriasis.
• Both agents can be used on the face with minimal risk of aggravating rosacea or inducing peri-oral dermatitis.
• The United States Food and Drug Administration (FDA) mandated that topical pimecrolimus packaging would be required to carry a black box warning regarding the potential increased risk of lymph node or skin malignancy.
• Topical tacrolimus is formulated extemporaneously as a 0.1% ointment for use on the body or 0.03% ointment for use on the face.
CALIPORIOL

- Calcipotriol is an analogue of 1,25-dihydroxycholecalciferol, the active form of vitamin D.
- It shares with the vitamin affinity for an intracellular receptor, combination with which reduces epidermal proliferation and inhibits interleukin 1 (IL-1) and T-cell function.
- It is used topically as an ointment or cream in local treatment of plaque psoriasis.
- Adverse effects include erythema and irritation.
- The theoretical possibility of hypercalcaemia, renal calculi, and ectopic calcification due to absorption is not a practical problem unless it is applied to large areas of inflamed skin. It should not be used on the face or flexures.

ULTRAVIOLET LIGHT

- Therapy involves a patient attending for ultraviolet B from a standing or horizontal machine for between 1 - 15 minutes, 2 or 3 times a week

- Narrowband UVB uses globes that emit light at 311nm precisely (the action spectrum for psoriasis). These lamps are less likely to induce sunburn than ordinary UVB lamps
Acne vulgaris

All acne treatments are preventative. They do not affect the pimples already formed, but prevent the next wave developing.

Patients need to be given realistic expectations regarding how long it will take before they begin to notice any benefit from the treatment.

Patients should be told to expect:
- little or no improvement for 4 weeks
- 60% improvement in 3 months
- 80% improvement in 6 months

In general, treatment should be used correctly for 3 months before deemed unsuccessful.
ACNE

<table>
<thead>
<tr>
<th>First Line</th>
<th>Second line</th>
<th>Third Line</th>
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<tbody>
<tr>
<td>Retinoic acid cream and gel (particularly for comedones)</td>
<td>oral tetracycline (500mg bd)</td>
<td>Spironolactone</td>
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<tr>
<td>Adapalene gel 0.1%</td>
<td>oral erythromycin (500mg bd)</td>
<td>Isotretinoin</td>
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<tr>
<td>Isotretinoin cream and gel</td>
<td>oral cotrimoxazole (one tablet bd)</td>
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<tr>
<td>Glycolic acid creams (for comedones)</td>
<td>oral doxycycline (50mg bd)</td>
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<tr>
<td>Benzyl peroxide cream and gel (2.5% to 10% solutions)</td>
<td>oral minomycin (50mg bd)</td>
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<tr>
<td>Azelic acid cream</td>
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<td></td>
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<tr>
<td>Topical clindamycin 1% solution</td>
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<td></td>
</tr>
<tr>
<td>Topical erythromycin 2% cream</td>
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</table>

Isotretinoin is a potent teratogen. Women must not conceive whilst taking isotretinoin and for 1 month after cessation. It can only be prescribed by dermatologists.
ROSACEA

- The aetiology is unknown. Controversy surrounds the suggestion that it is triggered by demodex mites, although over-abundance of this normal skin commensal may be an association of unilateral rosacea.
- It has also been postulated that solar induced damage to elastic fibres in the dermis of the face impair flow of extravasated fluid and protein into the lymphatic circulation, which induces the swelling of the face and may contribute to flushing and erythema.

ROSACEA

CONSERVATIVE MANAGEMENT
- Identify and avoid triggers such as:
  - Alcohol, hot drinks, spicy foods or any other foodstuff that may precipitate flushing
  - Exposure to direct heat, such as an open fires that may also induce flushing
  - Fluorinated and other strong topical steroids must be avoided
  - Demodex
  - Solar damage
  - Skin irritants such as topical retinoids which may aggravate the erythema and telangiectases
ROSACEA

• **TOPICAL**
  - Metronidazole gel (0.75%)
  - Azelaic acid
  - Brimonidine gel 0.33% (mirvaso)
  - 1% sulphur ointment
  - Low irritancy sunscreen

• **ORAL**
  - Tetracycline
  - Doxycycline
  - Minocyclin
  - Erythromycin
  - Trimethoprin
  - Metronidazole
  - Isotretinoin

