Skin	
PC	**Rash**
HPC	**Onset** • When did the skin problem start? • Was the onset acute or gradual? **Course** – has the rash/skin lesion changed over time? **Intermittent or continuous –** is the skin problem always present or does it come and go? **Duration of the symptom if intermittent –** minutes/hours/days/weeks/months/years **Location/distribution:** • Where is the skin problem? • Number of lesions? • Is it spreading? **Precipitating factors –** are there any obvious triggers for the symptom? **Relieving factors –** does anything appear to improve the symptoms (e.g. steroid cream)? **Associated features –** are there other symptoms that appear associated (e.g. fever/malaise)? **Previous episodes –** has the patient experienced this problem previously? • When? • How long for? • Was it the same or different than the current episode? **Previous or current treatment for this skin problem (did it work?):** • Prescribed medication • Over the counter medication **Contact history –** has the patient been in contact with an infectious skin problem (e.g. chickenpox)? **Sun exposure** (including sunbed use) • Important when considering skin cancer in the differential diagnosis • Ask patient about how their skin reacts to sun exposure to help determine their skin type (Fitzpatrick scale) Key Symptoms 1. **Pain** 2. **Itch** 3. **Bleeding**

	4. **Discharge** 5. **Blistering** 6. **Systemic symptoms –** *fever / malaise / weight loss / arthralgia* **If any of these symptoms are present, gather further details as shown above** *(Onset / Duration / Course / Severity / Precipitating factors / Relieving factors / Associated features / Previous episodes)* **Pain** **If pain is a symptom, clarify the details of the pain using SOCRATES** • **S**ite – where is the pain? • **O**nset – when did it start? / sudden vs gradual? • **C**haracter – sharp / dull ache / burning • **R**adiation – does the pain move anywhere else? • **A**ssociations – other symptoms associated with the pain? • **T**ime course – worsening / improving / fluctuating / time of day dependent • **E**xacerbating / Relieving factors – does anything make the pain worse or better? • **S**everity – on a scale of 0-10, how severe is the pain?
PMH	**Skin disease** • Skin cancer • Atopy – eczema / hay fever / asthma • Other dermatological conditions **Other medical conditions –** many of which can have dermatological manifestations • Diabetes – *acanthosis nigricans / scleroderma diabeticorum / necrobiosis lipoidica diabeticorum* • Inflammatory bowel disease – *pyoderma gangrenosum / erythema nodosum*
MEDICATION	1. **Skin treatments –** creams / ointments / UV therapy / antibiotics / biologics 2. **Regular medication** – including length of treatment (paying particular attention to those started around the time of the skin problem) 3. **Antibiotics** 4. **Over the counter drugs** **Cosmetics** 5. **Herbal remedies**

Allergies	**Common cause of rashes – *ensure to document these clearly***
Family History	**Skin conditions –** e.g. psoriasis / hereditary hemorrhagic telangiectasia **Skin cancer** **Atopy –** eczema / asthma / hay fever
Social History	**Occupation:** • Are the skin problems worse at work? • Do the skin problems improve when the patient is off from work? • Is the patient exposed to any skin irritants or other hazardous substances? **Smoking** – How many cigarettes a day? How many years have they smoked for? **Alcohol** – How many units a week? – *type / volume / strength of alcohol* **Recreational drug use** – *e.g. cellulitis from IV drug injection sites* **Living situation:** • Own home/care home – *adaptations / stairs?* • Who lives with the patient? – *is the patient supported at home?* • Any carer input? – *what level of care do they receive?* • Any recent changes at home that could be related to skin problems *(e.g. new detergent causing allergic reaction to clothing)* **Activities of daily living:** • Is the patient independent and able to fully care for themselves? • Can they manage self-hygiene/housework/food shopping? • **Where did the patient travel to?** • **How long was the patient there?** • **Is the patient aware of any exposure to infectious disease?** • **Sun exposure – was the skin problem worsened by sun exposure? *(e.g. facial rash in lupus)***

Systemic Enquiry	**Systemic enquiry** *involves performing a brief screen for symptoms in other body systems.* *This may pick up on symptoms the patient failed to mention in the presenting complaint.* *Some of these symptoms may be relevant to the diagnosis (e.g. arthralgia in psoriatic arthritis).* Choosing which symptoms to ask about depends on the presenting complaint and your level of experience. **Cardiovascular** – *Chest pain / Palpitations / Dyspnoea / Syncope / Orthopnoea / Peripheral oedema* **Respiratory** – *Dyspnoea / Cough / Sputum / Wheeze / Haemoptysis / Chest pain* **GI** – *Appetite / Nausea / Vomiting / Indigestion / Dysphagia / Weight loss / Abdominal pain / Bowel habit* **Urinary** – *Volume of urine passed / Frequency / Dysuria / Urgency / Incontinence* **CNS** – *Vision / Headache / Motor or sensory disturbance/ Loss of consciousness / Confusion* **Musculoskeletal** – *Bone and joint pain / Muscular pain*

