

# Dermatology Handbook for Registrars





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# Welcome from the British Association of Dermatologists



I am delighted to welcome you to Dermatology and to the British Association of Dermatologists. We hope that this 'Dermatology Handbook for Registrars' supports you as you embark on the next step in your medical career. I can assure you that you will not regret the decision to join us in Dermatology! This handbook has been expertly put together to provide you with useful information, top tips and quick references that will support you through your first few months. You will discover a whole new vocabulary and an array of topical preparations that you never knew existed. Good luck and enjoy!

A handwritten signature in blue ink that reads "Tanya Bleiker". The signature is fluid and cursive, with the first name "Tanya" and last name "Bleiker" clearly distinguishable.

**Dr Tanya Bleiker**

BAD President July 2020 - July 2022

# Foreword

It gives me great pleasure to write this foreword for the Registrar's Handbook. This handbook draws from the one day course the 'Survival Guide for new trainees'.

I founded the 'Survival Guide for new trainees' in 2015. I first organised this as a pilot in 2014 in London. I have supervised and trained dermatology registrars at Lewisham Hospital and in the department of Cutaneous Allergy at the St John's Institute of Dermatology for more than 15 years. As the training programme director for dermatology trainees at Lewisham Hospital and a member of the training committee in London, I have always been passionate about dermatology education and training.

I realised that increasingly newly appointed registrars have little dermatology experience as they come straight from acute medicine to dermatology. I wanted to create a course to bridge the gap between leaving general medicine and entering dermatology.

The Survival Guide is a one day event with a series of talks covering basic dermatology history and skin cancer history, paediatric dermatology, basic skin surgery, emergency dermatology, common dermatology diseases, the Eportfolio and dermatology training structure. I recognise that new trainees struggle with prescribing topical and systemic dermatology treatments and many are completely unfamiliar with these. There are several talks on treatments and a practical session from a senior dermatology nurse on topical treatments. The course ends with my talk about dermatology societies followed by an opportunity for the registrars to meet each other and network with the speakers.

Wisam Alwan was my registrar from 2013 to 2014. He has been a speaker on the course since the beginning. We talked about a handbook to complement the course since the outset. I am delighted that Wisam has been dedicated to bringing the handbook to fruition this year.

I had wonderful speakers throughout the last five years and most of the speakers have been registrars that I have worked with and trained. Many have gone on to become dermatology consultants. They have all contributed to the success of the course.

The new trainees who have attended the course have given excellent feedback and this has led to the course becoming recognised as the national dermatology induction course for new dermatology trainees. All newly appointed trainees attend from England, Scotland, Wales and Ireland every year. I have kept the course free for trainees to attend from the beginning. It is held in August to coincide with the first week of their dermatology registrar post.

I also want to thank the BAD Education Board and the conferences and events team who have supported me to run this course. Wilan House has been a great place to hold the course. This has given the new trainees a chance to see the home of the BAD and give them a sense of belonging and to feel part of a dermatology community.

I hope that dermatology registrars find this handbook useful.

**Piu Banerjee MBBS MD FRCP AFHEA**

International Professor

Consultant Dermatologist and Honorary Senior Lecturer

Founder and Chair of Skin Diversity Subcommittee British Association of Dermatologists

Past Clinical Vice President of the British Association of Dermatologists (July 2020 to July 2022)



# Preface

Congratulations on obtaining a post in Dermatology!

When I started specialist training in 2013, I was entering my first formal post in Dermatology – a situation that will be shared by many of you this year. I recall not only the challenge of learning about the 2000 or so conditions in our field, but also having to get used to a whole new way of working. The familiarity of having a ward of medical inpatients was replaced by outpatient consultations, the drugs I had been confident prescribing were replaced by creams, ointments and systemic therapies. I had to revisit fields I had not experienced since medical school; an average clinic week would make me feel like a Paediatrician, Surgeon and Oncologist all rolled in to one. Needless to say, the confidence of my Medical Senior House Officer years was replaced with an anxiety about getting things right in my new role.

Since progressing through specialist training, I have often thought back to how I felt during those first few weeks of the job. Piu Banerjee created the 'Dermatology Survival Guide' in 2015 with the intention to help new trainees navigate this transition and equip them with the skills to simply 'survive' those challenging early weeks in the job. I worked as her Registrar in 2013 and I am grateful to Piu for involving me in the course from the outset. This year, together, we have produced a handbook that distils the core information delivered during the course and serves as a quick reference guide covering topics new trainees find challenging. This includes prescribing and management principles, arranging appropriate investigations, procedural skills and delivering patient information. Having this information collated into one resource which is available to access on-the-go will help new trainees gain confidence and spend more time focused on seeing patients and learning the important clinical features of skin disease.

In that regard, this is not the handbook to teach you the detailed symptoms and signs of the myriad conditions in Dermatology – there are many fantastic resources available for this, both online and in print, already. Rather, this book will hopefully represent a helpful foundation on which to build knowledge and as a supplement to other established resources such as the BAD Clinical Guidelines, Patient Information Leaflets and Medical Students Handbook and the British National Formulary.

I wish you the very best of luck in Dermatology. Throughout training, I have been regularly reminded of the tremendous privilege afforded by our position, and in return you will cure symptoms, alleviate suffering and, every so often, save a life. Be proud of your work and enjoy every moment of it; it really is the most rewarding of vocations.

**Dr. Wisam Alwan MBBS BSc MRCP (Derm) PgCert (Clin Ed) FHEA**

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# Chapter 1: General Dermatology

## *General dermatology history*

### **Heading**

Presenting complaint

History of presenting complaint

### **Key questions**

- Nature of problem (e.g. rash, itching)
- Site
- Onset/duration
- Appearance – what did it look like when it started?
- Evolution – did it spread anywhere?
- Associated symptoms e.g. itching or pain
- Timing – continuous or episodic? If episodic, any associations e.g. Drugs, food, work environment
- Exacerbating/relieving factors – allergens (chemicals, foods, plants etc), effect of sunlight and any treatments that helped relieve or exacerbate
- Systemic symptoms e.g. fever, preceding sore throat/stress
- Integument and other symptoms – oral symptoms, nail changes, hair loss
- Joint and muscle symptoms – pain/stiffness/swelling/weakness
- Recent foreign travel
- Any relevant medical history
- History of atopic disease (asthma, hay fever, eczema)
- Factors that may affect management (e.g. diabetes, hypertension, immunosuppression, cancer)
- Any regular, over the counter, as required or herbal remedies
- If querying drug eruption need to include start dates, with particular focus on medications commenced in the preceding months before the eruption
- Allergies
- Family history of skin disease or atopy
- Occupation and any exposures that may be relevant
- Alcohol, smoking and recreational drug use
- Ideas, concerns, expectations regarding skin condition
- Impact on quality of life (can quantify using DLQI questionnaire)

Past medical history

Drug history

Family history

Social history

Holistic review and impact

## ***Examination: Dermatology terminology***

### **Abscess:**

Localised collection of pus surrounded by damaged and inflamed tissue.

### **Bulla:**

Large fluid-filled blister  $>0.5\text{cm}$ .

### **Dermatitis:**

Inflammation of the skin caused by exogenous substances.

### **Erosion:**

A break in the skin involving only the epidermis

### **Erythema:**

Red skin due to dilatation of capillaries in the dermis. While redness can be easily seen in people with less deeply pigmented skin, where it contrasts clearly against lighter skin tones. This is not necessarily the case in those with more richly pigmented skin, where the colour change may appear pink, red or purple. In some cases, it may be limited to a subtle darkening of the existing skin colour.

### **Macule:**

Small smooth area of colour change.

### **Nodule:**

A palpable lesion  $>0.5\text{cm}$ .

### **Papule:**

A palpable lesion  $<0.5\text{cm}$  e.g. a wart.

### **Patch:**

Large smooth area of colour change.

### **Petechiae:**

Small, round, flat, non-blanching red or purple spots, this may appear as darkening of the skin in darker skin tones.

### **Plaque:**

A palpable flat lesion.

### **Purpura:**

Red/purple non-blanching rash consisting of numerous petechiae, this may appear as darkening of the skin in darker skin tones.

### **Pustule:**

A purulent (i.e. filled with neutrophils) vesicle.

### **Scales:**

Flakes of dead epidermis shed from the skin.

### **Ulcer:**

A break in the skin extending to all of its layers.

### **Vesicle:**

Small fluid-filled blister,  $<0.5\text{cm}$ .

### **Wheal:**

An oedematous papule or plaque due to dermal oedema.

## Acne

### Topical and systemic treatment for acne

#### Topical treatment – suitable for mild-moderate acne:

- Advise patients that several weeks of treatment are often needed before benefit is seen
- Skin irritation (burning/stinging) and dryness are common side effects, most pronounced with topical retinoids
- Benzoyl peroxide
  - o Available in 2.5%, 5% (most commonly used) and 10% preparations.
  - o Can be used as standalone or in combination
    - Epiduo® – Adapalene and Benzoyl peroxide
    - Duac® – Clindamycin and Benzoyl peroxide
  - o Advise patients that it can bleach clothing and can irritate skin
- Topical antibiotics
  - o Erythromycin (e.g. Zineryt®) and Clindamycin (e.g. Dalacin T®)
  - o Available as solutions, gels or lotions
- Topical retinoids
  - o Many different formulations available in creams, lotions and gels
  - o Adapalene (Differin®) is most commonly used in the UK
  - o Skin irritation can be severe with stinging, redness, blistering and peeling, particularly in those with a predisposition to dry skin
  - o Warn patients of risks of an initial flare of acne before improvement
  - o Sun protection advised when using topical retinoids
  - o Should not be used in those planning pregnancy given association of oral retinoids with birth defects, although no established link yet with topical retinoids.

#### Systemic – suitable for moderate to severe acne

- Tetracyclines (e.g. Lymecycline, Minocycline, Doxycycline):
  - o Can be used to manage acne in those aged over 12 years old (staining of teeth and enamel hypoplasia in those younger).
  - o Assess response at 2-3 months, and if improvement demonstrated can continue for up to 12 months
  - o Do not prescribe concomitantly with retinoids as risk of intracranial hypertension

## Isotretinoin

- Indicated for severe nodulocystic acne, scarring acne unresponsive to systemic antimicrobials or acne unresponsive to conventional treatment and associated with clinically significant psychosocial distress
- Highly effective therapy for acne but associated with significant potential side effects in some patients, particularly:
  - o Teratogenicity – patients are strictly advised Isotretinoin must not be taken during pregnancy or when there is a risk of becoming pregnant due to high risk of spontaneous abortion of severe birth deformity. Caution advised in those breastfeeding. Blood donation not permitted during treatment or until 1 month after treatment.
    - Two forms of contraception necessary for treatment (e.g. COCP and barrier protection) and should commence one month before initiation
  - o Psychological - Risk of mood changes, depression and some cases of suicidality associated with patients on Isotretinoin reported in the press – link not entirely clear
    - Screen patients for history of psychiatric conditions, particularly depression and anxiety and if appropriate refer directly (or ask GP) to psychology, psychiatry or local psychodermatology service for formal assessment
- Patients should be counselled on the medication and should receive written and verbal information on both isotretinoin (e.g. BAD patient leaflet, manufacturers information leaflet) and contraception
- Pregnancy prevention programme
  - o Measures around preventing pregnancy whilst on Isotretinoin termed the 'Pregnancy Prevention Programme' or PPP
  - o Wide variability in practices – many places perform urine pregnancy tests on every visit (e.g. monthly in nurse led clinic)
  - o Prescriptions typically issued with evidence of negative pregnancy test presented at pharmacy
  - o Patients should sign a consent form before starting treatment having considered the provided information
  - o Patients can sign a legal waiver to opt out of having the pregnancy testing
- Blood testing often performed at baseline
  - o LFT's and fasting lipids only recommended in BNF – check local protocols. Repeat 1 month after starting Isotretinoin and then every 3 months
  - o Derangement can occur (e.g. hypertriglyceridemia, deranged LFT's) but is usually mild and transient – should warn the patient before starting
- Other important side effects to mention
  - o Acne flare (during first 2 months of treatment)
  - o Dry lips, eyes, nostrils and skin in nearly all patients – may see cheilitis, conjunctivitis, keratitis, nosebleeds
    - Prescribe emollients, lip balms, eye drops and lubricants as necessary. May become intolerant of contact lenses
  - o Sensitivity to sun and easier sunburn
  - o Hair loss in some individuals
  - o Headaches (rarely benign intracranial hypertension)
  - o Myalgia and arthralgia
    - Must advise those who are involved in regular physical activity as can be extremely limiting
  - o Disturbed night vision
    - Particularly important for night drivers or pilots who fly at night
  - o Increased skin fragility
    - Avoid cosmetic procedures (e.g. for acne scars, waxing) whilst on Isotretinoin and for 6 months after finishing course due to increased skin fragility

Note male patients taking isotretinoin do not have to take additional contraceptive precautions over and above those recommended for general safe practices.

## Isotretinoin dosing

- Isotretinoin typically initiated at 0.5mg/kg (around 20-40mg) daily in 1–2 divided doses
- Increased if necessary, to 1 mg/kg but liaise with senior colleagues for guidance
- Typical course is 16–24 weeks
- Refer to local protocols, some institutes aim for cumulative dose of 120-150mg/kg and then stop whilst others discontinue after clinical resolution

### Cumulative dose calculation – helpful to assess if patient has capacity to increase dose if not responding

- Number of days x dose e.g. 40mg x 30 days = 1200mg + 60mg x 90 days = 5400mg
  - o Total = 6600mg
- For a patient weight of 70kg, a treatment target of 120mg/kg = 8400mg. Therefore, this patient could continue on 60mg once daily for another 30 days (60mg x 30 days = 1800mg) which would take patient up to 8400mg (120mg/kg)

**Top tip:** Advise patients that their acne may initially flare after commencing treatment, and to contact department if flare is severe. In some instances, oral steroids are prescribed concurrently with Isotretinoin if there is a high risk of a flare

## Isotretinoin follow up consultation

- Check dose of medication and start date – e.g. Isotretinoin 40mg
- Calculate cumulative dose (see above)
- Check which forms of contraception the patient is using
- Check date of last menstrual period
- Screening questions for depression
  - o Have you been feeling low in mood or noticed any other mood changes?
  - o Are you able to enjoy the things you normally enjoy?
- Ask about side effects and any treatments used for these
- Consider repeat blood tests if appropriate
- Perform urine pregnancy test for females
- Issue Isotretinoin prescription for 4 weeks if all satisfactory
- Ensure appropriate follow up is arranged (usually every 4 weeks) (can be longer in males)

After completing treatment course (e.g. clinical resolution of acne or reaching appropriate cumulative dose) ensure:

- o Patient is aware they need to continue contraception for a further month after stopping medication (consider urine pregnancy test 5 weeks after stopping)
- o Appropriate topical therapy for acne is prescribed for any (usually milder) recurrences that occur post-isotretinoin

## Rosacea

- Topical treatment works best for inflammatory papules and pustules in rosacea, rather than erythema and telangiectasia
- Stinging and burning are again common side effects of therapy
  - o Metronidazole gel (e.g. Rosex®) – twice daily for 3-4 months before assessing response
  - o Azelaic acid gel (e.g. Finacea®) – twice daily for up to 6 months before assessing response
  - o Ivermectin cream (e.g. Soolantra®) – once daily for up to 4 months before assessing response
- Systemic therapy with tetracycline antibiotics (and low dose isotretinoin) are appropriate for those not adequately controlled on topical therapies – durations and doses are as per acne above.

## Psoriasis

### Topical treatment

Mild-moderate psoriasis can be treated effectively with topical treatments

The below focuses on outpatient management options for psoriasis, however it is worth bearing in mind that if your unit has access to a dedicated Dermatology Day Centre, a wider range of options are available including treatment with coal tar and dithranol preparations.