In general oral antibiotic treatment is required for at least 6 weeks.
Many patients will experience a dramatic improvement in 2-3 weeks in erythema and papule and pustule formation.
On cessation of antibiotics about a third of patients relapse within 12 months and may require long-term antibiotic therapy.
Flushing may not respond completely to antibiotic therapy, but may sometimes be helped by clonidine or rarely aspirin.
Some patients have difficulty stopping fluorinated and other strong topical steroids, or rebound dramatically when these agents are stopped. If this is the case 1% hydrocortisone cream may be used initially and slowly weaned.
Fine wire diathermy or vascular laser therapy for telangiectasias.
Shave excision or carbon dioxide/erbium laser ablation for rhinophyma.
PERIORAL DERMATITIS

- Perioral dermatitis is a variant of rosacea characterised by papules and pustules around the mouth with a zone of sparing immediately adjacent to the vermilion. Flushing is uncommon.
- Most common in women who use potent fluorinated steroids on the face.
- It is also seen in women who have not used steroids on their face especially during pregnancy.
- It may occasionally be seen in men and may also occur around the eyes (periocular dermatitis).

PERIORAL DERMATITIS

Oral antibiotics for up to 6 weeks:
- Tetracycline
- Doxycycline
- Minocyclin
- Erythromycin
- Trimethoprin

Some patients find it difficult to stop using fluorinated topical steroids, or rebound dramatically when the fluorinated topical steroids are stopped. If this is the case 1% hydrocortisone cream may be used initially and slowly weaned.
Seborrhoic Dermatitis

- a chronic relapsing inflammatory condition of infants and then again in adults.
- bimodal age incidence with an infantile and adult form occurring in the late teens. In the adult form there is dandruff on the scalp, crusting in the eyelashes (blepharitis), and a red, greasy, scaly rash on the sides of the nose and the skin flexures.
- In infants, it produces cradle cap and nappy rash

Seborrhoic Dermatitis

- Seborrheic dermatitis is an idiopathic inflammatory skin disease that shows overlapping features with psoriasis.
- Yeast cells of Pityrosporum ovale are commonly found in increased numbers in affected skin.
- Antifungal therapy may be effective when used alone or in combination with topical steroids.
- Adults should be warned that even after successful initial treatment, this condition is likely to relapse and maintenance therapy may be required.
- Infants may also be affected on the scalp (cradle cap), flexures and napkin areas. It is asymptomatic and the eruption usually clears spontaneously by the age of 6-8 weeks.
Seborrhoic Dermatitis

<table>
<thead>
<tr>
<th>Skin</th>
<th>Scalp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1% hydrocortisone cream</td>
<td>zinc pyrithione shampoo</td>
</tr>
<tr>
<td>2% ketoconazole cream and shampoo</td>
<td>selenium sulfide shampoo</td>
</tr>
<tr>
<td>2% miconazole cream and shampoo</td>
<td>2% ketoconazole shampoo</td>
</tr>
<tr>
<td>1% sulphur, 1% salicylic acid</td>
<td>Tar/salicylic shampoo</td>
</tr>
<tr>
<td>Methylprednisolone aceponate</td>
<td>Steroid lotion or shampoo</td>
</tr>
</tbody>
</table>

Overview

- Prevalence 2%
- Two age peaks:
  - 20–30 YO
  - 50–60 YO
- 2/3 mildly affected
- Chronic, relapsing
- 30% itchy
- Significant quality of life Δ
- Psoriatic arthritis 5–30%
Overview

• Inheritance important
• T cell immunity a key
• Cytokines induce neutrophils
• Rapid epidermal turnover
• Altered epidermal function
• Systemic effects (joints, metabolic)

Genetics:
• Polygenic
• Twins: monozygotic vs dizygotic

Susceptibility genes:
• PSORS-1 locus = HLA Cw6 & corneodesmosin genes
• HLA Cw6:
  - 90% c early-onset psoriasis
  - 50% c late onset psoriasis
  - 7% normal population
Genetics:

- **PSORS-2:** recently identified:
  - Caspase recruitment domain family-14 (CARD14)
  - Mutant gene higher activation of NF-κB activating transcription factor
- Roles of genes for:
  - IL-12B & IL-12 receptor
  - IL-23A & IL-23 receptor
  - IL-4 to IL-13 gene cluster
  - ERAP1 (role in MHC class I processing)
  - And more