Examination

1. **Observe if the patient appears comfortable at rest**
2. **Observe the number of skin lesions**
3. **Observe the location and distribution of any skin lesions:**
   - **Acral – affecting distal areas, hands and feet**
   - **Extensor – extensor surfaces, elbows, knees**
   - **Flexural – flexural surfaces, axillae, genital areas, cubital fossa**
   - **Follicular – arising from hair follicles**
   - **Dermatomal – corresponding with nerve root distribution**
   - **Seborrhoeic – associated with areas where there are sebaceous glands, face and scalp**
4. Close inspection of individual lesions

Asses Lesions

1. Size - width/height (if raised)
2. Configuration of the lesion(s) - refers to the shape or outline of skin lesions. The pattern of multiple lesions or shape of an individual lesion can assist in diagnosis.
3. **discrete or confluent**
4. **shape of the lesion(s)**
5. **border of the lesion(s) –** well defined vs poorly defined

Types of configurations

- **Discrete lesions –** individual lesions, clearly separated from one another

- **Confluent lesions –** lesions that appear to be merging together
- **Linear lesions –** e.g. scratching related lesions
- **Discoid (coin shaped) –** discoid eczema/discoid lupus
- **Target lesions –** concentric rings of varying colour – resembles a bullseye – *erythema multiforme*
- **Annular** – ring like lesions

Colour of the lesion

1. **Erythema:**
   - Redness of the skin
   - Caused by increased blood supply
   - Blanches when pressure is applied to it
2. **Purpura:**
   - Reddish/purple discolouration of the skin
   - Caused by bleeding into the skin
   - Do not blanch when pressure is applied
   - Types of purpura include:
     - Petechiae – small red/purple spots on the skin (<2mm in width)
     - Ecchymosis – larger red/purple lesions (>2mm) – commonly referred to as a bruise
3. **Hyperpigmentation:**
   - An increased amount of melanin production results in hyperpigmentation of the skin
   - It can be diffuse or focal and has many causes
4. **Hypopigmentation:**
   - Areas of paler skin caused by melanocyte and melanin depletion or dysfunction.
   - Pityriasis versicolour is a superficial fungal infection of the skin that impairs melanocyte function resulting in hypopigmentation.
5. **Depigmentation:**
   - Depigmentation describes the absence of melanin within the skin resulting in the skin appearing completely white.
   - Vitiligo is an autoimmune condition that results in the destruction of melanocytes and therefore the loss of pigment in the areas of skin affected.

Morphology

Assess the form and structure of the lesion – Is the lesion flat, raised above the plane of skin, or depressed below the plane of skin?

Primary Lesions

Macule – a flat area of altered colour <1.5cm in diameter
Patch – a flat area of altered colour >1.5cm in diameter
Papule – solid raised palpable lesion <0.5cm in diameter
Nodule – solid raised palpable lesion >0.5cm in diameter
Plaque:

- palpable flat lesion usually >1cm in diameter
- most are raised, but some may just be thickened without being visible raised
- its borders may be well defined or poorly defined

Vesicle – raised, clear fluid filled lesion <0.5cm in diameter
Bulla – raised, clear fluid filled lesion >0.5cm in diameter
Pustule – pus containing lesion <0.5cm in diameter
Abscess – localised accumulation of pus
Wheal – oedematous papule or plaque caused by dermal oedema.
Boil / furuncle – staphylococcal infection around or within a hair follicle
Carbuncle – staphylococcal infection of adjacent hair follicles (multiple boils/furuncles)

Secondary Lesions

Secondary lesions are modifications of primary lesions that occur due to trauma to, or evolution of, the primary lesion.

1. **Excoriation –** loss of epidermis associated with trauma
2. **Lichenification**
   Thickening of the epidermis seen with exaggeration of normal skin lines
   It is usually due to chronic rubbing or scratching of an area
3. **Scales**
   Visible fragments of the stratum corneum as it is shed from the skin
   Most commonly associated with psoriasis
4. **Crust:**
   Rough surface consisting of dried serum, blood, bacteria and cellular debris
   The serum, blood, bacteria and debris has usually exuded through an eroded epidermis
5. **Scar**
   New fibrous tissue which occurs after skin injury
   Atrophic scarring – thinning of the normal tissue
   Hypertrophic scarring – hyperproliferation of scar tissue within the wound boundary
   Keloidal scarring – hyperproliferation of scar tissue beyond the wound boundary

6. **Ulcer**
   Localised defect in the skin of irregular size and shape where epidermis and some dermis have been lost
   Results in scarring
7. **Fissure**
   Sharply-defined, linear or wedge-shaped tears in the epidermis with abrupt walls
   Usually due to excess dryness
8. **Striae**
   Often referred to as stretch marks
   Evolution in colour = Purple -> Pink ->White
   Associated with growth spurts, excess steroid use or production and pregnancy