### Emollients

- Should be used regularly and for particularly dry sites, greasier ointment preparations are preferred (see prescribing section below)

### Topical steroid/Vitamin D analogues

- Various combination preparations available in different formulations including ointments, gels, scalp lotions, foams
- Vitamin D analogues can also be used as stand alone products
- Main side effect of Vitamin D analogues is skin irritation (calcipotriol > calcitriol)
- Advise patient that excessive topical use can result in systemic hypercalcaemia – limit to maximum 5mg of Calcipotriol in a week (preparations are 50 micrograms per gram (or ml))
- Do not use during pregnancy or breastfeeding (safety profile unclear) – topical steroids alone preferred
- Examples include Calcitriol, Calcipotriol, Calcipotriol with Betamethasone
  - Calcitriol (Silkis®) ointment (contains 3 micrograms of Calcitriol per gram)
    - o Can be used if psoriasis is covering less than 35% of skin surface
    - o Applied twice daily to the affected area
    - o More suitable for flexural/genital psoriasis as less irritant
    - o No more than 30g should be used within a day
  - Calcipotriol (Dovonex®) ointment (also available as scalp solution)
    - o Apply 1-2 times per day to affected areas
    - o When calculating amount used, add scalp solution volume with weight of ointment used
    - o Maximum 100 grams per week
  - Calcipotriol with Betamethasone (e.g. Dovobet® ointment/gel, also Enstilar® foam)
    - o Dovobet® gel for scalp:
      - Apply 1-4g daily for 4 weeks.
      - Can apply to 'dry' scalp overnight and shampoo off in the morning.
      - Treatment course can be repeated if necessary
    - o Dovobet® ointment for skin:
      - Apply once daily for 4 weeks.
      - Maximum of 30% of body surface area
      - Treatment course can be repeated if necessary
      - Maximum of 15g per day
    - o Enstilar® foam for skin:
      - Apply once daily for 4 weeks.
      - Treatment course can be repeated if necessary
      - Maximum of 15g per day

### **Combination topical treatments – topical steroid and keratolytic**

- o Salicylic acid with Betamethasone (e.g. Diprosalic® ointment and scalp application)
- o Useful when thick, hyperkeratotic scale is present e.g. scalp, palms and soles
- o Diprosalic® solution for scalp:
  - Apply a few drops 1-2 times daily.
  - Can apply to scalp overnight and shampoo off in the morning.
- o Diprosalic® ointment for skin:
  - Apply to affected areas up to twice daily.
  - Maximum of 60 grams per week

### **Scalp treatments**

#### **Treating scalp psoriasis:**

- Thick adherent scale blocks penetrance of topical therapy.
- Keratolytic therapy e.g. Diprosalic® can help remove scale
- For patients with long hair advise parting it and applying directly to the scalp.
- Occlusion with a shower cap overnight can help soften scale
- Avoid forcefully removing scale due to Koebner phenomenon

#### **Coal tar, salicylic acid and sulphur combination ointment (Cocosis®)**

- Indicated in eczema, psoriasis and seborrheic dermatitis of the scalp where there is thick adherent scale
- Coal tar 12% w/w, Salicylic acid 2%w/w and sulphur for external use 4% w/w
- Should be rubbed into the scalp, left overnight in a shower cap and washed off the following day

#### **Clobetasol propionate 0.05% (Etrivex®)**

- Indicated in the use of moderate-severe scalp psoriasis
- Used if regular topical corticosteroids are not producing a satisfactory response
- Should be applied and left on for 15 minutes uncovered, and washed off
- Should not be used for >4 weeks at a time

#### **Various medicated shampoo preparations are available to wash out the topical therapies above including:**

- Alphosyl 2 in 1® shampoo – active ingredient Alcoholic extract of coal tar 5% w/w
- Capasal® shampoo – active ingredients Salicylic Acid 0.5%, Coconut Oil 1.0%, Distilled Coal Tar 1.0%
- Polytar® shampoo - Coal Tar Solution 4% (w/w)



### **Other psoriasis treatments: Phototherapy**

- Many different forms – most commonly used is Narrowband UVB (nbUVB, also known as TL01)
- Single treatment takes up to 10 minutes, or 30 minutes for the entire visit
- Treatment schedules vary but 2-3 times per week for 8 to 16 weeks phototherapy is a typical regimen
- Ensure written consent is obtained when patient is referred for treatment

### **Sample phototherapy consent and areas to discuss with patients**

**Name of procedure:** Narrowband UVB phototherapy

**The intended benefits:** Treatment of psoriasis

**Significant, unavoidable, frequently occurring risks:** Photosensitive rashes e.g. polymorphic light eruption, sunburn type reactions, HSV reactivation (e.g. cold sores), drug photosensitivity, accelerated photoaging, increased risk of skin cancer with increasing cumulative dose, slight increased risk of cataracts

**Top tip:** Always ensure patient is able to attend for 2-3 three times weekly during office hours prior to listing for phototherapy

## Eczema

Topical steroids are one of the main treatment options for mild-moderate eczema – prescribing topical steroids is covered in the prescribing section below.

### Steroid sparing topical agents

Calcineurin inhibitors are indicated in the management of moderate to severe eczema in patients who are not responding to alternative therapy, and in the management of facial/flexural/genital psoriasis (short term).

- Typically they are used as a maintenance therapy rather than for acute flares
- Usually most effective on face and neck
- Various application regimens – twice weekly to prevent flares and increased up to twice daily if skin disease shows early signs of flare
- Applied once or twice daily
- Contraindicated in malignancy, infection and immunosuppression
- Avoid in pregnancy and breastfeeding unless essential
- Advise careful sun protection when using these medications
- Side effects: Stinging and burning sensation on areas treated. Rarely headache, cough, flu-like symptoms, slight increased risk of HSV reactivation, folliculitis and acne. Theoretical small increased risk of cancer (due to association with oral Tacrolimus) but not fully established.
- Preparations include:
  - o Tacrolimus (Protopic®) – available in 0.1% (adults) and 0.03% (children) formulations. Most established medication
  - o Pimecrolimus (Elidel®) – 1% formulation, useful for children but less well established than Tacrolimus

**Top tip:** Warn patients on topical calcineurin inhibitors that the preparations tend to sting severely for one-two weeks before settling. Many patients will discontinue immediately as they ascribe them to an allergic reaction (although this can also happen!)

## Severity scoring

### Psoriasis Area and Severity Index (PASI)

The PASI score is a useful way to quantify the severity of psoriasis taking into account the appearance, severity and extent of the psoriatic plaques, and offers a more meaningful measure when documenting your examination findings

A PASI score of  $>10$  is usually necessary to obtain funding for biologic therapies, often in conjunction with a Dermatology Life Questionnaire Index (DLQI) score of  $>10$

**Top tip:** Review images online of the different lesion severities and practice calculating PASI and comparing with experienced assessors to check you are scoring correctly.



## PSORIASIS AREA AND SEVERITY INDEX (PASI) WORKSHEET

HOSPITAL NO.:

PATIENT NAME:

DATE OF VISIT:

The Psoriasis Area and Severity Index (PASI) is a quantitative rating score for measuring the severity of psoriatic lesions based on area coverage and plaque appearance.

Plaque characteristic	Lesion score	Head	Upper Limbs	Trunk	Lower Limbs
Erythema	0 = None				
	1 = Slight				
Induration/Thickness	2 = Moderate				
	3 = Severe				
Scaling	4 = Very severe				
Add together each of the 3 scores for each body region to give 4 separate sums (A).					
<b>Lesion Score Sum (A)</b>					

Percentage area affected	Area score	Head	Upper Limbs	Trunk	Lower Limbs
<b>Area Score (B)</b>	0 = 0%				
	1 = 1% - 9%				
	2 = 10% - 29%				
	3 = 30% - 49%				
	4 = 50% - 69%				
	5 = 70% - 89%				
	6 = 90% - 100%				
Multiply Lesion Score Sum (A) by Area Score (B), for each body region, to give 4 individual subtotals (C).					
<b>Subtotals (C)</b>					
Multiply each of the Subtotals (C) by amount of body surface area represented by that region, i.e. x 0.1 for head, x 0.2 for upper body, x 0.3 for trunk, and x 0.4 for lower limbs.					
<b>Body Surface Area</b>		<b>x 0.1</b>	<b>x 0.2</b>	<b>x 0.3</b>	<b>x 0.4</b>
<b>Totals (D)</b>					
Add together each of the scores for each body region to give the final PASI Score.					

PASI Score =

### Eczema Area and Severity Index (EASI)

There are multiple severity scoring indexes for atopic dermatitis:

These include:

- Eczema Area and Severity Index (EASI)
- SCORing Atopic Dermatitis (SCORAD)
- Physician Global Assessment (PGA)
- Six Area, Six Sign Atopic Dermatitis (SASSAD)
- Patient Oriented Eczema Measure (POEM)

An example of the EASI scoring system is shown below, and scores range from 0-72

**Area of Involvement:** Each body area has potentially 100% involvement. Score **0 to 6** based on the following table:

% involvement	0	1-9%	10 - 29%	30 - 49%	50 - 69%	70 - 89%	90 - 100%
Region score	0	1	2	3	4	5	6

**Severity of Signs:** Grade the severity of each sign on a scale of **0 to 3**:

0	None
1	Mild
2	Moderate
3	Severe

- ✓ Take an average of the severity across the involved area.
- ✓ Half points may be used e.g. 2.5.

**Scoring table:**

Body region	Erythema (0-3)	Edema/ Papulation (0-3)	Excoriation (0-3)	Lichenification(0-3)	Region score (0-6)	Multiplier	Score per body region
Head/neck	(    +	+	+	)	X	X 0.1	
Trunk	(    +	+	+	)	X	X 0.3	
Upper extremities	(    +	+	+	)	X	X 0.2	
Lower extremities	(    +	+	+	)	X	X 0.4	
The final EASI score is the sum of the 4 region scores:							_____ (0-72)

## **Dermatology Life Quality Index (DLQI)**

Validated scoring system to assess the impact of skin disease on adult patients' quality of life

The scoring of each question is as follows:

- o Very much = 3
- o A lot = 2
- o A little = 1
- o Not at all = 0
- o Not relevant = 0

o Question 7, 'prevented work or studying' = 3. If no, 'How much has your skin been a problem at work or studying': Scoring – 'A lot' = 2, 'A little' = 1 or 'Not at all' = 0.

The total is added, and the total range is between 0-30. The higher the score, the more significant impact on the patient's quality of life.

Interpretation:

- o 0 – 1 no effect at all on patient's life
- o 2 – 5 small effect on patient's life
- o 6 – 10 moderate effect on patient's life
- o 11 – 20 very large effect on patient's life
- o 21 – 30 extremely large effect on patient's life

# DERMATOLOGY LIFE QUALITY INDEX

DLQI

Hospital No:

Date:

Name:

Score:

Address:

Diagnosis:

The aim of this questionnaire is to measure how much your skin problem has affected your life OVER THE LAST WEEK. Please tick ☐ one box for each question.

- |     |   |                                     |                                       |
|-----|---|-------------------------------------|---------------------------------------|
| 1.  | Over the last week, how <b>itchy, sore, painful</b> or <b>stinging</b> has your skin been?  | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> |                                       |
| 2.  | Over the last week, how <b>embarrassed</b> or <b>self conscious</b> have you been because of your skin?   | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> |                                       |
| 3.  | Over the last week, how much has your skin interfered with you going <b>shopping</b> or looking after your <b>home</b> or <b>garden</b> ?           | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |
| 4.  | Over the last week, how much has your skin influenced the <b>clothes</b> you wear?  | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |
| 5.  | Over the last week, how much has your skin affected any <b>social</b> or <b>leisure</b> activities?   | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |
| 6.  | Over the last week, how much has your skin made it difficult for you to do any <b>sport</b> ?   | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |
| 7.  | Over the last week, has your skin prevented you from <b>working</b> or <b>studying</b> ?  | Yes <input type="checkbox"/>        |                                       |
|     |   | No <input type="checkbox"/>         | Not relevant <input type="checkbox"/> |
|     | If "No", over the last week how much has your skin been a problem at <b>work</b> or <b>studying</b> ?   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> |                                       |
| 8.  | Over the last week, how much has your skin created problems with your <b>partner</b> or any of your <b>close friends</b> or <b>relatives</b> ?      | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |
| 9.  | Over the last week, how much has your skin caused any <b>sexual</b> <b>difficulties</b> ?   | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |
| 10. | Over the last week, how much of a problem has the <b>treatment</b> for your skin been, for example by making your home messy, or by taking up time? | Very much <input type="checkbox"/>  |                                       |
|     |   | A lot <input type="checkbox"/>      |                                       |
|     |   | A little <input type="checkbox"/>   |                                       |
|     |   | Not at all <input type="checkbox"/> | Not relevant <input type="checkbox"/> |

Please check you have answered EVERY question. Thank you.

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### **SCORE of Toxic Epidermal Necrolysis (SCORTEN)**

- Scoring system used to estimate the prognosis for patients with Toxic Epidermal Necrolysis and Stevens-Johnson syndrome.
- One point is given for each of the following features present at the time of patient presentation:
  - o Age >40 years
  - o Presence of a malignancy
  - o Heart rate >120
  - o Initial percentage of epidermal detachment >10%
  - o Serum urea level >10 mmol/L
  - o Serum glucose level >14 mmol/L
  - o Serum bicarbonate level <20 mmol/L.

### **SCORTEN predicted mortality rates**

SCORTEN 0-1	>3.2%
SCORTEN 2	>12.1%
SCORTEN 3	>35.3%
SCORTEN 4	>58.3%
SCORTEN 5 or more	>90%

**Top tip:** When managing a patient with TEN/SJS, review your local and national guidelines – the BAD guidelines are particularly helpful. For skincare, Exudry® sheets are useful as a non-adherent, anti-shear dressing. Non-contact emollients such as Emollin® spray can also be helpful in addition to regular ointments.



## Miscellaneous

### Scabies treatment

Scabies is commonly encountered problem in Dermatology and treatment depends on clear instructions from the prescriber to ensure effective elimination of mites.

- Most commonly used treatment is 5% Permethrin cream
- Treatment most effective with someone aiding application (who will also need to be treated)
- Patients should be advised that itching can take up to 4-6 weeks to subside, and if itching persists then retreatment should be considered (sometimes Eumovate ointment is prescribed to use after treatment with Permethrin to help inflammatory response to settle)
- Bedding, clothing and towels
  - o Should not be shared between infected and non-infected individuals
  - o Should be washed at 60 degrees to eliminate mites
  - o If not possible to wash at 60 degrees, can be placed in a sealed bag for 3 days

### Instructions for scabies treatment with 5% Permethrin

1. Change bedding before applying treatment
2. All household and sexual contacts should be treated at the same time
3. Apply a thin layer of cream all over your skin from your neck down to your toes
  - a. Ensure treatment includes palms and soles, underneath fingernails (use cotton bud), buttocks, finger webs.
4. Leave on overnight for approximately 14 hours and wash off in shower in the morning
5. If any part of the body is washed before the 14 hours are up, the cream should be reapplied (e.g. after washing hands)
6. For babies and elderly, the treatment should also include the hairline, scalp, temples and forehead
7. Repeat application one week later to ensure any new-born mites are also eliminated

### Topical antifungals

Useful for superficial skin infections caused by dermatophytes (*Tinea corporis*, *cruris*, *capitis*, *manuum*, *barbae*, *pedis*) or yeasts (candidal intertrigo caused by *Candida* species such as *C. albicans*) and pityriasis versicolor (caused by *Malassezia* species such as *M. furfur*)

Typically twice daily for 2-4 weeks

Grouped under different classes according to chemical structure:

- Imidazoles (e.g. Clotrimazole, Ketoconazole, Miconazole). Preparations include
  - Clotrimazole (1 or 2%) +/- hydrocortisone cream – Canesten® products
  - Ketoconazole 2% - available as cream (Daktarin Gold®) or shampoo (Nizoral®) – see below for application instructions
  - Miconazole 2% cream (Daktarin®) +/- hydrocortisone (Daktacort®)
- Allylamine (e.g. Terbinafine). Preparations include:
  - Terbinafine 1% cream (Lamisil®)

### Ketoconazole shampoo

2% ketoconazole (Nizoral®) shampoo is used to treat patients suffering from seborrheic dermatitis (or also to treat and prevent pityriasis versicolor) by reducing the amount of yeast living on the skin. It is typically used in combination with a mild topical steroid (e.g. Daktacort® cream).

Can be used daily for 1-2 weeks, then fortnightly thereafter for maintenance.