- **PSORS1** = most prevalent (@ 50% of heritability)
- **PSORS2, PSORS3 & PSORS4** associated c gene loci of susceptibility for:
  - Metabolic syndrome
  - Type 2 diabetes
  - Familial hyperlipidemia
  - Cardiovascular disease
Immunology:
- T cell driven
  - $T_\text{H}1$ response (macrophage driven intracellular immunity)
  - $T_\text{H}17$ response (extracellular immunity & auto-immunity)
- Key cytokines
  - IFN$\gamma$
  - TNF$\alpha$
  - IL-17
  - IL-23
  - More

Precipitating / aggravating factors
- Infection
  - Streptococcal sore throat
  - HIV
- Drugs
  - Lithium
  - B-blockers
  - Antimalarials
  - Corticosteroid withdrawal
- Physical injury
  - Scratching
  - Sunburn
- Stress
- Excessive alcohol
Types of psoriasis

- Plaque
- Guttate
- Erythrodermic
- Flexural
- Pustular
  - Localised
  - Generalised
- Local forms
  - Scalp
  - Nail
  - Flexural
  - Palmo-plantar

Nails
- Pitting
- Onycholysis
- Subungual hyperkeratosis
- Salmon spots

Arthritis
- Oligoarthritis
- Distal symmetrical polyarthritis
- Ankylosing Spondylitis
- Rheumatoid-like
- Arthritis mutilans

Psoriasis

Plaques
- Red
- Scaly
- Well demarced
- Slightly itchy
- Often symmetrical
Psoriasis

Plaque psoriasis

Psoriasis

Different sites requiring special consideration
Psoriasis

Acute guttate psoriasis

Psoriasis

Flexural psoriasis
Psoriasis

Hand psoriasis

Psoriasis

Plantar pustular psoriasis
Clinical types

Erythrodermic psoriasis:
- most severe form
- > 90% BSA
- may be febrile, sore, unwell
- poor temperature regulation
- high output heart failure

Psoriasis

Generalized pustular psoriasis
Rupoid Psoriasis

Psoriasis

Nail pitting and subungual hyperkeratosis
Psoriasis

Psoriatic arthritis

First Line Treatment

- TOPICAL CREAM, OINTMENT, LOTION & GEL
  - Glucocorticosteroids
  - Calcipotriol
  - Tar
  - Dithranol
  - Keratolytics
  - Retinoids (Tazarotene)
  - Pimecrolimus, tacrolimus
Daivobet gel: Rapid onset of action

Week 0

Week 1

Week 2

Daivobet gel: Rapid onset of action

Week 0

Week 1

Week 4
A National Psoriasis Foundation survey of 40,350 members (>17,000 respondents) found:

- Patients underestimate disease severity
- Average of 26 minutes/day to treat with topicals
- Severe psoriasis patients dissatisfied with treatment
  - 87% reported treatment with topical agents
  - 78% frustrated with lack of efficacy

Patient Opinion on Psoriasis Treatment

Second Line Treatment

- PHOTOTHERAPY
  - UVB
    - Narrowband
    - Broadband
      - Whole body
      - Localised
  - PUVA
    - Oral
    - Bath
    - Topical
    - Excimer laser
Third Line Treatment

- **SYSTEMIC AGENTS**
  - Methotrexate
  - Acitretin
  - Cyclosporin
  - Apremilast

- **Biologic therapies**
  - Amgen
  - Raptiva
  - Enbrel
  - Ramicade
  - Humira
  - Stellara
  - Cosentyx

Response to Biologic Therapy

<table>
<thead>
<tr>
<th>PASI score</th>
<th>Baseline</th>
<th>1 month</th>
<th>3 months</th>
<th>6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASI % improvement</td>
<td>31.6</td>
<td>5.7</td>
<td>1.3</td>
<td>0.6</td>
</tr>
<tr>
<td>PASI % improvement</td>
<td>82</td>
<td>96</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>
At 10 weeks

PASI Score

- Requirement for biologic therapy
- Patient must have tried and failed to achieve adequate response from or had unacceptable toxicity with 3 out of 4 of Cyclosporin, UVB, Neotigason, Methotrexate
- Failure to respond documented with PASI score before and after treatments
Therapeutic intervention

- Anthralin
- Topical corticosteroids
- Calcipotriene
- Tazarotene
- UVB
- PUVA
- Etretinate
- Cyclosporine
- Methotrexate