Assessment of a pigmented lesion

If lesion is pigmented use the ABCDE assessment method[3]

1. **Asymmetry** more suggestive of sinister pathology
2. **Border irregularity**
   Are the edges of the lesion well defined?
   Less defined borders are more suggestive of sinister pathology
3. **Colour variation or changes**
   Is the colour consistent?
   Two or more colours within one lesion is more suggestive of sinister pathology
4. **Diameter**
   Has there been a change in size of the lesion?
   Increasing size, particularly over 6mm diameter is more concerning
5. **Elevation/evolution**
   Changes in colour, size, symmetry, surface characteristics, and symptoms.
   Symptoms include itching, bleeding and scabbing of the lesion
6. If you feel a lesion is concerning you should perform a comprehensive systematic examination of other areas:

a. Inspect the rest of the skin for suspicious pigmented lesions or dysplastic naevi
b. Palpate major lymph nodes in the regional drainage area

Palpation of Skin Lesions

Don gloves if the skin lesion is felt to be infective or is likely to expose you to bodily fluids *(e.g. blood/pus)*.

Assess surface characteristics of the lesion

- **Texture – smooth/rough – e.g. roughness in hyperkeratosis (scales)**
- **Flat, raised or depressed?**
- **Crust – if present, are you able to remove crust and see what is underneath?**
- **Temperature – is the lesion warm?**

Assess deeper characteristics of the lesion

- **Consistency – hard/soft/firm/fluctuant**
- **Mobility – is the lesion attached to the underlying/overlying tissue?**
- **Tenderness – is the lesion tender on palpation?**

Nails, hands and elbows

Assess the nails, hands and elbows for signs associated with dermatological disease

1. **Nail pitting**
   Punctate depressions of the nail plate
   Associated with eczema, psoriasis and alopecia areata
2. **Onycholysis**
   Separation of the distal end of the nail plate from the nail bed
   Associated with psoriasis and fungal nail infection
3. **Koilonychia**
   Spoon shaped indentation of the nail plate
   Associated with iron deficiency anemia, can also be congenital
4. **Nail clubbing:**
   Loss of the angle between the posterior nail fold and nail plate
   Associated with many conditions including inflammatory bowel disease, cyanotic heart disease, lung cancer, bronchiectasis

Elbows

- Xanthomas – secondary to underlying hyperlipidaemia
- Psoriasis plaques on elbows

Hair and scalp

1. **Loss of hair**
   Alopecia areata – *well defined patches of hair loss with surrounding normal hair*

Alopecia totalis – *loss of all hair from the scalp (affects 5% of those with autoimmune hair loss)*

2. **Excess hair**
   Hirsutism – androgen dependent excess hair growth in females
   Hypertrichosis – non-androgen dependent excess hair growth
3. **Scalp**
   Psoriasis plaques
   Dandruff – e.g. seborrheic dermatitis

Mucous Membranes
Inspect oral mucosa to evidence of skin disease (e.g. pigmented lesions/bullae)

Classification	1. **Assess the severity of the eczema,** examine all areas of affected skin, and ask about itching. 2. Categorize eczema as: a. Clear — if there is normal skin and no evidence of active eczema. b. Mild — if there are areas of dry skin, and infrequent itching (with or without small areas of redness). c. Moderate — if there are areas of dry skin, frequent itching, and redness (with or without excoriation and localized skin thickening). d. Severe — if there are widespread areas of dry skin, incessant itching, and redness (with or without excoriation, extensive skin thickening, bleeding, oozing, cracking, and alteration of pigmentation).

TREATMENT

1. **Most emollient products are plain (that is, contain no active ingredients). However, 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®.
2. Emollients containing active ingredients are not generally recommended because they increase the risk of skin reactions. However, they may be useful in some people.
3. **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).

4. Preparations marked 'ACBS' are regarded as drugs when prescribed in accordance with the advice of the ACBS for the clinical conditions listed. See the Drug Tariff for more information.
5. **Emollients are also available over-the-counter although availability may be limited.**[BNF 72, 2016]

Choice of Product

1. There is no evidence from controlled trials to support the use of one emollient over another [van Zuuren, 2017]
2. Prescribe an emollient according to the dryness of the skin, and individual preference/tolerance. The key to successful management is finding the correct balance between these factors.

a. Creams and lotions are generally better for red, inflamed areas of skin because it is believed that the evaporation of water-based products cools the skin.
b. Ointments are preferable for dry skin (that is not inflamed) because they are more effective than creams. However, they are usually poorly tolerated compared with cream; this may affect their acceptability and hence compliance.
c. Experience has shown that proprietary products are often preferred to non-proprietary products; it may be a false economy to prescribe solely on the basis of price.
d. Often, several different emollients will be required (for example for different areas of skin, different stages of flare, or for use in different locations).
e. **Do not prescribe aqueous cream as it is thought to cause a disproportionate amount of skin reaction.** See the section on Adverse effects for more information.