- Wet hair thoroughly.
- Apply a small amount of shampoo to your scalp and massage into a lather.
- Leave the lather on your scalp for 3 – 5 minutes.
- Rinse thoroughly, ideally over face if also involved (e.g. seborrheic dermatitis)

### **Intralesional steroid injections**

- Used in select cases for the treatment of hypertrophic and keloid scars
- NHS funding may not be available for these procedures – check local policies
- Potent steroid injected directly into the scar, can be with/without local anaesthesia.
- Usually 2-3 injections are needed 4-6 weeks apart
- Two preparations of Triamcinolone available – 10mg/ml (most common) or 40mg/ml
- Documented consent is necessary – see example below:

### **Discussion points for consent for intralesional steroid injection**

**Name of procedure:** Intralesional triamcinolone injection of keloid scar on chest

**The intended benefits:** To flatten scar

**Significant, unavoidable, frequently occurring risks:** bleeding, infection, atrophy, hypopigmentation, telangiectasia, extension of scar

## Model clinic letter



St. Elsewhere's Hospital  
Dermatology Department  
High Street  
London  
W1 4PQ

Tel: 0207 258 0360

Dr J Jones  
Long Street GP Surgery  
Long Street  
London W6 4VQ

Clinic: 17th July 2020

Dear Dr Jones

**Re:** John Smith, DOB: 27.05.1957, Hospital number – 1234567X

**Diagnosis:**

1. Irregularly pigmented naevus (5mm) on right upper back ?atypical naevus

**Comorbidities:**

Atrial fibrillation (on warfarin)  
Permanent pacemaker in-situ

**Investigations:**

INR check performed today (2.1)

**Management:**

Excisional biopsy of right upper back naevus performed today  
Sun protection advice given  
CRUK 'Detecting Skin Cancer' leaflet supplied to guide mole monitoring

**Follow up:**

Patient and GP to be notified of biopsy results  
Follow up dependent on histology results

Mr Smith attended with a mole that had been changing colour over the last 4 months. He is of type 1 skin and worked outdoors as a painter and decorator.

The lesion of concern was a 5mm naevus on the right upper back with colour heterogeneity and an atypical pattern on dermoscopy. We have excised the lesion today and will write to the patient or offer a further follow up appointment dependent on the histology results.

Yours sincerely,

*Checked & electronically signed by*

Dr. J. Burns  
Specialist Registrar in Dermatology

c.c. Patient

# Chapter 2: Skin cancer

## *Skin cancer history*

### Heading

History of presenting complaint

### Key questions

- Duration - how long has the lesion been present for and when did it change?
- Appearance - has there been a change in size, shape or colour?
- Associated symptoms – have you noticed any other symptoms (e.g. bleeding/itching/crusting)?

Skin cancer risk factors

- Where were you born?
- Have you ever lived abroad?
- Do you travel to sunny places? If so where, and for how long? And how often a year?
- Did you sunburn previously? How many episodes of blistering sunburn?
- Do you regularly use sun cream? What factor?
- Do you use sun beds? Approximately how many sessions, and for how long (minutes)? Always advise patients to discontinue use of sunbeds (and document this)
- Occupation? Outdoor occupations e.g. farmers, builders, painters, army
- Fitzpatrick skin type?
- Any personal or family history of melanoma?

Past medical history

- Ask for any conditions requiring long term immunosuppression
- Are there any factors that may affect management (ability to lie flat, bleeding risk, diabetes, PPM)?

Drug history

- Aspirin, Clopidogrel, Warfarin, Rivaroxaban, Apixaban, Dabigatran
- Allergy – antibiotics, local anaesthetic

Social history

- Are they independent or do they depend on carers? May impact on wound care
- Smoker

## *Fitzpatrick skin types*



**Type 1:** always burns, never tans – very fair and often has red or strawberry blonde hair, freckles and blue/green eyes.

**Type 2:** usually burns and tans with little difficulty - usually has fair skin and hair, and pale eyes.

**Type 3:** sometimes burns mildly but tans gradually.

**Type 4:** rarely burns and tans easily - usually olive skin tones.

**Type 5:** rarely burns and tans easily - usually dark hair and dark eyes.

**Type 6:** very rarely burns and tans easily.

Key questions to ask:

- What is the natural colour of your hair?
- What happens to your skin when you stay in the sun for too long?
- To what degree do you tan? Do you normally go red before you tan?

**Top tip:** It is important to note that the Fitzpatrick scale was originally designed to classify the skin's reaction to sun exposure with respect to ability to tan or burn. Originally 4 categories were created. Phototypes V and VI were later added. It is not correct to assume that individuals with darker skin do not sunburn. Skin type definitions are currently under review by the BAD to be more inclusive of all ethnic groups.

## Photography and consent

In addition to serving as an aide for MDM's and discussions with seniors, good clinical photographs can serve an important educational purpose when receiving biopsy results. The following are important when arranging/taking clinical photographs:

- Dedicated medical photographers are most likely to obtain high quality clinical images for patients
- If taking photos yourself, there are now several applications approved by NHS Digital and listed in the NHS Apps Library to securely take and share photographs with clinical colleagues (<https://www.nhs.uk/apps-library/>)
- Written informed consent is essential and usually falls into three categories which you will need to specify to the patient:
  - o Consent for use in their personal medical records (e.g. mole mapping and monitoring)
  - o Consent for use in a healthcare setting for teaching purposes (e.g. presenting at local grand round or national clinical meeting)
  - o Consent for use in publication (e.g. published article in scientific journal, often helpful to name journal)
- When requesting mole photography
  - o If monitoring moles, can ask the department to provide a copy of the photos to the patient to guide self-monitoring
  - o Ask for broad images and also close ups of any suspicious moles
  - o It is helpful to mark and number the requested moles on the skin if attending photography on the same day
  - o Check if the photography department have access to a dermoscopy lens and ask for dermoscopy views if so

**Top tip:** When following up biopsy results, keep a list with suspected diagnosis and add confirmed diagnosis after the biopsies results are back. Comparisons and re-review of the clinical and dermoscopy images can serve as an effective tool for learning.

## Follow up of results

In many instances, you can wait until the histology results are available before either writing to the patient with the results (e.g. benign skin lesion) or alternatively routine follow up can be offered, for example following curettage of a skin lesion to ensure resolution). For patients that are likely to be difficult to contact reliably or suspect a condition which will require further treatment (e.g. high index of suspicion for melanoma) a follow up appointment can be immediately made on the day of excision.

## ***Skin cancer management***

### **Basal Cell Carcinoma (BCC)**

Clinical signs: Flesh coloured, rolled edges, pearly sheen, telangiectasia

- Subtypes: nodular (most common), superficial, morpheic, cystic and pigmented.
- Locally invasive and rarely metastasize. Can cause significant tissue destruction.
- Management:
  - o Excision with a 4mm margin is the treatment of choice for the majority of BCC's on the trunk or limbs
  - o Lesions on the face require a shave/punch biopsy for histological confirmation before Mohs surgery if fit enough (lower recurrence rate, better cosmetic result)
  - o Superficial lesions can be managed with cryotherapy (although avoid on the face or in pigmented skin) or topical 5-fluorouracil (Efudix®)/imiquimod (Aldara®) cream
  - o Curettage and cautery with 3 cycles is also an option in some patients

### **Squamous Cell Carcinoma (SCC)**

Clinical signs: Keratotic nodules with a central crater of crust.

- Most commonly found on dorsum of the hands, lips, scalp and helix of the ears.
- Keratoacanthomas are clinically similar, benign lesions that rapidly grow – often excised due to clinical resemblance to SCC
- Management
  - o Punch biopsy to assess the degree of differentiation (well, moderate, poorly)
  - o Treatment of choice is excision with a 4-10mm margin
    - 4mm margin if low risk
    - 6mm margin if high risk
    - 10mm margin if very high risk
  - o In the case of a well differentiated SCC, curettage and cautery (C&C x3 cycles) may be appropriate
  - o Radiotherapy may be more suitable for larger SCC lesions in older patients

### **Malignant Melanoma**

Clinical signs: Irregular borders, enlargement, colour heterogeneity, asymmetry.

- Superficial spreading melanoma is the most common subtype.
- Management
  - o Excision biopsy with a 2mm margin is the investigation of choice for suspected melanoma
  - o If the diagnosis of melanoma is confirmed, a wide local excision (WLE) +/- sentinel lymph node biopsy is performed. Size of WLE dependent on depth of invasion (typically 0.5-2.0cm)
  - o Tumours are staged using the AJCC classification system (see below) but other classification systems are in use widely in Dermatology. Check local and national guidelines in your place of work

## Efudix and Aldara

Efudix (5-fluorouracil) and Aldara (5% imiquimod) creams are topical treatments used to manage actinic keratosis, Bowens disease and superficial BCC.

Patients may need follow up to ensure resolution (in some centres topical treatment is supervised by nursing staff in a daycare clinic)

**Top tip:** Always supply a patient information leaflet (e.g. from the BAD website) to ensure patients are fully aware of the side effect profile of these medications as reactions can be relatively severe.

### Efudix®

- Side effects: skin irritation and redness
- Typically given as a 4-week course; regimens can vary (OD/BD) e.g. Once daily to affected areas for 4 weeks, or twice daily for two weeks, two weeks break, then again twice daily for further two weeks.

### Aldara®

- Side effects: flu-like symptoms e.g. fever, malaise, fatigue, nausea, diarrhoea, myalgia
- Regimens can vary but commonly prescribed as a 6-week course - used 5 times a week (e.g. use on Monday->Friday for six weeks, weekends off/emollient only)

## Cryotherapy

The use of liquid nitrogen to treat common benign and low risk malignant skin conditions primarily through formation of intracellular ice crystals.

- Use in conditions in which histology is confirmed or confident in clinical diagnosis as tissue will not be obtained for histological assessment
- Avoid use around the eyes, lips or nose and generally anywhere on the face in pigmented skin
- If concerned, use for shorter time with caution particularly on the face
- Acute side effects: bleeding, blistering, pain and swelling.
- Delayed side effects: bleeding, infection, temporary and permanent pigmentary change, permanent loss of hair follicles.
- Patients should be told to seek medical help if there are any signs of infection following the procedure and paracetamol may be needed for analgesia post-procedure.
- Malignant, pre-malignant and thicker benign skin conditions need longer treatment times, but scarring can occur due to prolonged treatment time which damages collagen matrix of skin
- Malignant skin conditions need wider margin for the ice ball – benign conditions usually need 1mm but malignant and premalignant need wider
- Make sure to use an appropriately sized tip for the lesion

### Common skin conditions treated with cryotherapy and guidance for treatment times:

- Skin tags (freeze time of 5 seconds, one freeze thaw cycle)
- Molluscum contagiosum (freeze time of 5-10 seconds, one freeze thaw cycle)
- Seborrheic keratosis (freeze time of 10-15 seconds, 1-2 freeze thaw cycle)
- Viral warts (freeze time of 10-20 seconds, 1-2 freeze thaw cycle)
- Actinic keratoses (freeze time of 5-10 seconds, one freeze thaw cycle)
- Bowen's disease (freeze time of 15-30 seconds, 1-2 freeze thaw cycle) – 3mm margin
- Low risk BCC (freeze time of 30 seconds, 2-3 freeze-thaw cycles) – 5mm margin

**Important note** – the times refer to the interval after the initial freeze ball or halo forms, not the total spray time.





## AJCC staging for Malignant Melanoma

A modified staging system based on the TNM (Tumour, Nodes, Metastases) classification

**Tumour:** This describes the depth of melanoma invasion of the primary (original) tumour (i.e. the Breslow thickness)

- Tis: melanoma in situ
- T1:  $\leq 1.0$  mm
- T2:  $>1.0$ – $2.0$  mm
- T3:  $>2.0$ – $4.0$  mm
- T4:  $>4.0$  mm
- a added if no ulceration present, b added if ulceration present to all stages.
- T1 can also be upgraded to T1b if mitoses  $>1/\text{mm}^2$

**Lymph nodes:** this describes if regional lymph nodes are involved.

- N0: no regional metastases
- N1: one tumour-involved node (add a if micrometastases, b if macrometastases)
- N2: two or three tumour-involved nodes (add a if micrometastases, b if macrometastases, or c if in-transit, satellite without metastatic nodes)
- N3: four or more tumour involved nodes, or matted nodes, or in-transit, satellite, and/or microsatellite metastases with metastatic nodes,

**Metastases:** This describes the presence or absence of distant metastases.

- M0: no evidence of distant metastasis
- M1: evidence of distant metastasis (a if to the skin, b if to the lung, c if to other non-CNS sites, and d if to the CNS)

**Overall stage is a composite of the TNM classification for the tumour**

Overall Stage	Tumour size	Nodal involvement	Metastases
0	Tis	N0	M0
IA	T1	N0	M0
IB	T2a	N0	M0
IIA	T2b or T3a	N0	M0
IIB	T3b or T4a	N0	M0
IIC	T4b	N0	M0
IIIA	T1 or T2a	N1a or N2a	M0
IIIB	T0	N1b or N1c	M0
	T1 or T2a	N1b, N1c or N2b	M0
	T2b or T3a	N1, N2a or N2b	M0
IIIC	T0	N2b, N2c, N3b, N3c	M0
	T1, T2 or T3a	N2c or N3	M0
	T3b or T4a	N1, N2 or N3	M0
	T4b	N1 or N2	M0
IIID	T4b	N3	M0
IV	T1, T2, T3 or T4	N1, N2 or N3	M1

## ***Skin cancer follow up consultation***

### History

- Any new lesions of concern
- Unintentional weight loss

### Examination

- Examination of scar
  - Assess healing
  - Look for any local recurrence
- Check local lymph nodes
  - Axillary, cervical and inguinal
- Examine for hepatosplenomegaly
- A full skin check can be offered

### Melanoma/skin cancer surveillance

- Explain to patient that they should look for new moles/skin lesions with the following features:
  - Irregular appearance (border, colour, asymmetry)
  - Associated symptoms (bleeding, itching, ulceration, pain, crusting)

### Follow up

- 3-6 monthly as per guidelines.

## ***Nail signs***

- Nail cases can be challenging as a junior, and senior input is always advised if unsure
- Patients should be risk stratified according to the risk factors listed below
- Melanoma of the nail most commonly seen in those >50 years old on the index finger or big toe.
- Surgical removal of the nail apparatus is indicated in these cases.

Remember to consider biopsy if:

- A** Age >50 years old
- B** Brown to black, blurred borders, breadth >3mm
- C** Changes of melanonychia or nail plate
- D** Digit: single digit, especially thumb, big toe and index finger
- E** Extension of pigment into nail fold (Hutchinson sign)
- F** Family or personal history of melanoma

## ***ABCDE rule for pigmented lesions***

The ABCDE rule is used to inform patients of the skin changes that can help identify moles suspicious for melanoma at an early stage

- Supply the patient with a leaflet if available.
- If any of these are applicable, ask the patient to return under the 2-week wait rule (via GP)

**A** Asymmetry – is the mole asymmetrical?

**B** Border irregularity – is the border smooth and even or irregular and uneven?

**C** Colour change or variability – is the colour of the mole homogenous? Or does it have two or more colours in it?

**D** Diameter greater than 6mm or change in diameter – has the mole grown and does it look larger than the patient's other moles?

**E** Evolution – is the mole changing over time in size, shape or colour?

## ***Sun protection advice***

- Avoid exposure to the sun between 11am and 3pm
- Cover up with loose, long-sleeved clothing, a wide-brimmed hat and sunglasses in the summer months
- Use at least factor 30 sunscreen with good UVA (4 or 5 star) protection
- Apply sunscreen at least 20 minutes before going outdoors
- Reapply sunscreen regularly especially if swimming or sweating
- Do not use sunbeds

# Chapter 3: Surgical Dermatology

## Sample consent form for excision

**Name of procedure:** Excisional biopsy of mole on right leg

**The intended benefits:** To obtain diagnosis and guide treatment

**Significant, unavoidable, frequently occurring risks:** bleeding, infection, scar including keloid/hypertrophic, damage to local nerves, risk of adverse reaction to local anaesthetic, need for further surgery, ectropion/watery eye (if near eye), delayed wound healing (particularly legs)

Advise patient to avoid swimming whilst stitches in situ and to avoid strenuous activity and heavy lifting. Also advise patient they may need Paracetamol for pain after local anaesthetic wears off

Keloid scars are particularly risky in those with a personal or family history of keloids, those of African or Caribbean descent and those in undergoing procedures at sites such as the upper chest or back.