Length of remission/relapse

- Anthralin: 3.9 to 6 months
- Topical corticosteroids: Fluocinonide cream: 55% relapsed in 12 weeks, Betamethasone dipropionate ointment: 66% relapsed in 84 days; 20% relapsed over 6 months
- Calcipotriene: Mean relapse-free period 43.3 days
- Tazarotene: 18% to 37% relapsed within 12 weeks
- UVB: 41% relapsed within 1 month; 83% relapsed by 6 months
- PUVA: 42% still clear 1 year after treatment
- Etretinate: Average of 8 weeks before any sign of increasing psoriasis or appearance of new lesions
- Cyclosporine: Average of 6 weeks before PASI returns to 50% of the baseline pretreatment value
- Methotrexate: Median time to relapse 10 weeks to 6 months

Limitations/Toxicities of Available Antipsoriatic Therapies

**Systemics**

- Cyclosporine: Renal toxicity and hypertension, Potential for ↑ cancer risk, Hyperlipidemia
- Methotrexate: Hepatotoxicity, Bone marrow suppression
- Retinoids: Teratogenicity, Hyperlipidemia, Skeletal abnormalities

**UV Light**

- Skin cancer

**Topicals**

- QOL; patient time requirements, Adrenal suppression, Thinning of skin; striae; telangectasia
Plaque psoriasis

Atopic eczema

Scalp treatments
Emollient therapy

What’s commonly compounded

- Coal tar solution (2-6%)
- Salicylic acid (2-10%)\(^1\)
- Sulphur (2-6%)
- Dithranol (0.1-2%)
- Tacrolimus (0.03%-0.1%)\(^2\)

Usually in emulsifying ointment or soft paraffin base – creams or gels for scalp

\(^1\) with corticosteroid \(^2\) prescription only
Some counselling points

• Compliance issues
  – Tar and dithranol are messy to use, have an unpleasant odour and can stain skin and clothing

• Emollient use
  – Patients need to be reminded they should be used regularly and liberally

• Bath additives
  – May make the bath slippery

• Provide Pharm Soc Psoriasis “Self Care” fact card

Case study: “Rebekah Hall”

• 28-year-old woman
• Presents with bilateral dry, red, scaly patches on her knees, feet, knuckles and elbows, with occasional itchiness
• 3 months since onset
• Feels that condition is worsening
• No history of atopy

*Rebekah Hall* is not a real patient. Image is used for illustration purposes only.
Physical examination

Knuckles
• Lesions on knuckles
• Right hand is worse

Nails
• Pitting
• Discoloration

Scalp
• Patchy scaling
• Persistent “dandruff”
• Scaling around external acoustic meati

Trunk
• Mild lesions on lower back
Discussion

What is your provisional diagnosis?

Differential diagnoses

- Contact dermatitis
- Eczema
- Lichen planus
- Neoplasms
- Psoriasis
- Tinea
Rebekah Hall: diagnosis

- Rebekah is diagnosed with psoriasis vulgaris
- Psoriasis vulgaris, or chronic plaque psoriasis, is the most common form of psoriasis, affecting 85–90% of people with psoriasis¹

Likely triggers²
- Genetic propensity
- Stress
- Skin trauma


Discussion

What treatment options could you offer?
Rebekah Hall: treatment

Body
- Dithranol 1%
- Soap substitute to wash it off

Scalp
- Tar shampoo

Rebekah Hall: 2 weeks later

- Rebekah returns with very mild initial improvement of her body and scalp psoriasis
- She admits to skipping the daily treatment required because:
  - Dithranol irritates her skin and leaves brown patches
  - She dislikes the smell of coal tar
- She asks if there is anything different she can try
Discussion

What other treatments options might be more suitable for Rebekah?

Rebekah Hall: treatment

**Body**
- Calcipotriol/betamethasone dipropionate ointment
- Emollients as required

**Scalp**
- Calcipotriol/betamethasone dipropionate gel
Prognosis

• Incurable but manageable with the right treatment regime
• Nail involvement increases likelihood of arthritis\(^1\)
• Scalp psoriasis may also be an indicator of joint symptoms later in life\(^2\)


Summary

• Careful examination of the skin, nails and scalp is important in diagnosing chronic skin lesions, particularly psoriasis
• Psychological assessment and monitoring of patients are important
• Treatment adherence should be monitored for best clinical outcomes
• When prescribing drugs, be mindful of patient’s overall health
• Appropriate treatment, psychological support and a good healthcare professional–patient relationship are key factors in maximising treatment adherence