3. **Where possible, prescribe an emollient with a pump dispenser to minimize the risk of bacterial contamination.**

a. For emollients that come in pots, advise that using a clean spoon or spatula (rather than fingers) to remove the emollient helps to minimize contamination.

4. **Emollients containing** active ingredients **are not generally recommended** because they increase the risk of skin reactions, and the evidence to support the use of active ingredients in emollients is limited. However, they may be useful in some people. For example, products containing:

a. Lauromacrogols are reputed to relieve itch.
b. Urea may improve skin hydration. It can enhance the moisture-retaining ability of emollients, thereby improving their efficacy.
c. Antiseptics (for example benzalkonium chloride) have a limited role in protecting skin which is prone to infection.

5. **Prescribe emollients to replace soap in people with dry skin requiring treatment.**

a. Ointments dissolved in hot water are suitable soap substitutes.
b. Bath additives and shower products are an option for people with extensive areas of dry skin, although the evidence to support their use is limited and there is no universal consensus on their benefit [DTB, 2007; Eichenfield, 2014(b)].
c. If bath emollients are used, it is essential that they do not replace standard emollients. The person should be advised to

continue using standard emollients in addition to any bath emollient product.

6. **The effectiveness and acceptability of a particular emollient may vary with time.**

a. If the person feels that a particular product has become unsuitable for them (or if they have developed sensitivity to it), prescribe an alternative emollient.

b. It may be necessary to try a range of emollients before the person settles on the best combination.

[National Collaborating Centre for Women's and Children's Health, 2007; NICE, 2007a; SIGN, 2011; Arkwright, 2013; RCN, 2013; Eichenfield, 2015; Primary Care Dermatology Society, 2016]

7. Emollients are typically under-prescribed and under-used. This results in suboptimal treatment of dry skin and eczema, and may increase the occurrence of flares [NICE, 2007a] .
8. Once the preferred choice of emollient is known, encourage appropriate usage by prescribing generous amounts (for example 500 g) to be used regularly (often four times daily).
9. Where possible, pump-dispensers should be prescribed when large quantities of cream or lotion are required. This is because they are more convenient than other containers and are less likely to become contaminated by potential pathogens.
10. The amount of emollient used should far exceed other topical treatments (for example corticosteroids) by a factor of at least ten.

[NICE, 2007a; Primary Care Dermatology Society, 2016].

.**Stepped treatment options for atopic eczema**		
Mild atopic eczema	**Moderate eczema**	**Severe eczema**
Emollients	Emollients	Emollients
Mild potency topical corticosteroids	Moderate potency topical corticosteroids	Potent topical corticosteroids
—	Topical calcineurin inhibitors (tacrolimus or pimecrolimus)	Topical calcineurin inhibitors (tacrolimus or pimecrolimus)
—	Bandages	Bandages
—	—	Phototherapy†
—	—	Oral corticosteroids‡

Quantity of topical corticosteroid to apply for one application.	
Body area	**Number of finger-tip units* (FTUs) for adults and children**
Face and neck	Adult: 2.5 Children: 6–10 years: 2; 3–5 years: 1.5; 1–2 years: 1.5; 3–12 months: 1
Arm and hand	Adult: 4 Children: 6–10 years: 2.5; 3–5 years: 2; 1–2 years: 1.5; 3–12 months: 1
Leg and foot	Adult: 8 Children: 6–10 years: 4.5;3–5 years: 3; 1–2 years: 2; 3–12 months: 1.5
Trunk (front)	Adult: 7 Children: 6–10 years: 3.5; 3–5 years: 3; 1–2 years: 2; 3–12 months: 1
Trunk (back) including buttocks	Adult: 7 Children: 6–10 years: 5; 3–5 years: 3.5; 1–2 years: 3; 3–12 months: 1.5
* One adult fingertip unit (FTU) is the amount of ointment or cream expressed from a tube with a standard 5mm diameter nozzle, applied from the distal crease to the tip of the index finger.	

Topical Corticosteroids

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

a. 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®)

b. Preparation: creams, ointments, lotion, gel, and/or scalp applications, available as non-proprietary and/or proprietary products.

c. All available on NHS with an FP10 form. See British National Formulary for a complete list of all topical corticosteroids available in UK.