**Top tip:** check if patient is going abroad before performing biopsy as removal of sutures may be more difficult to arrange and the patient may be keen to go swimming

## Mole excisions

### Elliptical excision of a mole

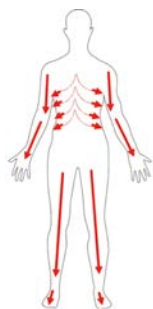
1. Check the mole is the correct one with the notes, photographs, histology request form and with the patient
2. Mark 2mm around the mole – can start by plotting 3, 6, 9, 12 o'clock positions 2mm away from mole
3. Join the plotted points ensuring mole is 2mm from line at all points (especially if mole is not completely circular)
4. Extend along natural skin tension lines to form an ellipse to aid easier closure
5. Inject local anaesthetic
6. Cut out down to fat, release tips and take care not to crush specimen when performing final detachment from skin
7. If orientating specimen place marking suture or remove tip one end and note on pathology request form (e.g. marker suture superior or blunt end superior)
8. Repair defect with direct closure – firstly deep sutures, and then skin sutures on top. A dog ear repair is an option if redundant tissue at wound edges



### Relaxed skin tension lines and lines of maximal extension

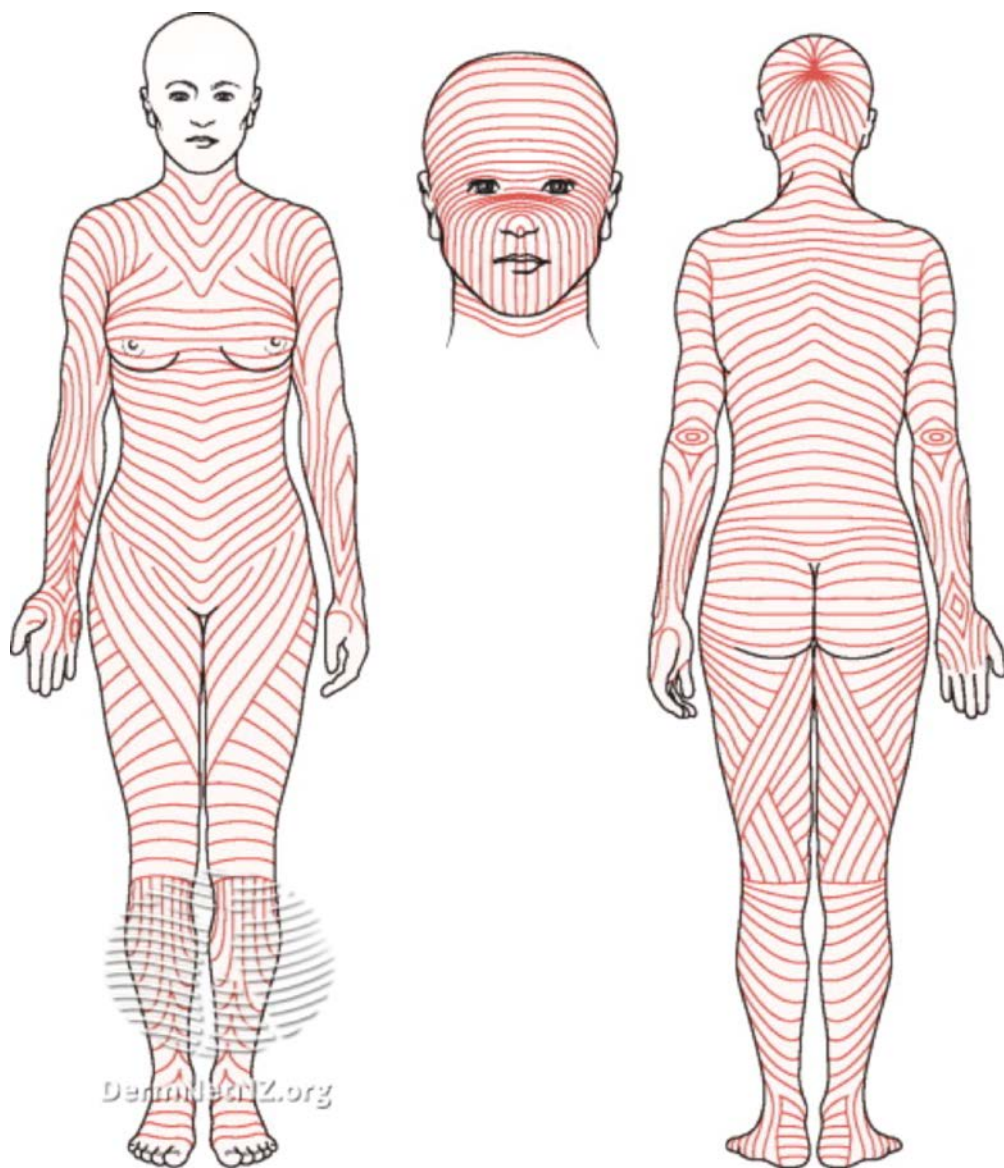
Lines of maximal extension are much more important than relaxed tension lines

- Skin pulled towards joints
- Longitudinal on limbs +/- a bit oblique if over muscle belly
- Torso – tension lines resemble a Christmas tree
- Make sure to avoid important structures



**Top tip:** When excising lesions on the lower leg, plan the scar longitudinally rather than transverse as this makes a further wide local excision much easier if it is necessary

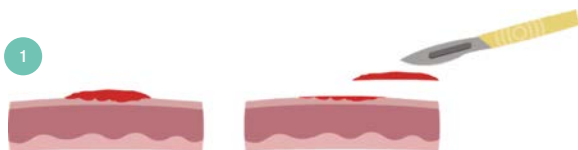
## *Relaxed skin tension lines*



## Other Dermatology procedures

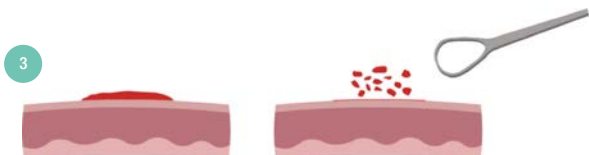
### Shave procedure

- Useful for benign lesions, particularly those that are pedunculated or have minimal dermal extension
  - Not suitable for removal of melanocytic lesions as can prevent accurate assessment of lesion depth if found to be melanoma
  - Good cosmetic results and low risk infection
- Anaesthetise the area – When infiltrating try to raise the lesion and create a bleb
- Once numb, use a scalpel (or simply the blade alone e.g. No. 15) and using one horizontal motion, remove the lesion
  - Try to avoid making sawing motions as it makes histological assessment more challenging.
- Apply Fucidin ointment and simple dressing



### Curettage and cautery procedure

- Useful for benign lesions and pre-malignant or low risk malignant lesions,
  - Not suitable for removal of melanocytic lesions
  - Low risk infection but can develop unsightly scars including keloids
  - Difficult histological assessment and uncertainty of curative treatment (no peripheral or deep margins)
- Anaesthetise the area
- Using the sharp side of the curette (4mm or 7mm usually available), remove the lesion
- Cauterise the base with a hyfrecator
- Wipe with chlorhexidine and perform further curettage (2nd cycle) over the treated areas, moving the instrument in multiple directions to ensure all abnormal tissue is removed
- Cauterise the base with a hyfrecator
- If necessary, wipe with chlorhexidine and perform further final curettage (3rd cycle) over the treated areas, moving the instrument in multiple directions to ensure all abnormal tissue is removed
- Cauterise the base with a hyfrecator and apply Fucidin ointment and simple dressing
- Saucerisation and cautery is a variant of the technique in which the aim is to take the entire lesion intact on the first cycle of curettage. This is performed by undermining underneath the lesion in a saucer conformation.
  - Greater chance of defining margins on histology using this technique



1. Shave biopsy
2. Curette instrument (7mm size)
3. Curettage and cautery

## Punch biopsy

- Standard procedure for obtaining tissue for diagnostics purposes
  - May not be suitable for biopsies in which fat is necessary to obtain diagnosis (e.g. suspected panniculitis)
    - incisional biopsy is preferable in this case
  - Range of sizes available (1-8mm) - most commonly used is 4mm
  - Larger size punch biopsies can be used for excisions of small lesions but must ensure adequate margin (e.g. 2mm) and lesion is centred within instrument.
- Anaesthetise the area
- Stretch skin
- Apply instrument and twist through the skin until a 'give' is felt
- Using forceps gently lift up biopsy, taking care not to crush the tissue
- Using scissors or scalpel cut the tissue away from the body and store in appropriate pot (e.g. formalin)
- Suture the defect – two sutures are normally sufficient for a 4mm punch biopsy.
- Apply Fucidin ointment and simple dressing



**Top Tip:** When completing the pathology request form, make sure to include the symptoms, duration, morphology of the rash/lesions, distribution, relevant systemic illnesses, treatment history, favoured clinical diagnosis and any relevant differential diagnoses.

1. 4mm punch biopsy
2. Punch biopsy procedure



## ***Biopsy pack contents***

Biopsy pack – contains surgical instruments – scalpel, toothed and non-toothed forceps, needle holders, scissors (flat and curved), mosquito forceps, +/- skin hook, gallipot, tray, small drape, towel dressing, sterile gauze



## Surgical instruments



1. Flat scissors

2. Curved scissors

3. Needle holders

4. Mosquito forceps

5. Scalpel (No 15 blade)

6. Toothed forceps

7. Non-toothed forceps

8. Skin hook

## Sutures

**Dissolvable sutures:** these are often used as deep sutures, and these provide wound closure. Examples include:

- Vicryl – easy to use, stronger reaction, resorbed in three months
- Monocryl – weaker than Vicryl but offers less tissue reaction, resorbed in three months
- Polydioxanone (PDS) – poorer handling and knot tying security, but stronger than Vicryl and has less reaction, can persist for over 6 months, although expensive



**Top tip:** Vicryl rapide is an example of an absorbable suture which can be used as a superficial suture.

**Non-dissolvable sutures:** these are used as superficial sutures to maintain wound edge apposition (except pulley/mattress sutures). These should not be kept in for too long as they can leave behind track marks. Examples include:

- Ethilon – good tensile strength, minimal tissue reaction
- Prolene – good general suture, can be used for interrupted or running subcuticular stitches
- Novafil – more elastic so can be used if there is oedema



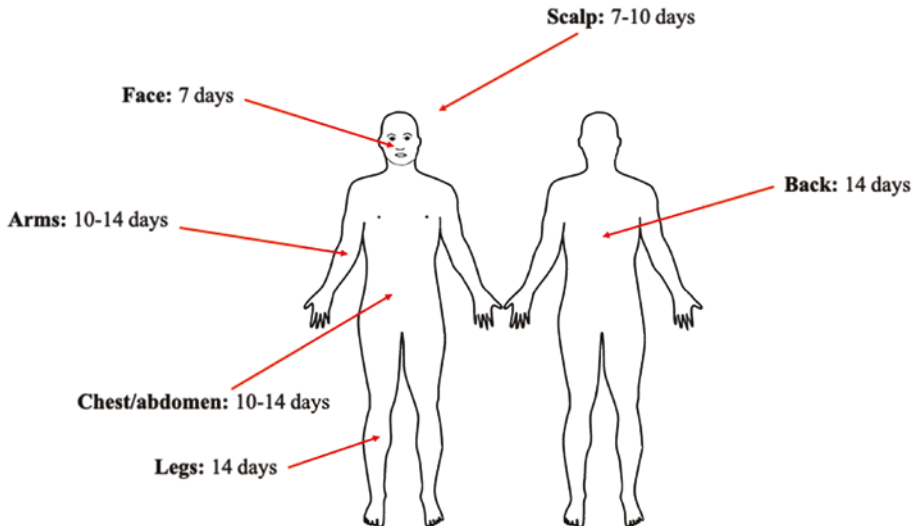
### Needle shape

- Dermatological surgery primarily utilises curved needles ( $\frac{1}{4}$  -  $\frac{5}{8}$ ), and can vary in shape
- Cutting needles are triangular in shape, and the cutting surface is on the concave edge. These have the ability to penetrate tougher tissue types
- Reverse cutting needles instead have a cutting surface on the convex edge. This makes them ideal for subcuticular sutures

### Suture size (thickness)

- The higher the number, the finer the material e.g. 5-0 is much finer than 3-0
- Aim to use thinnest suture possible to gain adequate wound closure as finer sutures often given better cosmesis. However must consider the strength of the tissue.
- Different clinicians have different preferences but a typical choice for interrupted skin sutures following a biopsy could include:
  - 3-0 Prolene for tough areas e.g. back
  - 4-0 Prolene as a standard
  - 5-0 Prolene for face
- Dr Mann's preferred approach
  - 5-0 monocryl and 6-0 rapides for the face
- Add in 4-0 vicryl or monocryl for tense wounds
  - 3-0 / 4-0 monocryl deep for wounds elsewhere, and either
  - running subcutaneous 4-0 or 5-0 monocryl
  - 5-0 vicryl rapides
- Aim to have the wound 'closed' with the deep sutures – then the stop (or more superficial dermal) sutures are just to make sure the wound edges stay together

## Suture removal



## Wound care advice post biopsy

- Keep the dressing dry for 24-48 hours, and after this time wash the wound with soap and water
- Make sure to pat, rather than scrub, the wound dry, and Vaseline can then be applied over the stitches for moist wound healing to prevent the wound from drying out and scabbing
- Apply a waterproof plaster (not fabric) over the wound, although after 24-48 hours this is not essential
- After the anaesthetic wears off any pain or discomfort around the site of the biopsy can be managed with simple painkillers like Paracetamol rather than Ibuprofen which may increase bleeding risk
- Bruising is common post procedure, as can a small amount of bleeding – if this happens, firm pressure is advised for 15 minutes. If bleeding persists longer than this, please seek medical advice.
- Present to GP for a review and consideration of a course of antibiotics if the following signs of infection are observed:
  - o Redness around the wound
  - o Pain
  - o Swelling

**Top tip:** if the nurses have the availability, supply the patient with a few spare plasters in case the wound dressing peels off

## Sample surgical procedure note

Atypical pigmented lesion on right lower leg? malignant melanoma

Verbal and written consent for excision with 2mm margins after discussion of benefits/risks

WHO checklist complete

Aseptic preparation

Local anaesthesia: 3.0mls of 1% xylocaine (Lidocaine)/Adrenaline

Elliptical excision with 2mm margin. Suture at 12 o'clock position. Sample to histology for H+E

Haemostasis: Hyfrecator at setting 10, pressure

Closure: Deep – 4 x 4-0 Vicryl, Superficial – 8 x 4-0 Prolene

Topical and dressing: Fucidin, Kaltostat, Tegaderm dressing

### Plan:

Wound care leaflet supplied, and verbal instructions given

Removal of sutures in 14 days (by practice nurse) – letter supplied to patient

Results to Dr. XYZ

Follow up dependent on histology results (letter/outpatient appointment)

**Top tips:** Familiarise yourself with the World Health Organisation surgical safety checklist which helps ensure safe practice and reduce the risk of surgical never events. The checklist has three crucial stop moments where the surgical team should pause and verbally work through the checks on the list. These are undertaken pre-anaesthesia, pre-incision and before the patient leaves the procedure room. Ensure you check for allergies (including latex and anaesthetics) and ask if history of fainting when having blood taken or procedures. Avoid having a relative in the theatre during the procedure in case they faint! They can stay however during the consent process if this is helpful

## Sample pathology request form

**Site of specimen:** Right lower leg

**Type of specimen:** Excisional biopsy with 2mm margin

**Clinical details:** New rapidly enlarging pigmented lesion on right lower leg. Suspicious for malignant melanoma, differential diagnosis atypical naevus. Elliptical excision with suture at 12 o'clock position.

(If previous relevant biopsy include the sample number for reference e.g.)

## Local anaesthesia

Many different types of local anaesthetic available – most commonly used is Lidocaine (also known as Lignocaine or Xylocaine® (trade name)).