2. **Note that:**

a. Hydrocortisone 1% is available over-the-counter for the treatment of mild-to-moderate eczema not involving the face or genitals.

b. Very potent topical corticosteroids should usually only be prescribed by specialists.[BNF 72, 2016]

Regimen for Flares

1. **For normal skin on the body (not the face, genitals, or axillae):**

a. Prescribe a strength of topical corticosteroid to match the severity of the eczema, to be used once a day for 7–14 days:
   - **For mild eczema —** prescribe a mildly potent topical corticosteroid.
   - **For moderate eczema —** prescribe a moderately potent corticosteroid.
   - **For severe eczema —** prescribe a potent topical corticosteroid.

b. The quantities of topical corticosteroid required to treat a flare of eczema for 1 week in an adult are listed below (use half quantity for children) [BNF 72, 2016]:
   - Face and neck: 15–30 g
   - Both hands: 15–30 g
   - Scalp: 15–30 g
   - Both arms: 30–60 g
   - Both legs: 100 g
   - Trunk: 100 g
   - Groin and genitalia: 15–30 g

c. If the response to once daily application is inadequate, increase to twice daily.

2. **For flares on the face, genitals, or axillae,** consider prescribing a mild potency topical corticosteroid and increase to a moderate potency corticosteroid only if necessary [SIGN, 2011].

a. For moderate or severe flares on face, genitals, or axillae, use a moderately potent corticosteroid for a maximum of 5 days. If this is insufficient, consider referral.
3. **Prescribe an appropriate formulation for the person and their condition.** Choosing a topical corticosteroid that is acceptable to the person is important as it will encourage compliance with treatment [DTB, 2003].
a. Creams are preferred by most people, especially when used on visible areas, such as the face and hands.
b. Ointments provide the strongest emollient effect and may be more effective. However, they are greasy and so may be more suitable for use at night.
c. Other formulations (such as for scalp applications) are suitable for specific areas of skin.
4. 'Where more than one alternative topical corticosteroid is considered clinically appropriate within a potency class, drug with lowest acquisition cost should be prescribed, taking into account pack size and frequency of application' [NICE, 2004b]. CKS recommends that cost should be taken into account, but not at expense of preference.

Regimen for Maintenance

1. **For maintenance treatment of chronic eczema ie skin other than face, genitals, or axillae,** consider one of following:
a. **Step down treatment -** prescribe lowest potency topical corticosteroid that controls eczema - typically this will be a potency class down from what is used during a flare (for example prescribe a moderate potency corticosteroid for maintenance in people who have severe flares) [NICE, 2007b].
b. **Intermittent treatment —** consider one of the following two regimens:
   - Weekend therapy **—** prescribe the usual topical corticosteroid, to be used on two consecutive days per week [NICE, 2007b].
   - Twice weekly therapy **—** prescribe the usual topical corticosteroid, to be used twice a week (for example every 3–4 days) [SIGN, 2011].
c. Treatment should be continued indefinitely, although an occasional drug holiday is advisable when step down treatment is being used.
2. **For maintenance treatment of chronic eczema on face, genitals, or axillae,** use a mild topical corticosteroid. If insufficient, consider referral.
3. Oral antibiotics

Prescribing issues for Flucloxacillin
1. **Flucloxacillin is licensed for the treatment of infected skin conditions, including eczema.**
2. **Dosing regime**
a. The usual doses (which should be taken at least 30 minutes before food) are [BNF 72, 2016; BNF for Children, 2017]:
   - Adults and children older than 10 years of age — 250 mg to 500 mg four times a day for 7 days.
   - Children 2–10 years of age — 125 mg to 250 mg four times a day for 7 days.
   - Children 1 month to 2 years of age — 62.5 mg to 125 mg four times a day for 7 days.
b. Treatment duration can be extended to 2 weeks if the initial response is inadequate.

3. **Contraindications and cautions**

a. **Do not prescribe flucloxacillin to people with:**
   - A *true* penicillin hypersensitivity. Gastrointestinal adverse effects alone (such as nausea, vomiting, or diarrhoea) do *not* constitute an allergy to penicillin.
   - History of penicillin-associated hepatic dysfunction.

b. **Prescribe flucloxacillin with caution to people with:**
   - Hypersensitivity to cephalosporins.
   - Hepatic impairment.
   - Renal impairment - consider dose reduction, or a reduction in dosing interval in severe renal failure, due to the risk of neurotoxicity.

4. **Adverse effects**
   The most common adverse effects of flucloxacillin are nausea, vomiting, skin rash, and diarrhoea. Consider pseudomembranous colitis, an acute, exudative colitis caused by *Clostridium difficile* (a Gram-positive toxin-releasing bacillus), if a person develops severe diarrhoea during or after treatment with flucloxacillin. For more information

5. **Antiseptics are used to lower bacterial load.** They include solutions of chlorhexidine salts and triclosan, potassium permanganate, and antiseptics incorporated into emollients.

6. **A range of topical antiseptics and antibiotics are available,** either alone or combined with emollients or topical corticosteroids. See Table 3 for more information.

7. **If a topical antibiotic alone is prescribed,** continue treatment with a topical corticosteroid.

a. Avoid using combined corticosteroid/antibiotic preparations (such as fucibet® cream) on a regular basis as this will increase the risk of antibiotic resistance [Primary Care Dermatology Society, 2016].

b. If prescribing combined products, generally the same issues and precautions apply as with topical corticosteroids alone. However, sensitization is more likely to occur because of the inclusion of more additives.

Available topical antibiotic, combined antibiotic/corticosteroid, and antiseptic/corticosteroid products available for treating eczema			
Product type	**Active**	**Formulation (s)**	**Proprietary name**
Topical antibiotic alone	Mupirocin	Cream and ointment	Bactroban®
	Fusidic acid		Fucidin®
Topical antibiotic combined with corticosteroid	Fusidic acid and hydrocortisone	Cream and	Fucidin H® Locoid C® Betnovate-C® Betnovate-N®
		Cream	Fucibet®
		Ointment	Aureocort®

Data from: BNF 72, 2016

Differential Diagnosis

Psoriasis may present similarly to:

1. Seborrhoeic dermatitis — may mimic facial or scalp psoriasis, with greasy scale which is more diffuse and less well-defined than in psoriasis; may co-exist with psoriasis (so-called 'sebo-psoriasis'). See the CKS topic on Seborrhoeic dermatitis for more information.
2. Fungal skin infection — lesions are typically either solitary, or unilateral and asymmetrical, and have central clearing with peripheral scaling. See the CKS topics on Fungal skin infection - body and groin , Fungal skin infection - foot, and Fungal skin infection - scalp for more information.
3. Fungal nail infection — see the CKS topic on Fungal nail infection for more information.
4. Candidal intertrigo — may mimic flexural psoriasis, but typically presents with bright red papules, pustules, and superficial erosions with satellite lesions. See the CKS topic on Candida - skin for more information.
5. Norwegian scabies — may present with hyperkeratosis similar to that of psoriasis, with genital and axillary fold involvement. See the CKS topic on Scabies for more information.
6. Secondary syphilis — consider if there is palmar or plantar involvement with macules, papules, pustules, or plaques, which may mimic localized pustular psoriasis, or may mimic guttate psoriasis if lesions are more widespread. See the CKS topic on Syphilis for more information.
7. Bacterial infection — may mimic flexural psoriasis. See the CKS topic on Cellulitis - acute for more information.

8. Eczema — may be distinguishable from psoriasis due to lack of sharp margination. May mimic flexural or chronic plaque psoriasis, as skin can become lichenified. Chronic hand eczema can present as ill-defined psoriasiform plaques on the palms and soles. See the CKS topics on Eczema - atopic and Dermatitis - contact for more information.
9. Lichen planus — may present with mucosal involvement, scarring alopecia, severe itch, and may affect the nails.
10. Lichen simplex chronicus — localized areas of lichenification resulting from repeated rubbing, scratching, and itching of the skin.
11. Discoid lupus erythematosus — may be exacerbated by sun exposure and result in scarring.
12. Cutaneous T-cell lymphoma — rare; presents with itchy, red, scaly patches however, unlike psoriasis, there is colour variation among the patches.

Guttate psoriasis may present similarly to:

1. Viral exanthems.
2. Pityriasis rosea — psoriatic scale involves the whole lesion and is coarser than the finer, localized ring pattern of the scale of pityriasis rosea. See the CKS topic on Pityriasis rosea for more information.
3. Drug eruptions.

Generalized pustular psoriasis may present similarly to:

1. Pyogenic infections.
2. Vasculitis.
3. Drug eruptions.

Vitamin D Preparations

1. Topical vitamin D preparations are available as ointments, gels, scalp solutions, and lotions.
2. Three vitamin D preparations are available on prescription in the UK:

a. Calcipotriol (Dovonex®) — available as an ointment.
b. Calcipotriol (non-branded) — available as an ointment and scalp solution.
c. Calcitriol (Silkis®) — available as an ointment.
d. Tacalcitol (Curatoderm®) — available as an ointment or lotion.
e. Note: calcitriol and tacalcitol may be less irritating than calcipotriol.

Salicylic Acid

1. **Products suitable for the scalp include:**

a. Sebco® scalp ointment (coal tar 12%, salicylic acid 2%, sulphur 4%, coconut oil).
b. Psorin® scalp gel (dithranol 0.25%, salicylic acid 1.6%).
c. Capasal® shampoo (coal tar 1%, coconut oil 1%, salicylic acid 1%).
d. Meted® shampoo (salicylic acid 3%, sulphur 5%).

2. **Products suitable for plaques on the trunk and limbs include:**

a. Zinc and salicylic acid paste BP (Lassar's paste; zinc oxide 24%, salicylic acid 2%).
b. Psorin® ointment (dithranol 0.11%, coal tar 1%, salicylic acid 1.6%).