Two main classes of local anaesthetic

- Amino amides (all contain at least two 'i's in the name):
  - o Lidocaine
  - o Mepivacaine
  - o Bupivacaine
  - o Prilocaine
- Amino esters
  - o Tetracaine
  - o Cocaine
  - o Procaine
  - o Chlorprocaine
  - o Benzocaine

### Additives

- Sodium bicarbonate:
  - o Usually added to neutralise the pH of the anaesthetic which can reduce pain.
- Adrenaline
  - o Vasoconstrictor which helps keep the anaesthetic localised by slowing drainage thereby potentiating duration of effect
  - o Vasoconstriction also reduces bleeding
  - o Addition of Adrenaline does however increase pain
  - o Risks:
    - Hypoperfusion and necrosis if injected into the penis/fingers/toes
    - Excessive blood pressure if used in a patient taking non-selective beta-blockers
    - Hypertension and arrhythmia if used in a patient taking tricyclic anti-depressants
    - Contraindicated in uncontrolled hyperthyroidism and phaeochromocytoma

### How to minimise pain when administering local anaesthetic:

- Ensuring the solution used is warm
- Cool air in the room where the procedure is being done
- Inject slowly using a small-bore needle (e.g. 30G yellow or 27G grey) where possible as this is less painful than wide bore
- Using distraction techniques
- Use of topical anaesthetic (e.g. EMLA) prior to local anaesthetic administration

### Local anaesthetic toxicity

- Can occur when performing skin procedures using local anaesthesia particularly in those undergoing multiple body site procedures, low weight individuals or those with other medical comorbidities.
- Adverse effects include:
  - o Light headedness/drowsiness
  - o Abnormal sensation in the mouth/tongue

- o Tinnitus/auditory hallucinations
- o Muscle spasms
- o Seizures
- o Coma
- o Respiratory arrest
- o Cardiac arrhythmias (particularly with bupivacaine)

### To reduce the risk of local anaesthetic toxicity:

- Inject slowly and not all at once
- Consider patients age, cardiovascular disease, renal and liver impairment when deciding on maximum dose.
- Schedule multiple site procedures on separate dates to avoid anaesthetic accumulation and consider patients other co-morbidities and individual circumstances
- Refer to maximum dose tables below but always check individual preparations

### Local anaesthetic properties and dosing

Local anaesthetic	Onset of action (mins)	Max dose without adrenaline (mg/kg)	Max dose with adrenaline (mg/kg)	Duration without adrenaline (min)	Duration with adrenaline (min)
Lidocaine	<1	3.0 (or 200mg)	7.0 (or 500mg)	30-120	60-400
Bupivacaine	2-10	2.5 (or 175mg)	3.0 (or 225mg)	120-240	240-480
Mepivacaine	3-20	6.0 (or 400mg)	7.0 (or 550mg)	30-120	60-400
Prilocaine	5-6	7.0 (or 400mg)	10.0 (or 600mg)	30-120	60-400
Tetracaine	7	2.0	2.0	120-240	240-480
Procaine	5	10.0	14.0	15-90	30-180

### Maximum volumes of Lidocaine for use in adults

Preparation	Concentration (mg/ml)	Maximum dose (mg/kg)	Maximum volume (mls) for body weight						
			40kg	50kg	60kg	70kg	80kg	90kg	100kg
Lidocaine 1%	10.0	3.0	12.0	15.0	18.0	20.0	20.0	20.0	20.0
Lidocaine 2%	20.0	3.0	6.0	7.5	9.0	10.0	10.0	10.0	10.0
Lidocaine 1% with Adrenaline (1:200000)	10.0	7.0	28.0	35.0	42.0	49.0	50.0	50.0	50.0
Lidocaine 2% with Adrenaline (1:200000)	20.0	7.0	14.0	17.5	21.0	24.5	25.0	25.0	25.0

## Local anaesthetic: common scenarios

### Allergy to lidocaine

- o True allergy to lidocaine is rare
- o Perhaps an allergy to the preservatives
- o Perhaps anxious last time lidocaine was used/vaso-vagal
- o Amino-esters more 'allergenic' than amino-amides (like lidocaine)
- o Type I or type IV reactions (anaphylactic/rash or local rash)
- o Refer to allergist for definitive confirmation
- o Consider Mepivacaine (has different preservative)

### Pregnancy

- o Lidocaine is generally safe to use during pregnancy
- o Some mothers may prefer to defer non-essential procedures until after first trimester or delivery, but limited evidence to suggest definitive local anaesthetic risk prior to this
- o Bupivacaine and mepivacaine carry a risk of foetal bradycardia
- o Be cautious in breastfeeding mothers as local anaesthetic can be excreted in breast milk

### Children

Parents and children are often concerned about the pain of paediatric skin procedures. Factors that have been shown to improve outcomes in children include:

- Using a topical anaesthetic (e.g. EMLA) prior to injecting a local anaesthetic
  - o Topical anaesthetic should be applied in a thick layer and should not be rubbed in; cover with an airtight dressing and leave for an hour
- Using distraction techniques (by paediatric nurse or play specialist)
- Ensuring the parents are present during the procedure

**Top tip:** identify children and patients likely to require time for topical anaesthetics when planning the surgical list and ask them to come an hour before procedure for topical EMLA

**Top tip:** Beware performing procedures on the legs as they are very slow to heal. Vascular insufficiency of the legs greatly increases the risk of delayed wound healing. If at risk, arrange for ankle-brachial pressure index measurement before the procedure (see wound care chapter for steps for performing ABPI). If adequate vascular status, can use graduated below knee compression bandaging post procedure to improve wound healing, but allocate sufficient time for the nurses to do the dressing.



# Chapter 4: Paediatric Dermatology

## *Paediatric atopic dermatitis history*

### Heading

History of presenting complaint

### Key questions

- Describe the eruption – typically dry, red, scaly patches
- Is skin dry?
- Is it itchy?
- What sites does it affect?
- Age of onset
- Triggers – e.g. foods, allergens, medications
- Recent history of infections
- Distribution (skin flexures but also cheek, forehead and extensors if <4 weeks old)
- Duration - how long has the eruption been present for?
- Associated symptoms – have you noticed any other symptoms?
- Atopic disease (including family history of atopy)
- Recent infections
- Treatment history for atopic dermatitis (to include amount of emollient and topical steroid used, e.g. 100g of topical steroid every 2 months)
- Recent medications
- Allergy; medication or food
- Atopic disease in first degree relatives if <4 years old
- Quality of life assessment looking at sleep disturbances, school attendance and concentration

Past medical history

Drug history

Family history

Social history

## Paediatric atopic dermatitis management

Mild eczema	Moderate eczema	Moderate eczema
<ul style="list-style-type: none"> <li>• Localised</li> <li>• Dry patches</li> <li>• Little impact on everyday activities or sleep</li> </ul>	<ul style="list-style-type: none"> <li>• Areas of dry skin and frequent itching and redness</li> <li>• Frequently disturbed sleep</li> </ul>	<ul style="list-style-type: none"> <li>• Widespread areas of dry skin, incessant itching, redness (with or without excoriation, extensive skin thickening, bleeding, oozing, cracking and alteration of pigmentation)</li> <li>• Nightly disturbed sleep</li> </ul>
<ul style="list-style-type: none"> <li>• Regular emollient</li> <li>• For acute flares apply a topical steroid (e.g. 1% Hydrocortisone) daily for at least two weeks</li> <li>• Consider maintenance treatment with twice weekly consecutive days applications</li> </ul>	<ul style="list-style-type: none"> <li>• Regular emollient (250-500g per week)</li> <li>• For acute flares apply a topical moderately potent steroid (e.g. Eumovate) daily for at least two weeks</li> <li>• Consider topical calcineurin inhibitors e.g. Protopic® ointment</li> <li>• Consider maintenance treatment with twice weekly consecutive days applications</li> </ul>	<ul style="list-style-type: none"> <li>• Regular emollient (250-500g per week)</li> <li>• For acute flares apply a topical potent steroid (e.g. Elocon) daily for at least two weeks</li> <li>• Consider topical calcineurin inhibitors e.g. Protopic® ointment</li> <li>• Consider maintenance treatment with twice weekly consecutive days applications</li> </ul>

**Top tip:** Consider referral to allergy specialist in children < 5 years old with moderate-severe AD with persistent exacerbations despite optimum management or with a clear history of food related exacerbations (e.g. milk, egg, peanut, wheat, soya). In children older than 5 years old, improvement of eczema through dietary change is rare – consider aeroallergens (e.g. house dust mite, grass, animal dander, moulds) if they have exposed site eczema.

## ***Eradication of nasal *Staphylococcus aureus****

- Typically use Mupirocin 2% nasal ointment (Bactroban®)
- Apply to the inside of the nostrils, three times daily for 5 days.
- Press both nostrils together to ensure ointment is spread over the insides of both nostrils.
- Check for eradication by repeat nasal swab two days after treatment
- Hibiscrub® washing (or Octenisan®) used in conjunction if skin colonisation with *Staphylococcus aureus* or MRSA
- If the MRSA is mupirocin-resistant, Neomycin nasal cream (Naseptin®) can be used four times daily for 10 days – but it is not suitable for patients with a nut allergy.

**Top tip:** In children with recurrent facial eczema or recurrent infected eczema, consider swabbing the nose for *Staphylococcus aureus* carriage and eradicating. If positive, consider swabbing the nose of close family members.

## ***Wet wraps***

- Moist bandages covering emollient (with or without a topical steroid) often used as a treatment in children suffering from eczema
- Work by:
  - Cooling the skin by evaporation and reducing irritation
  - Increase absorption of emollients into the skin
  - Prevent scratching
- Dry bandages (e.g. tubigrip) can be applied as a secondary dressing later to protect clothes
- Wet wraps stay in situ for 3 days
- Caution:
  - Never occlude infected areas
  - Steroids become much more potent when occluded
- Steps:
  - Apply a thick layer of emollient from head to toe
  - Fully soak a pair of leggings and a top in warm water
  - Squeeze all excess water leaving the material damp, but not wet
  - Ensure that labels and seams are worn on the outside, and not directly against the skin
  - Carefully put the top and leggings on by rolling up the garments and rolling them down gently over the skin
  - Dry top and leggings should then be put on over the top of the damp garments

# Chapter 5: Prescribing

## *How to prescribe and use emollients*

Myriad of preparations available:

- Ointments (e.g. Epaderm®, 50/50, Hydromol®, Diprobase®)
- Creams (Cetaben®, Aveeno®, Zerobase®)
- Sprays (Emollin®)
- Gels (e.g. Doublebase®)

Many preparations exist with added components that can be useful for anti-itching, anti-microbial and or anti-inflammatory properties.

Important factors to consider when prescribing emollients include:

- Patient preference (some hospitals will offer sample/trial packs)
- Mode of delivery (pot, pump dispenser, spray)
- Extent and severity of dryness (ointments versus creams)
- Associated symptoms such as itch or infection
- Cost
- What is available on your hospital's formulary

### **Amounts of emollient to use**

Ensure that you prescribe sufficient amount to treat whole body (dependent on the extent and severity):

- o 500g-1000g per week for adult
- o 250g-500g week for a child

**Top tips:** Warn patients (particularly elderly) who are prescribed ointments that they are a slip hazard in the bath and shower. Also warn smokers that paraffin-based products are flammable

### **How to apply emollient**

- 1) Wash hands to remove bacteria
- 2) If the cream is in a tub, to avoid contamination do not use fingers to scoop out the product. Instead decant some of the emollient onto a clean tissue using a clean dessert spoon
- 3) Emollients should be applied in a thin layer to the skin in the direction of hair growth and left to absorb (can take up to 10 minutes). Avoid rubbing in emollients.
- 4) Topical steroids should be applied after the emollient (~15 to 30 minutes), and only on the affected areas.

## Occlusion

Occlusion is a technique to increase the potency and duration of action of therapies such as topical steroids and emollients

- o Can be used with cling film, cotton gloves or hydrocolloid dressings (e.g. Duoderm®).
- o For example, for hand eczema, patients are encouraged to apply a thick layer of emollient ointment under the gloves and wear overnight
- o Duoderm® extra thin hydrocolloid dressings:
  - Apply topical therapy to the desired areas
  - Cut dressing to extend 2cm around the wound
  - Remove the backing paper from the dressing and apply to wound
  - Mould dressing into place with hand for
- o Apply topical therapy to the desired areas
- o Cut dressing to extend 2cm around the wound
- o Remove the backing paper from the dressing and apply to wound
- o Mould dressing into place with hand for secure adhesion for approximately one minute
- o Change dressing every 24-72 hours

## *Topical steroid prescribing*

Choosing the right product

- Variety of preparations available with differing strength and additives (e.g. added anti-microbials)
- Typically prescribed once daily as no evidence for twice daily use (some exceptions exist that are normally prescribed twice daily e.g. Fucibet, Trimovate)
- Ointments are more potent than creams due to higher oil content and are more commonly used in Dermatology prescribing
- Be careful when prescribing:
  - o Site of application – only mild or moderately potent for face and flexures
  - o Duration of use - prolonged use results in cutaneous atrophy – be clear with the instructions to patients and pharmacy on prescriptions
  - o Beware that the use of steroids under occlusion greatly increases their potency.
  - o Risk of adrenal suppression even from topical steroids – if suspected, consider morning cortisol (refer to local guidelines)
  - o For children – children are often steroid naïve and so respond to weaker preparations. Always try to use weaker preparations where possible (refer to table in Paediatric Dermatology section)

**Top tip:** Ask patient/parent to bring tube of steroid to consultation so that you know what quantities they are actually using.

### Amount of topical steroids to prescribe and Fingertip units (FTU's)

- A fingertip unit is the amount of steroid squeezed out from the tip of the finger to the crease of the distal interphalangeal joint
- This is a useful measure of how much steroid is needed to cover particular body parts in adults (see table below):
- Fingertip unit as shown in the image translates to 0.4-0.5g of product (less in children)

1 fingertip unit for one hand
2 fingertip units for one foot
2-3 fingertip units for the face & neck
3 fingertip units for one arm
6 fingertip units for one leg
14 fingertip units for trunk (front and back)



**Top tip:** Weaning topical steroids rather than discontinuing suddenly can help prevent rebound flares – e.g. use once daily for a week, then once every other day for a week, then weekly then stop. Make sure the instructions on the prescription are clear for pharmacy and also to the patient!

### Effects of excess topical steroids

- Skin atrophy and thinning
- Telangiectasia
- Easy bruising and purpura
- Striae
- Ulceration
- Flare of skin conditions – rebound phenomena, steroid acne/rosacea
- Steroid induced adrenal suppression



*Topical steroid potency ladder (most common preparations)*

**Most Potent**

**Dermovate**

**Elocon**

**Betnovate**

**Eumovate**

**Betnovate RD**

**Least Potent**

**Hydrocortisone**



## Topical steroid potency

### Topical steroid preparations, potency and generic name equivalents

Potency class	Generic names and strengths	Common brand names
Mild	Hydrocortisone 0.1%, 0.5%, 2.5%	Generic hydrocortisone
<b>With anti-infective</b>	Hydrocortisone 1% with Miconazole	Daktacort®
	Hydrocortisone 1% with Clotrimazole	Canesten®
	Hydrocortisone 1% with Fusidic acid	Fucidin H®
Moderate	Betamethasone valerate 0.025%	Betnovate-RD®
	Clobetasone butyrate 0.05%	Clobovate®, Eumovate®
	Fluocinolone Acetonide 0.00625%	Synalar 1 in 4 dilution®
<b>With anti-infective</b>	Clobetasone butyrate with nystatin and oxytetracycline	Trimovate®
Potent	Betamethasone dipropionate 0.05%	Diprosone®
	Betamethasone valerate 0.1%	Generic betamethasone valerate, Betnovate®
	Mometasone furoate 0.1%	Generic mometasone, Elocon®
	Fluticasone propionate 0.05%	Cutivate®
	Flucinolone acetonide 0.025%	Synalar®
	Diflucortolone valerate 0.1%	Nerisone®
	Hydrocortisone butyrate 0.1%	Locoid®
<b>With anti-infective</b>	Betamethasone with fusidic acid	Fucibet®
	Betamethasone with clioquinol	Betnovate C®
	Betamethasone with neomycin	Betnovate N®
	Betamethasone with clotrimazole	Lotriderm cream®
Very potent	Clobetasol propionate 0.05%	Dermovate®, Clobaderm®
	Diflucortolone valerate 0.3%	Nerisone Forte®
<b>With anti-infective</b>	Clobetasol propionate with neomycin and nystatin	Dermovate NN®

## Soap substitutes

- Soaps dry the skin by removing natural oils
- Ointments can be used as soaps or bath additives
- Applying emollients to dry irritated skin can help prevent stinging with bath water
- No evidence for efficacy of bath additives in the treatment of atopic dermatitis

## Antiseptic preparations

Topical therapies and soap substitutes with anti-microbial activity:

- Hibiscrub®: (4% Chlorhexidine gluconate wash) – used for surgical anti-sepsis, MRSA decolonisation
- Octenisan®: (1% octenidine dihydrochloride) a gentler antiseptic wash, can be used for MRSA decolonisation
- Dermol 500®: combination anti-septic (benzalkonium chloride and chlorhexidine dihydrochloride) and emollient (liquid paraffin and isopropyl myristate)
  - Commonly used in context of superficial skin infection as a soap substitute (e.g. infected atopic dermatitis)
  - Typically apply on desired areas for up to 15 minutes and then rinse off
  - Leave on application can cause severe irritant reaction, especially on flexures.
- Crystacide® cream: topical application of 1% hydrogen peroxide – twice a day for superficial skin infections. Useful alternative to antibiotic containing preparations
- Fucidin ointment (Fusidic acid)– often used as antibacterial over skin biopsy sutures
  - Use in topical preparations may lead to development of resistance to fusidic acid in *Staphylococcus aureus*

## ***Model topical treatment prescription***

You must include the following information:

- Name of product (ideally generic) and formulation (ointment or cream)
- Frequency and site of application
- Quantity per month if going to GP
- Any weaning instructions e.g. once a day for a week, then alternate days, then once a week, then stop.