3. Contraindications and cautions - Do not prescribe topical salicylic acid preparations for people:
   - Who are allergic to aspirin.
   - Who have inflamed or broken skin.
4. **Prescribe topical salicylic with caution:**
   - If applied on large areas of skin — risk of salicylate toxicity.
   - To people who are pregnant or breastfeeding — use on limited areas for a limited time period.

Coal Tar Products

1. Several coal tar preparations are available in the UK including ointments, shampoos, and bath additives. Various preparations are combined with other topical treatments for the management of psoriasis (for example salicylic acid).
2. The choice of coal tar preparation should take into consideration product availability, the skin site, previous response to treatment, and the person's preference.

a. Newer, branded products are preferred because older, non-branded products contain crude coal tar (coal tar BP) which is smellier and usually messier to use.

3. Preparations suitable for treating scalp psoriasis include:

a. Alphosyl 2 in 1® shampoo (alcoholic coal tar extract 5%).
b. Capasal® shampoo (coal tar 1%, coconut oil 1%, salicylic acid 0.5%).
c. Polytar liquid® shampoo (coal tar 1%).
d. Psoriderm® — scalp lotion is also a shampoo (coal tar 2.5%, lecithin 0.3%).
e. T/Gel®shampoo (coal tar extract 2%).
f. Exorex® lotion (coal tar 1%).
g. Sebco® scalp ointment (coal tar solution 12%, salicylic acid 2%, sulphur 2%).
h. Note: do not use coal tar shampoos such as Polytar®, Alphosyl 2:1®, or Capasal® alone for treating severe scalp psoriasis.

4. Preparations suitable for treating psoriasis on the trunk and limbs include:

a. Exorex® lotion (coal tar 1%).
b. Psoriderm® cream (coal tar 6**%**).

5. Bath additives include:

a. Polytar Emollient® bath additive (coal tar solution 2.5%, peanut oil, extract of coal tar 7.5%, tar 7.5%, cade oil 7.5%, liquid paraffin 35%).
b. Psoriderm® bath emulsion (coal tar 40%).

6. Contraindications and cautions
7. **Do not prescribe coal tar preparations to people:**
    - With broken or inflamed skin.
    - With skin infection.
    - With sore, acute, or pustular psoriasis.
    - With genital or rectal psoriasis.
    - Who are pregnant — avoid the use of coal tar preparations in the first trimester of pregnancy.
8. **Prescribe coal tar with caution to people:**
    - Applying to the face (particularly around the eyes) or skin flexures.
    - Who are pregnant — use coal tar preparations with caution in the second and third trimesters of pregnancy if the expected benefit to the mother outweighs the potential risk to the infant.
    - Who are breastfeeding — use coal tar preparations with caution if the expected benefit to the mother outweighs the potential risk to the infant, and ensure the infant does not come into direct contact with treated skin to avoid accidental ingestion by the infant.

Dithranol (short-contact)

1. Dithranol treatments are available as branded and non-branded products (dithranol ointment [BP] and paste [BP]). Branded preparations are most suitable and include:

a. Dithrocream® (dithranol 0.1%, 0.25%, 0.5%, 1%, and 2%).
b. Micanol® cream (dithranol 1% and 3%).
c. Psorin® ointment (dithranol 0.11%, coal tar 1%, salicylic acid 1.6%).
d. Psorin® scalp gel (dithranol 0.25%, salicylic acid 1.6%).

2. Creams are particularly suitable because they wash off more easily than ointments.
3. Contraindications and cautions
4. **Do not prescribe dithranol to people with:**
    - Acute or pustular psoriasis, or inflamed psoriasis.
    - Facial psoriasis.
    - Sensitive areas of skin.
5. Adverse effects

a. Skin irritation, burning sensation (if left on the skin for too long).
b. Staining of the skin, hair, or fabrics (temporary effect).
c. Staining of fabric and bathroom fittings (permanent effect).

6. There are no known adverse effects of dithranol use in pregnancy and breastfeeding.

7. Application
   Treatment with dithranol should start with the lowest strength (0.1%) cream and gradually increase over about four weeks to the highest tolerated strength that produces the optimum therapeutic effect. Clinical improvement may take up to six weeks.
   - Dithranol cream should be applied once a day to psoriasis areas only (avoid application to normal skin between plaques), to avoid excessive skin irritation.
   - The cream is left on for 30–60 minutes, and then washed off.
   - This is continued for at least one week, and if necessary increased at weekly intervals to the 0.25% strength, followed by the 0.5%, the 1.0%, and finally the 2.0% strength.
   - Note: the optimum strength varies from person to person and depends on the thickness of the plaques and the person's tolerance to adverse effects.
   - If the areas being treated become inflamed, stop the treatment. When the inflammation settles, restart the treatment at a lower concentration.
   - If an emollient is being used, the person should apply this first and then wait 30 minutes before applying the dithranol (only after the emollient has been fully absorbed).
   - Once lesions are palpably flat, dithranol should be discontinued.