**Top tip:** Consider cost when prescribing emollients. Many NHS trusts and GPs will have a policy whereby expensive emollients will not be dispensed. Review the table in the references which ranks the cost of common emollients

### Sample prescription for an adult eczema patient

Drug name	Dose	Frequency	Directions	Quantity	Duration
Epaderm ointment	T	QDS	Apply to whole body as emollient	2 x 500g tubs	Ongoing
Elocon ointment (Mometasone furoate 0.1%)	T	OD	Apply once daily to affected areas of the body, excluding the face. Once daily for 1-2 weeks, then alternate days for a week, then once per week and then stop.	1 x 100g tube	1-2 weeks and wean
Eumovate ointment (Clobetasone butyrate 0.05%)	T	OD	Apply once daily to affected areas on the face. Once daily for 1-2 weeks, then alternate days for a week, then once per week and then stop.	1 x 30g tube	1-2 weeks and wean
Dermol 500	T	OD	Use as a soap substitute – not for leave on use	1 x 500ml pot	1-2 weeks

## Specials

Many dermatological conditions have a limited range of appropriate licensed topical treatments. Specials are creams and ointments that are not licenced (partly due to pharmaceutical company concerns about profitability due to the small market size and high development costs).

Important points to note:

- The Medicines Act allows the prescription of 'custom' formulations of a medicine is felt to be essential to a patient's clinical need, when there is no licensed version available to meet this need
- Many of the ingredients have been used in eczema and psoriasis patients for many years with an empirical evidence base justifying their use
- Termed 'Specials' due to their use in patients with "Special clinical needs"
- Due to their expense of production, and their production in small batches, they are often made up on demand usually through hospital pharmacies, although certain independent pharmacies may also be able to produce them
- Patients may have to wait for the medication to be made up and return to collect.
- Many available – see the BAD Dermatology Specials book which outlines preparations, indications, volumes and application instructions
- Three commonly used specials:
  - Salicylic acid 5% w/w propylene glycol 47.5% w/w in Clobetasol Propionate 0.05% (Dermovate) cream – Very potent steroid used on palms and soles for inflammatory skin disease such as hyperkeratotic eczema, palmoplantar pustulosis and psoriasis. Can be used under occlusion for short periods (e.g. daily for up to two weeks) and non-occluded for a few weeks.
  - Propylene glycol 40% w/w in Clobetasol Propionate 0.05% (Dermovate) cream – good for severe inflammatory skin disease without hyperkeratosis (particularly good for palms and soles)
  - Coal tar solution BP 5% w/w in betamethasone valerate 0.025% w/w ointment - used for moderate/severe psoriasis on body when other treatments are not producing a satisfactory response. Usually once at night for 2-4 weeks then wean as improving.

## Systemics

### Methotrexate

- Available as weekly tablet (2.5mg or 10mg preparations), or also subcutaneous injection.
- Typically start at a low dose (e.g. 5mg) and build up over a number of weeks (typical maintenance dose 15mg once per week)
- Prescribe with day of the week to take and ensure patients are aware of which day they should take it
- Folic acid tablets prescribed and taken on a separate days to prevent mucositis and myelosuppression

#### Screening requirements

- Full physical examination
- Pregnancy test for females
- Bloods
  - o FBC
  - o U+E's
  - o LFT's including GGT
  - o Serum folate
  - o Hepatitis B serology
  - o Hepatitis C serology
  - o HIV test
  - o If high risk, varicella zoster serology and tuberculosis testing
- If appropriate and available – pro-collagen III peptide (if Fibroscan not available) for assessment of liver fibrosis
- Fibroscan – ultrasound scan of the liver which can be used to assess for the presence of liver fibrosis e.g. related to fatty liver disease.
  - o Results are given as liver stiffness in kilopascals (kPa).
  - o The normal range is between 2-7kPa
- Chest x-ray in those with pre-existing lung disease
- Advise pneumococcal, annual influenza and any outstanding vaccines up to date
- Check drug interactions – NSAIDs, phenytoin, sulphonamides, methotrexate, penicillin, minocycline, ciprofloxacin, barbiturates, PPI's, colchicine, diuretics.

Pregnancy and breastfeeding – Methotrexate is teratogenic and should not be used in those planning pregnancy or breastfeeding. Effective contraception for 3-6 months after stopping therapy is necessary.

#### Side effects:

- Most commonly gastrointestinal: nausea, loss of appetite and diarrhoea
- Haematological: Anaemia, thrombocytopenia and leukopenia can develop – folic acid supplementation minimises the risk of this
- Initial derangement in LFT's to be expected in the short-term, but long-term use of methotrexate can lead to fibrosis of the liver often when used at higher doses and in the context of co-existent liver disease
- Increased risk of infection, including opportunistic infection.
- Rarely: photosensitivity of the skin, acute pneumonitis/interstitial pneumonia and lung fibrosis, possible slight increased risk of cancer associated with long term therapy.

#### Monitoring:

- FBC, U+E's, LFT's
- Patients should have kidney and liver function tests every 1-2 weeks until the medication stabilises and after dose changes, three monthly when stable
- Methotrexate polyglutamates (blood testing), an active metabolite of methotrexate, can be a useful adjunct to check compliance and need for dosage readjustment

## Ciclosporin

- Oral tablets – two preparations: Capimune and Neoral
- Can be given once or twice daily
- Dosing is usually at 3-5mg/kg
- Not usually used as a long-term maintenance therapy given effects on blood pressure and renal function

### Screening requirements

- Full physical examination
- Pregnancy test for females
- Bloods
  - o FBC
  - o U+E's
  - o LFT's including GGT
  - o Magnesium
  - o Urate levels
  - o Lipid profile and cholesterol
- Blood pressure
- Urine dipstick and urine protein creatinine ratio
- Check drug interactions – statins, NSAIDs, antibiotics including macrolides, antifungals, anticonvulsants, anticoagulants, St John's wort (*Hypericum perforatum*)
- Advise pneumococcal, annual influenza and any outstanding vaccines up to date

- o Hepatitis B serology
- o Hepatitis C serology
- o HIV test
- o If high risk varicella zoster serology and tuberculosis testing

### Side effects:

- Gastrointestinal: Nausea, vomiting, reduced appetite, diarrhoea, weight loss
- Hypertension (new or deteriorating control)
- Renal impairment with prolonged use
- Hepatotoxicity
- Metabolic abnormalities - electrolyte imbalance including hyperkalaemia, hyperuricaemia (may precipitate gout), hypercholesterolaemia
- Headache, muscle aches, sensory abnormalities including paraesthesia
- Hypertrichosis and gum hypertrophy with long term use
- Increased risk of infection, including opportunistic infection and probable small increased risk of cancer associated with long term therapy.

Pregnancy and breastfeeding – Studies are not well-established and whilst little evidence of teratogenicity, it is thought Ciclosporin crosses the placenta and is excreted in breast milk. Should be avoided in those planning pregnancy or breastfeeding unless the risks of not treating outweigh any potential harm.

### Monitoring:

- Bloods - FBC, U+E's, LFT's including GGT, Magnesium, Lipid profile and cholesterol,
- Blood pressure and urine dipstick (and urine protein creatinine ratio) once to twice weekly for the first month, then monthly for three months, and then at every outpatient visit



## Azathioprine

- Oral tablets – available in 10mg and 50mg tablets
- Can be given once or twice daily
- Dosing is usually at 1-3mg/kg – usual starting dose is 1mg/kg, providing Thiopurine methyltransferase (TPMT, an enzyme that metabolises azathioprine) levels are satisfactory
  - Reduced TPMT activity results in greater risk of myelosuppression/pancytopenia and other side effects
- Not usually used as a long-term maintenance therapy given risk of skin cancer with prolonged use – advise patients to use high factor sun block and need for assiduous protection from sun

### Screening requirements

- Full physical examination
- Pregnancy test for females
- Bloods
  - FBC
  - U+E's
  - LFT's including GGT
  - Hepatitis B serology
  - Hepatitis C serology
  - HIV test
  - If high risk varicella zoster serology and tuberculosis testing
  - Thiopurine methyltransferase (TPMT) levels
- Check drug interactions – allopurinol, Warfarin, Penicillamine, co-trimoxazole, ACE inhibitors and trimethoprim, sulphamethoxazole, phenytoin, cimetidine, sulfasalazine
- Advise pneumococcal, annual influenza and any outstanding vaccines up to date

### Side effects:

- Gastrointestinal: Nausea, vomiting, reduced appetite, diarrhoea, weight loss
- Haematological: bone marrow suppression particularly leucopenia, thrombocytopenia, macrocytosis and risk of potentially fatal agranulocytosis
- Hepatotoxicity with risk of cholestatic hepatitis
- Pancreatitis
- Lung – acute or chronic interstitial pneumonitis,
- Drug hypersensitivity syndrome – potentially fatal if multi-organ involvement
- Increased risk of infection, including opportunistic infection
- Increased risk of cancer particularly cutaneous squamous cell carcinoma

Pregnancy and breastfeeding –increased risk of low birth weight and prematurity in those exposed to azathioprine in pregnancy and risk of spontaneous abortion. Advised to avoid in those planning pregnancy or breastfeeding (as it is excreted in breast milk) unless the risks of not treating outweigh any potential harm.

### Monitoring

- Bloods - FBC, U+E's, LFT's including GGT – weekly for the first month, three monthly thereafter
- 6-thioguanine levels can be used to monitor compliance or dosing.
- Regular skin checks in those at greater risk of skin cancer

## **Mycophenolate mofetil**

- Available as 250mg or 500mg tablets
- Typical dose range of 1-1.5g once daily, maximal dose up to 3g twice daily in divided doses

### Screening requirements

- Full physical examination
- Pregnancy test for females
- Bloods
  - FBC
  - U+E's
  - LFT's including GGT
  - Hepatitis B serology
  - Hepatitis C serology
  - HIV test
  - If high risk varicella zoster serology and tuberculosis testing
- Check drug interactions – rifampicin, antacids, cholestyramine, clozapine, co-amoxiclav, metronidazole, ciprofloxacin, phenytoin, aciclovir, salicylates, levonorgestrel
- Advise pneumococcal, annual influenza and any outstanding vaccines up to date

### Side effects:

- Gastrointestinal: Nausea, vomiting, reduced appetite, diarrhoea, weight loss
- Haematological: Anaemia, leukopenia and thrombocytopenia
- Abdominal pain with low risk of hepatotoxicity and pancreatitis in doses used in dermatology
- Slight increased risk of infection, including opportunistic infection and viral infection (including herpes zoster)
- Probable small increased risk of cancer associated with long term therapy.

Pregnancy and breastfeeding – Mycophenolate should be avoided in pregnancy as it is a known teratogen with an increased risk of congenital abnormalities and spontaneous abortions. MMF should also be avoided in breastfeeding mothers. Women are advised to use at least two reliable methods of contraception for the duration of treatment and for 6 weeks following completion. Men who are taking it should also use contraception during treatment and for 90 days following last treatment dose.

### Monitoring:

- Bloods - FBC, U+E's, LFT's including GGT – typically weekly for the first month, one-three monthly thereafter

## Biologics

- Drugs derived from biological materials that target specific components of the immune system to modify the inflammatory response
- Delivered as subcutaneous injection or rarely intravenous infusion

Examples of biologics commonly used for the treatment of psoriasis and other inflammatory skin conditions (e.g. atopic dermatitis, urticaria, hidradenitis suppuritiva, autoimmune blistering disorders) include:

- TNF-inhibitors e.g. Etanercept (Enbrel®, Benepali®), Adalimumab (Humira®), Certolizumab pegol (Cimzia®), Infliximab (Remicade®)
- IL-17 inhibitors e.g. Ixekizumab (Taltz®, IL-17A inhibitor), Secukinumab (Cosentyx®, IL-17A inhibitor), Brodalumab (Siliq®, IL-17 receptor inhibitor)
- IL-23 pathway inhibitors e.g. Ustekinumab (Stelara®, IL-12 and IL-23 (common p40 subunit) inhibitor), Guselkumab (Tremfya®, IL-23 inhibitor), Tildrakizumab (Ilumya®, IL-23 inhibitor), Risankizumab (Skyriza®, IL-23 inhibitor)
- Others:
  - o Dupilumab (Dupixent®, IL-4 receptor alpha inhibitor) – for atopic dermatitis
  - o Omalizumab (Xolair®, IgE inhibitors) – for refractory urticaria
  - o Rituximab (Rituxan®, anti-CD20) – severe blistering disorders or connective tissue disease

Screening requirements (dependent on which agent to be used)

- Full physical examination
- Pregnancy test for females
- Bloods
  - o FBC
  - o U+E's
  - o LFT's including GGT
  - o Serum folate
  - o Hepatitis B serology
  - o Hepatitis C serology
  - o HIV test
  - o If high risk varicella zoster serology and tuberculosis testing (e.g. T-spot for latent TB)
- Advise pneumococcal, annual influenza and any outstanding vaccines up to date
- Chest x-ray
- Additionally, if considering anti-TNF therapy to enquire about personal or family history of multiple sclerosis or optic neuritis

Pregnancy and breastfeeding – this is dependent on the agent but note a paucity of definitive data given the relatively short time that many of these drugs have been available.

Side effects:

- Erythema/swelling/itching at injection site
- Hypersensitivity reactions and rashes
- Increased risk of latent TB re-activation (most likely with anti-TNF therapy)
- Neurological disorders including central and peripheral demyelination
- As this medication suppresses the immune system, there is an increased risk of soft tissue infection, opportunistic infection (e.g. candida with IL-17 blockade), tuberculosis reactivation (especially with anti-TNF therapy) and possible increased risk of cancer development

Monitoring:

- Bloods - FBC, U+E's, LFT's including GGT usually– initially regularly and then on to 3-6 monthly when stable

## ***Other common oral medication***

- The following medications are used commonly in adults in Dermatology. It is important to note that the list of indications and side effects is not exhaustive, but serves to include the most relevant and significant points for the range of commonly prescribed medications
- Always refer to the BNF before prescribing, refer to local guidelines for monitoring and consult with a specialist Pharmacist if in doubt
- The BAD produce patient information leaflets for many of these drugs which are an invaluable source of information for patients.

### **Hydroxychloroquine**

Used for: Discoid and systemic lupus erythematosus

Typical dose: 200-400mg once daily

Side effects: Ocular retinopathy, GI upset, headache, skin pigmentation

Pregnancy/breastfeeding: Can be used with caution if necessary

Monitoring: Baseline ophthalmological assessment (see RCOph guidelines), annual monitoring if >5 years. Baseline FBC, U+E's and LFT's and then regularly during treatment

Other: Risk of flare of psoriasis in patients taking HCQ

### **Anti-inflammatory antibiotics: Lymecycline, Doxycycline**

Used for: Acne, rosacea, hidradenitis suppurativa, bullous pemphigoid (doxycycline only), superficial skin infections (short courses)

Typical dose: Lymecycline 408mg OD, Doxycycline 100mg OD (may give double dose on day one only). Doxycycline also available as modified release low dose preparation for rosacea (Doxycycline 40mg M/R)

Side effects: Pill oesophagitis (advise take with glass of water and stay upright for 1 hour), GI upset (take with food), photosensitivity and increased sensitivity to sunlight thus careful sun protection advised

Pregnancy/breastfeeding: Prohibited due to effects on foetus/infants (teeth discolouration and malformation, altered bone development)

Monitoring: Nil specific

Other: Do not prescribe concomitantly with retinoids as risk of intracranial hypertension

### **Antihistamines (H1 antagonists): Fexofenadine, Loratadine, Cetirizine, Hydroxyzine**

Used for: Urticaria, angioedema, anaphylaxis and other forms of Type 1 hypersensitivity, pruritus

Typical dose: Fexofenadine 180mg OD, Loratadine 10mg OD, Cetirizine 10mg OD, Hydroxyzine 25mg OD. Doses of non-sedative antihistamines can be used up to four times in divided doses if necessary, to control symptoms

Side effects: Sedative effects and drowsiness with Hydroxyzine (and Chlorpheniramine), anticholinergic effects. 'Non-sedative' antihistamines have similar potential side effects in susceptible individuals

Pregnancy/breastfeeding: Advised against use

Monitoring: Nil specific

Other: Caution with hydroxyzine as risk of prolonged QT interval and arrhythmias especially if taking other drugs that increase risk directly or indirectly (e.g. electrolyte imbalance). Reduce dose in elderly and those with hepatic/renal impairment. Give advice regarding drowsiness for those driving or operating heavy machinery

### **Oral corticosteroids: Prednisolone**

Used for: Inflammatory skin conditions e.g. atopic dermatitis, autoimmune bullous disease, connective tissue disease including SLE, vasculitis

Typical dose: 30-40mg OD but highly variable dependent on indication, up to 1mg/kg for certain situations.

Side effects: Altered blood sugars and risk of diabetes, mood and sleep disturbance, weight gain. Longer term effects include hypertension, gastritis and risk of GI bleeding, osteoporosis, increased susceptibility to infection, myopathy, cataracts and glaucoma, skin thinning and atrophy, hypertrichosis, altered menstruation, acneiform eruptions, body fat redistribution, Cushingoid syndrome.

Pregnancy/breastfeeding: Appropriate to use if indication is severe and risk of no-treatment outweighs benefit

Monitoring: Blood pressure and urine dipstick (particularly for glucose) at baseline and at any follow up visit, DEXA bone density scanning in those on long term Prednisolone

Other: Steroid sick day rules – increase dose in case of illness, trauma or surgery. Weaning should be done slowly to reduce risk of rebound flare and steroid induced adrenal insufficiency – check morning cortisol and liaise with Endocrinology team as appropriate.

### **Antiviral medication: Aciclovir and valaciclovir (prodrug of aciclovir)**

Used for: Treatment of herpes simplex, varicella zoster (chickenpox) and herpes zoster (shingles) infection

Typical dose: Primary herpes simplex – Aciclovir: 200mg five times daily, 400mg five times daily in immunocompromised for 5 days (longer if new lesions appear during treatment or if healing incomplete, or in some cases of genital herpes simplex). Varicella zoster (chickenpox) and herpes zoster (shingles) infection (best within 48 hours of onset) - 800mg five times daily for 7 days, continued for continued for 2 days after crusting of lesions in immunocompromised individuals. Valaciclovir: Primary herpes simplex - 500mg BD for 5 days (longer if new lesions appear during treatment or if healing incomplete), 1g BD for 10 days in immunocompromised individuals. Herpes zoster - 1g TDS for 7 days, continued for 2 days after crusting of lesions in immunocompromised individuals.

Side effects: GI upset, headache, dizziness, fever, photosensitivity, confusion, fatigue, myalgia.

Pregnancy/breastfeeding: Not thought to be harmful but use only if benefit outweighs the risks

Monitoring: Nil

Other: Nil

### **Antibiotics: Flucloxacillin and Co-amoxiclav**

Used for: Bacterial infections of the skin (e.g. cellulitis, erysipelas, impetigo, furunculosis). Use Co-amoxiclav for mixed bacterial infections e.g. animal bites

Typical dose: Flucloxacillin 1g QDS (can be used at lower dose of 500mg but less common), Co-Amoxiclav 625mg TDS

Side effects: GI upset, hypersensitivity reactions and allergy including anaphylaxis, deranged LFT's typically drug induced hepatitis and cholestatic jaundice, oral or vaginal candidiasis

Pregnancy/breastfeeding: Safe to use

Monitoring: Nil specific but be aware of risk of deranged LFT's

Other: If suspicion of allergy can refer for formal penicillin allergy testing before use

### **Dapsone**

Used for: autoimmune bullous disease (e.g. linear IgA disease, dermatitis herpetiformis), neutrophilic dermatoses (e.g. Sweet syndrome, pyoderma gangrenosum), leprosy

Typical dose: 50-200mg once daily

Side effects: GI upset, headache, methaemoglobinemia (shortness of breath, cyanosis, dizziness, motor impairment), bone marrow suppression - haemolytic anaemia and agranulocytosis, renal impairment, psychosis, allergic skin reactions (DRESS typically)

Pregnancy/breastfeeding: Advised against use

Monitoring: FBC, LFT's, Glucose-6-phosphate dehydrogenase (G6PD) levels (deficiency increases risk of side effects) at baseline, then FBC and LFT's regularly until dose stabilised, three monthly when established. Reticulocyte count used as marker of haemolysis and bone marrow synthetic function in some centres.

Other: If fever, sore throat, rash, mouth ulcers, purpura, bruising or bleeding develop medication should be discontinued and FBC checked immediately.

### **Acitretin**

Used for: Severe psoriasis, pustular psoriasis, palmoplantar psoriasis (other rarer indications include severe hand eczema and Darier disease amongst others)

Typical dose: 25-50mg OD with careful titration upwards

Side effects: Similar to Isotretinoin – dry lips, eyes, nostrils and skin in nearly all patients – may see cheilitis, conjunctivitis, keratitis, nosebleeds (prescribe emollients, lip balms, eye drops and lubricants as necessary), increased skin fragility, hyperlipidaemia, mood changes including depression and anxiety, psoriasis flare, sensitivity to sun and easier sunburn (advise careful sun protection), hair loss in some individuals, brittle nails, headaches (including benign intracranial hypertension), GI upset, myalgia and arthralgia, increased risk of skin infections, hepatic dysfunction

Pregnancy/breastfeeding: Highly teratogenic, contraindicated in pregnancy and breastfeeding. Avoid use in females of child bearing age as must not get pregnant until 3 years after stopping treatment. Also blood donation not permitted for 3 years after taking

Monitoring: FBC, U+E's LFT's, serum cholesterol and triglycerides at baseline, then every 2-4 weeks for 2 months, then 3 monthly when stable.

Other: Contraindicated in those with hyperlipidaemia. Do not prescribe concomitantly with tetracyclines as risk of intracranial hypertension.

### **Erythromycin (for Acne/Rosacea)**

Used for: Acne vulgaris, acne rosacea

Typical dose: 500mg BD

Side effects: GI upset, headache, allergic skin reactions including SJS and TEN, hepatic dysfunction, hearing impairment, paraesthesia, altered taste, prolonged QT interval and risk of potentially fatal arrhythmias

Pregnancy/breastfeeding: Not thought to be harmful but use only advised when essential

Monitoring: Nil

Other: Should not be started in those taking other medication that prolongs QT interval, or risk of arrhythmias due to electrolyte imbalance. Caution advised in those on medications metabolised by cytochrome p450 (e.g. warfarin) as erythromycin is a P450 enzyme inhibitor.

### **Azole anti-fungals: Fluconazole and Itraconazole**

Used for: Tinea pedis, Tinea manuum, Tinea corporis, Tinea cruris, onychomycosis, pityriasis versicolor, cutaneous candidiasis (e.g. severe intertrigo)

Typical dose: Fluconazole 50mg OD for 2-6 weeks, Itraconazole 200mg OD for 7 days (BD for Tinea manuum and Tinea pedis) but other dose regimens common and longer for onychomycosis (2-4 months)

Side effects: GI upset, headache, hepatic dysfunction, allergic skin reactions e.g. urticaria, alopecia

Pregnancy/breast feeding: Advised against use

Monitoring: Periodic LFT's if used for prolonged courses

Other: Multiple drug interactions – Simvastatin and other HMG Co-A reductase inhibitors contraindicated, caution with other statins due to risk of myalgia and weakness, may potentiate effects of other drugs including Warfarin if taken concomitantly. Contraindicated in those with acute porphyria's (may precipitate attacks), and caution should be taken in those susceptible to QT prolongation (e.g. on other QT-prolonging drugs or electrolyte disturbance). Itraconazole has been linked to congestive heart failure and should therefore be avoided in those with history of cardiac dysfunction

### **Terbinafine**

Used for: Fungal skin and nail infections (Tinea pedis, Tinea corporis, Tinea cruris, Tinea manuum, Tinea capitis, onychomycosis)

Typical dose: 250mg OD for 2-6 weeks (longer for onychomycosis – up to 4 months)

Side effects: GI upset, headache, dizziness, myalgia, allergic skin reactions including SJS and TEN

Pregnancy/breast feeding: Advised against use

Monitoring: Baseline LFT's and then approximately every 4-6 weeks thereafter. Discontinue medication if LFT's become deranged on treatment.

Other: Risk of flare in patients with psoriasis, caution in lupus patients (risk of exacerbation or induced lupus in healthy individuals)

# Chapter 6: Wound care

## Wound Dressings

Sterile dressings are used to reduce the risk of contamination of a wound, immobilise the area, absorb blood and exudate and allow oxygen to enter the wound.

Wounds can be cleaned with sterile water, saline and hydrogen peroxide

There is no substitute for hands on learning about different dressings with nursing staff – the guide below covers a few basic principles

- 1) Film dressings – e.g. Tegaderm® film/Opsite®
  - a. Useful as a barrier to protect an area of the body if non/minimally exudative
- 2) Island dressings – e.g. Tegaderm® + pad, Cosmopore®, Mepore Pro®
  - a. Useful to cover a wound e.g. sutures following skin biopsy or surgery
  - b. Central pad helps to absorb oozing/bleeding from wound immediately post procedure
  - c. Some preparations can be used in the shower
- 3) Non-adherent dressings e.g. Mepitel®, Adaptic touch®
  - a. Dressings (often mesh-like) that do not stick to secretions released from the wound
  - b. Removal of non-adherent dressings is thus less traumatic to the wound, less painful and less likely to bleed
  - c. Produced or impregnated with material less likely to adhere to wound e.g. silicone
  - d. Secondary dressing typically used to cover mesh
- 4) Hydrocolloid dressings e.g. Duoderm® extra thin
  - a. Dressings that prevent moisture loss from the wound by forming a tight seal around the wound
  - b. Cut to size with overlap of wound of approximately 2cm
  - c. Place over wound and can be left in place for up to 7 days
- 5) Hydrogels e.g. Intrasite® gel
  - a. Contain water in varying percentages and function to rehydrate dry wounds e.g. necrotic wounds
  - b. Available as gels and hydrogel sheets (less adherent)
  - c. Rehydration of dry wounds helps the process of autolytic debridement (the removal of non-viable tissue by the body)
  - d. Frequent changing essential (e.g. every 2 days) due to risk of maceration of surrounding tissue
  - e. Secondary dressing necessary
- 6) Absorbent dressings e.g. Alginates such as Kaltostat®, Hydrofibre® dressings such as Aquacel®, foam dressings such as Mepilex border®, Allevyn® dressings
  - a. Absorbent dressings serve to contain the exudate from moist wounds or bleeding from surgical wounds
  - b. Risk of skin maceration if wounds remain exudative despite absorbent dressings
  - c. Absorb exudate and usually form a gel-like sheet
  - d. If heavy exudate will need frequent dressing changes
  - e. Secondary dressing necessary



## Blister management

In many cases it is appropriate to decompress (burst) intact blisters especially if they are large, causing significant discomfort or are at risk of infection

An important distinction is deroofing a blister when the blister is entirely removed – this is rarely done in Dermatology as the blister roof is left in situ to act as a biological dressing.

A blister chart is a useful means of mapping disease progress in the acute phase by monitoring the site and development of new blisters over a number of days.

1. Consider offering analgesia as patients often find decompressing blisters uncomfortable
2. Cleanse blister with antimicrobial solution gently (e.g. Dermol® 500)
3. Pierce blister base with sterile needle with bevel facing up allowing fluid to drain out – needle size is dependent on the size of the blister and amount of fluid
4. Apply pressure with sterile gauze to encourage drainage and absorb fluid
5. Leave blister roof intact as a biological dressing
6. Apply antimicrobial solution and cleanse gently
7. Non-adherent dressings such as Mepitel® can be applied to the wounds if necessary

## Potassium permanganate ( $\text{KMnO}_4$ ) soaks

- Used in the management of infected eczema, blistering/leaking leg ulcers and weeping external wounds as they are both antiseptic and astringent
- To prepare the soaks, a container (e.g. large empty sharps bin) should be lined with a bag, filled with 4L of water and one potassium permanganate tablet (Permitab 400mg) to create a 1:10,000 solution
- Correctly diluted solution should be a light pink, or the colour of Rosé wine
- The affected area should be soaked for 15 minutes and then patted dry
- Side effects include dryness and irritation, staining of the nails (normally apply Vaseline or nail varnish to prevent this)
- Three main methods of use:
  - Bath soaks – fill the bath half full with water, and fully dissolve two Permitabs before allowing the patient to soak for 10-15 minutes
  - Foot/leg soaks – fully dissolve one Permitab in 4L of water in a container before allowing the patient to soak affected feet/legs for 10-15 minutes
  - Gauze soaks – useful for the treatment of weepy areas that cannot be immersed e.g. weeping ulcers or blisters on arm, scalp, trunk. Soak gauze swab in diluted potassium permanganate (1:10,000) as above. Squeeze out excess fluid and apply swab to affected area for up to 15 minutes

**Warning** – potassium permanganate is highly toxic if ingested orally with a risk of causing airway inflammation, gastrointestinal perforation, organ failure or even death. Do not write tablets on the prescription - use 'soaks' instead. Explain treatment carefully with nursing staff. Ideally, potassium permanganate should be used in a specialist dermatology setting only.

## *Ankle brachial pressure index (ABPI's) measurement*

- Using an audio handheld Doppler probe identify the brachial artery – found medial to the biceps tendon. (Position probe at 45 degrees)
- Inflate blood pressure cuff to 20-30 mmHg above the pressure at which the Doppler pulse is no longer audible
- Deflate the cuff slowly and identify the pressure at which the pulse is first audible again and record (systolic pressure)
- Ideally measure both limbs and use the higher recorded systolic blood pressure
- Repeat on the ankle and identify the pulse overlying the posterior tibial artery – found midway between calcaneus and the medial malleolus
- Can repeat using the dorsalis pedis artery – found lateral to extensor hallucis longus – take the higher of the two foot pulses
- $ABPI = \text{ankle pressure} / \text{brachial pressure}$ 
  - o 1.0-1.3 = no evidence of arterial disease – suitable for higher compression bandaging
  - o 0.8-1.0 = mild peripheral arterial disease – may be suitable for higher compression bandaging but needs close monitoring
  - o 0.5-0.8 = Moderate-significant peripheral arterial disease – avoid tight compression bandaging and consider vascular referral
  - o  $<0.5$  = Severe peripheral arterial disease – do not use compression bandaging and consider urgent vascular referral

# Chapter 7: Investigations

## *Biopsy media and storage*

Histology (e.g. skin biopsy taken for H&E staining)

- Samples should be kept in a formalin pot (see photo)
- Keep securely closed and store at room temperature in a dry and well-ventilated area

Direct immunofluorescence (IMF) (e.g. skin biopsy taken for direct IMF studies)

- Samples should be kept in Michel's media
- Can be stored at room temperature for up to 6 months in Michel's medium (see photo)
- Can be stored in saline if no Michel's media available
- Note that these samples are ruined by formalin

Indirect immunofluorescence (blood sample for indirect IMF studies):

- 5ml of coagulated venous blood/0.5ml serum collected in a gold serum separator tube
- Can be stored at 4° for up to 48 hours

Microbiology (e.g. skin biopsy taken for suspicion of deep tissue infection)

- Request tissue M,C&S:
- Biopsy wrapped lightly in saline soaked gauze and placed in white capped Universal container is usually satisfactory
- Discuss with laboratory if unsure or querying unusual organism with complex growth requirements
- Skin and nail specimens stored at room temperature

Genetic studies (e.g. skin biopsy taken to investigate possible Cutaneous T-Cell

Lymphoma (CTCL):

- Samples for T-cell gene rearrangement (Skin TCR) for suspected CTCL can be either sent dry or in saline soaked gauze in a universal container
- Normally contact the laboratory to inform them of biopsy arrival as may need quick processing
- Discuss requests with laboratory if unsure



**Top tip:** If performing biopsy out of hours and unable to send to lab, consider storing in fridge overnight – usually the local anaesthesia fridge is a secure place to store as they are normally securely locked but check local policies.