Oral Antifungals: Terbinafine

1. **Dosage and duration of treatment**
   - For adults, the recommended dosage is 250 mg once a day. Treatment should be continued for 4 weeks.
   - Oral terbinafine is not licensed for the treatment of scalp ringworm; however, it is well-documented as a treatment for *Trichophyton* infections [Gupta et al, 2004].
   - The recommended dosage has been extrapolated from the licensed dosage for other tinea infections [BNF 65, 2013], and experts recommend a treatment duration of 4 weeks [HPA, 2007; Moriarty et al, 2012].
2. Oral terbinafine is *not* licensed for use in children [ABPI Medicines Compendium, 2013c].
3. **Contraindications and cautions** [ABPI Medicines Compendium, 2013c; BNF 65, 2013]
   Terbinafine is contraindicated in people with:

a. Severe, chronic, or active hepatic disease.
b. Severe renal impairment.

4. Terbinafine should be avoided in:

a. Pregnant women — manufacturer advises use only if potential benefit outweighs risk.
b. Breastfeeding women — terbinafine is secreted in breast milk.

5. Terbinafine should be used with caution in people with:

a. Psoriasis — increased risk of exacerbation of psoriasis.

b. Autoimmune disease — risk of lupus erythematosus-like effect.
c. Renal impairment — the British National Formulary states that half the normal dose of terbinafine should be used if estimated Glomerular Filtration Rate (eGFR) is less than 50 mL/minute/1.73 m^2 and there is no suitable alternative [BNF 65, 2013]. However, the manufacturer states that the use of terbinafine tablets in this group of people has not been adequately studied, therefore it is not recommended [ABPI Medicines C

Topical Antifungals

1. **Ketoconazole 2% shampoo (adolescents and adults only)** [ABPI Medicines Compendium, 2013e]
a. Adverse effects are uncommon and include folliculitis, increased lacrimation, dry skin, rash, and application site irritation.
b. The manufacturer advises that there are no known risks associated with the use of Ketoconazole shampoo in pregnancy or lactation.
2. **Selenium shampoo (for adults and children aged 5 years and over)** [ABPI Medicines Compendium, 2012c]
a. Selenium shampoo should not be used on broken or severely inflamed skin.
b. Adverse effects include:
   - Irritation or sensitisation (sometimes described as a burning sensation). Rarely, blistering can occur, especially if the shampoo is kept in contact with the skin for longer than the recommended duration.
   - An increase in the amount of normal hair loss.
   - Discolouration of the hair. This can be avoided or minimised by thorough washing of the hair after treatment.
   - Oiliness or dryness of the hair and scalp.
   - Non-specific allergic reactions such as rash and urticaria (rare).
c. Gold, silver, and other metallic jewellery should be removed prior to use, since discolouration may be caused.
d. Selenium shampoo should be rinsed thoroughly from the hair before dyeing, tinting, or permanent waving the hair. It should not be applied for two days before or after any of these procedures.
e. The manufacturer advises that selenium shampoo should be avoided during pregnancy and breastfeeding.
3. **Terbinafine cream (for adults only)** [ABPI Medicines Compendium, 2013b]
a. Adverse effects include local skin irritations such as rash, burning sensation, and pruritus. These symptoms must be distinguished from hypersensitivity reactions such as widespread pruritus, rash, bullous eruptions and hives, which are reported in sporadic cases and require discontinuation of treatment with terbinafine.
4. **Imidazole creams**
a. **Clotrimazole cream** [ABPI Medicines Compendium, 2012b; BNF 65, 2013]
   - Adverse effects include local skin irritations such as rash, pruritus, oedema, and skin peeling.
   - Clotrimazole may cause damage to latex contraceptives and can inactivate spermicidal contraceptives. Alternative contraceptive precautions should be used for at least 5 days after using clotrimazole.
b. **Miconazole cream** [ABPI Medicines Compendium, 2009; BNF 65, 2013]

Systemic miconazole is known to interact with oral anticoagulants. Due to the limited systemic availability of topical preparations, clinically relevant interactions are rare; however, the manufacturer of miconazole advises that caution should be exercised and anticoagulant effect should be monitored during concurrent use of miconazole and an oral anticoagulant.

c. **Econazole cream** [ABPI Medicines Compendium, 2012a]
Systemic econazole is known to interact with oral anticoagulants. Due to the limited systemic availability of topical preparations, clinically relevant interactions are rare; however, the manufacturer of econazole advises that caution should be exercised and anticoagulant effect should be monitored during concurrent use of econazole and an oral anticoagulant.

d. **Ketoconazole cream (for adults only)** [ABPI Medicines Compendium, 2013d; BNF 65, 2013]
Adverse effects include local skin irritations such as rash and pruritus.