1. **Formalin pot**
2. **Michel's media**

## Immunofluorescence studies

Sending samples for immunofluorescence can be helpful in the diagnosis of autoimmune blistering diseases, vasculitis, and connective tissue diseases.

### Direct immunofluorescence (IMF)

A 3-4mm punch biopsy is often sufficient for direct immunofluorescence.

Biopsies must be taken from the correct site when sending a sample for immunofluorescence and ELISA.

**Top tip:** If taking an incisional biopsy for histology, a small portion of the tip (e.g. uninvolved skin if suspected blistering) can be taken for IMF to avoid creating a second wound.

Samples should be taken from the following sites, depending on the suspected diagnosis for direct immunofluorescence:

### Perilesional uninvolved biopsy:

- Most suspected autoimmune blistering disorders (e.g. pemphigoid, pemphigus, linear IgA disease, dermatitis herpetiformis, Epidermolysis bullosa acquisita)

### Lesional (involved) biopsy:

- Suspected connective tissue disease e.g.
  - Discoid lupus
  - Vasculitis
  - Lichen planus

### Indirect immunofluorescence (IMF)

- o Tests for the presence of circulating antibodies relevant to autoimmune blistering disorders
- o Serum collected in gold top tube and added to secondary labelled antibody to specific, relevant antibodies
- o Added to tissue substrate to test for binding – tissues used can include normal skin, monkey or guinea pig oesophagus, rat bladder
- o Different blistering disorders have different, characteristic binding patterns (e.g. to the roof or floor of the blister)
- o Can also detect and quantify circulating antibodies via ELISA for the most common relevant antibodies in some centres
  - o Pemphigus: Desmoglein-1, Desmoglein-3
  - o Pemphigoid: BP180, BP230
  - o Epidermolysis bullosa acquisita: Collagen-VII

## Other investigations

### Mycology samples (e.g. scrapings, clippings, scalp brushings)

- To detect the presence of fungi or yeast
- Scrapings are taken from the scaly edge of the eruption with a Swann-Major U blade (or Banana blade) and placed into a Derma Pak envelope (black foldable paper inserted into a small envelope). If this isn't available, a clean piece of paper will suffice.
- Nail: Take from the brittle, dystrophic and discoloured part of the nail using chiropody style nail clippers and place in Derma Pak envelope or clean paper
- Scalp brushings can be taken for suspected tinea capitis by brushing through the affected portion of hair. Also plucking a hair can help for diagnosis
- Microscopy results come back within a day or so of receipt in most labs, which will identify fungal spores. Culture results can take up to 4-6 weeks. Given the side effect profile of most oral antifungals (e.g. griseofulvin and terbinafine), it is common to await at least fungal microscopy before commencing treatment.



1. Image of equipment needed to take skin scrapings (Banana blade, Derma Pak envelope)

## Microbial swabs

### Bacterial

- Sent for microscopy, culture and sensitivity
- Usually dip in transport media (Amies gel typically) prior to swabbing infected area
- Ensure all parts of the swab tip are covered (rather than swabbing the same part back and forth) to increase yield from plate culture
- Store in refrigerator if transport to laboratory is likely to be delayed



### Viral swabs

- Sent for viral PCR of HSV and VZV routinely but can also detect EBV, Coxsackie A16 and HPV if queried
- Typically come with dry swab tip, which is used to swab the area and then stored in the fluid media after swabbing prior to PCR.
- For mucosal surfaces a moist swab should be used
- For blistered or dry lesions, a dry swab should be used
- Lance vesicles/blisters to increase fluid on swab to increase chances of obtaining adequate material for PCR



**Top tip:** Perform swabs yourself for patients with suspected bacterial and viral infections rather than depend on the referring team. This ensures they will be sent in appropriate media as they will not be processed if sent incorrectly.

Note the colour of swabs varies from different suppliers so check which ones are stocked in your hospital

2. Bacterial swab  
3. Viral swab

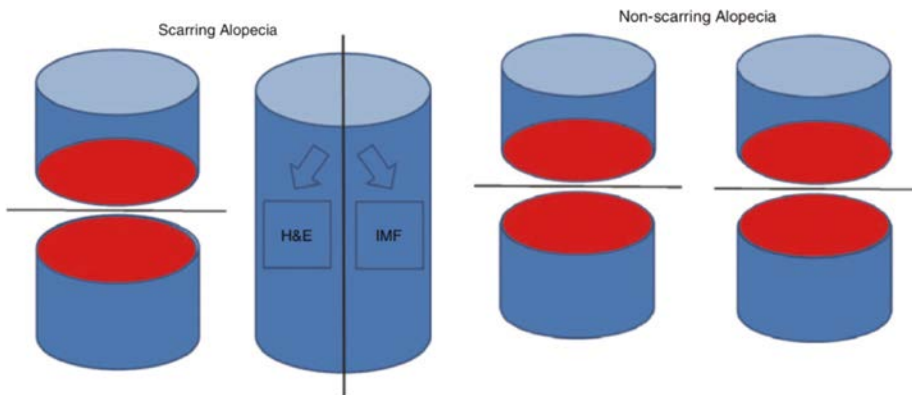
## Alopecia biopsies

### Scarring alopecia protocol

- Two x 4mm punch biopsies from 'lesion' periphery (most likely site of active disease)
- These should be taken in parallel to the hair shaft
- One sample should be cut in half vertically
  - Half for H&E staining (formalin)
  - Half for Immunofluorescence (Michel's media)
- The other sample will be horizontally sectioned in the lab (formalin)

### Non-scarring alopecia protocol

- One 4mm punch biopsy taken from the affected area of the scalp and one from part of the uninvolved scalp (e.g. the occiput) as a control
- These should be taken in parallel to the hair shaft
- Both samples are sent whole in formalin and will be sectioned horizontally in the lab



## Useful screening blood tests for new patients

### Vasculitis

- FBC
- U+E
- LFT's
- CRP
- ESR
- Common autoantibodies: ANA, ENA, dsDNA
- HIV test
- Hepatitis serology – Hepatitis B (core Ab, surface Ab, surface antigen), Hepatitis C (IgG)
- Anti-neutrophil cytoplasm antibodies (ANCA)
- Rheumatoid factor
- Cryoglobulin levels
- Serum electrophoresis
- Anti-streptococcal antibodies (ASO titre)
- Immunoglobulins

### Pruritus

- FBC
- Blood film
- U+E
- LFT's
- TFT's
- Vitamin B12
- Folate
- Iron and ferritin levels
- ESR/CRP
- Fasting glucose and HbA1c
- Bone profile
- Vitamin D
- LDH
- Serum electrophoresis
- Hepatitis B and C serology
- Immunoglobulins,
- HIV
- CXR

### Hair loss

- FBC
- TFT's
- Vitamin B12
- Folate
- Iron and ferritin
- Zinc
- Free androgen index
- Autoantibodies
- In females consider gonadotrophins (LH/FSH), testosterone level, Sex Hormone Binding Globulin (SHBG), prolactin



## *List of equipment to do a skin biopsy on the ward*

In addition to the equipment listed below, it is useful to have a bag to keep it all in. You will also need a small metal trolley to open the biopsy pack on and the assistance of a nurse to help you draw up the local anaesthetic.

Biopsy consent form

Photography consent form

Biopsy pack – contains surgical instruments, tray and non-fenestrated drape

Sterile gloves of appropriate size

Face mask

Chlorhexidine solution to disinfect skin

Fenestrated drape

Extra sterile gauze swabs

Skin marker

Local anaesthetic

Green needle (21G) to draw up anaesthetic

5 or 10ml syringe

Grey (27G) or yellow (30G) to administer anaesthetic

Punch biopsy instrument of appropriate diameter e.g. 4mm (one per biopsy needed)

Pot for histology (formalin) +/- IMF (Michel's Media)

Saline in case sample needs to be sent on gauze + universal container

Sutures for wound closure

Fucidin gel for anti-microbial cover

Kaltostat for haemostasis

Dressing plaster (e.g. Tegaderm® + pad) including spares for patient if going home

Histology request form and stickers for pot

Clear specimen bags to put pots in for histology and IMF

Wound care information leaflet

Letter for GP surgery for suture removal

# Chapter 8: Training and progression

## Eportfolio

- The eportfolio serves as a record for your training and development and serves as focus of discussion for the annual registrar progress review – the Annual Review of Competence Progression (ARCP)

## Introduction to Curriculum

- To set out a range of specific professional capabilities that encompass all knowledge, skills and behaviour required to practice as a general consultant dermatologist on the GMC Specialist Register.
- To set expected standards of knowledge and performance of various professional skills and activities at each stage
- Indicative training time is 4 years
- Dermatology experience gained prior to getting NTN may be used towards training time, but needs to be discussed at first ARCP. Further guidance is expected on this, but it is unlikely that more than 12 months could be granted.
- Trainees progressing exceptionally well (gaining capabilities above their expected level), may be able to bring their CCT date forward.

o Capabilities in Practice (CiPs)= unit of professional practice entrusted to a learner.

- 6 Generic CiPs-common to all medical curriculum, assessed with global score eg meets expectations. Generic CiPs must be achieved in order to progress to next year of training.

- 7 Dermatology CiP, assessed with level indicator. Targets set for speciality specific CiP, showing stage of training by which each CiP must be achieved.

Reflections, workplace-based assessments, teaching courses or presentations used as evidence to support the rating given

o The way to demonstrate engagement is to 'link' an assessment or item in the personal library to the CiPs.

o Trainee must self-assess CiPs

o Educational supervisor can rate the CiP at induction appraisal, mid point review or in your end of year meeting. You may be able to use evidence from other training to be rated level 2 on a CiP at induction.

o Note end of attachment appraisal usually takes at least an hour to do so make sure to book adequate time with ES!

### Dermatology specific CiP

1. Outpatient Dermatology: managing dermatology patients in the outpatient setting
2. Acute and Emergency Dermatology: managing dermatological emergencies in all environments and managing an acute dermatology service including on-call
3. Liaison and Community Dermatology: working in partnership with primary care and promoting skin health
4. Skin cancer and skin tumours: managing a comprehensive skin cancer and benign skin lesion service
5. Procedural Dermatology: performing skin surgery and other dermatological procedures
6. Paediatric Dermatology: managing paediatric dermatology patients in all settings

Other specialist aspects of a comprehensive dermatological service including:

- 7A) cutaneous allergy
- 7B) photobiology and phototherapy
- 7C) genital and mucosal disease
- 7D) hair and nail disease

Level 1

Entrusted to observe only – no provision of clinical care

Level 2

Entrusted to act with direct supervision ie: supervisor is nearby and easily accessible, but not in the room with them

Level 3

Entrusted to act with indirect supervision

Level 4

Entrusted to act unsupervised

## ***Personal profile***

- o At good starting place is to ensure your personal and job details are up to date in the profile section, and you will have the ability to update these including photograph!
- o You should regularly update which educational supervisor is allocated to you for the year as they are responsible for rating competency and completing the all-important Educational supervisors report.
- o Use this section to record any absences which may affect your CCT date

## ***Personal library***

- o The personal library can be accessed through your personal profile.
- o It is your responsibility to add relevant evidence for demonstrating competency – you can add extra folders to organise the library and keep it tidy
- o Note only anonymised summaries (e.g. pdf of presentations with clinical images removed) should be uploaded as evidence of patient presentations
- o Limit of 60mb so use the space wisely!

## ***Personal development plan***

- At the start of each post it is recommended that you meet your Educational supervisor and plan realistic SMART objectives to be met over the course of the academic year.
- A personal development plan completed in advance of this meeting can guide the discussion so that any opportunities for meeting these objectives can be raised and arranged as appropriate.

## ***Workplace based assessments***

### **Case-based discussion (CBD)**

- A discussion on notes, assessment, investigations, treatment, management
- At least 8 CBD's are required for the ST3 ARCP (see table below)

### **Mini-clinical evaluation exercise (mini-CEX)**

- Mini CEX are watched encounter, e.g. watching taking a history, doing an examination, undertaking a telephone consultation, reviewing teledermatology
- At least 4 mini-CEX's are required for the ST3 ARCP (see decision aid below)

### **Direct observation of procedure skills (DOPS)**

- These can be formative or summative
- 4 surgical and 2 non-surgical DOPS required (see list below for examples)
- Some assessments can be done by allied healthcare professionals e.g. nurses, laboratory technicians
- Formative: "assessment for learning" – these can be carried out as many times as a trainee wishes
- Summative: "assessment of learning"

### **Acute care assessment tool (ACAT)**

- Optional tool
- Used for on-calls, assesses clinical skills, management, team working, record keeping
- Minimum of 5 patients eg for management of 5 ward referrals

### **Direct observation of procedure skills (OPCAT)**

- Not mandatory for ARCP
- Assesses overall patient centred care and communication (not multiple mini-CEX!)
- Can use free text box to comment on ability to plan and run clinic
- Not enough evidence alone for CiP assesment
- At least 5 patients in outpatient setting
- Can be witnessed interactions or completed after clinic

## Other requirements

### Multi source feedback (MSF)

- Assessment of individual by other doctors, administrative staff and allied health professionals is also required
- This is done by using the “Request External Assessment” function under assessments, which will email the assessor a link to complete the assessment
- A minimum of 12 assessments need to be completed, and this includes your supervisor
- You will also need to complete a ‘self-MSF’ prior to review with your supervisor to see how it corresponds to your peer raters
- Supervisors will see the individual and collated responses and can release the Summary MSF to the trainee when at least 12 responses have been received
- Trainees will be able to see who has responded but not their individual ratings or comments.

### Patient surveys

- Assesses interpersonal skills, communication skills and professionalism during consultation.
- Normally plan to do this over a few outpatient clinics – can be done by paper or sending link via email
- Strongly recommend email.
- Need consent from patient to use their email for sending survey.
- Collect email addresses from patients you see in that clinic (not just the ones that seemed nice!)
- Can offer paper survey to patients without email, ask to return to reception, then seal (must be anonymous) and give to educational supervisor.
- Need at least total of 20 for the survey to be valid.
- Surveys completed via ‘tickets’ on-line will be released by Educational supervisor

### Teaching observation

Arrange a time for someone to observe you doing a teaching session and give you feedback on your performance. This could be a session for medical students, nurses or junior doctors. Use Teaching observation form.

### Audit or quality improvement project

As in Foundation and Core training, at least one audit or quality improvement project is needed each year. Try and choose a topic you are interested in and can result in effective change. Use audit assessment or QIPAT form.

### Reflections

These are not listed in the ARCP decision aid but should be done regularly and can be linked to curriculum items. Examples of encounters that lend themselves well for a reflection include patients with rare conditions to map to the curriculum, teaching events (as a teacher or student), errors and management experience.

### Multiple consultant report

This is similar to the multisource feedback and normally requires at least 4 consultants (but not your educational supervisor) who have worked with you in clinic to feedback about your performance. This is important and helps the educational supervisor to write the final report at the end of the attachment.

### Research supervisors report

Check with your department how this is completed. If there is an attached research unit, they may have an academic who is responsible for completing this form for all trainees, but if not, any consultant who you have done research (including case presentations) with should be able to complete it.

## Summary of Progress report

Shows the number of assessments completed, what is outstanding, what has been achieved.

## Annual Review of Competency Progression (ARCP)

The ARCP panel reviews evidence below and judges whether the trainee has achieved the generic outcomes and the appropriate level of supervision for each CiP, thus can progress to next level of training.

### ARCP documentation

- o Educational supervisor report-will become dermatology specific and auto populate with CiPs
- o Research supervisor report-ES can do if trainee not actively engaged in research yet
- o Certificates uploaded and sign posted (Specialty Certificate Exam attempted by ST5, achieved by end ST6)
- o Evidence of achieving competencies and experiences over the year (essentially the eportfolio and assessments, see decision aid below).
- o Form R – trainee self-declaration in two parts
- o Part A – personal and contact information
- o Part B – scope of practice, time out of training (e.g. maternity leave, research) declarations relating to revalidation to guide ARCP panel on fitness to practice, which in turn informs the decision fed back to the GMC on your revalidation
- o Curriculum Vitae
- o CCT Calculator – a spreadsheet showing your expected CCT date taking into account any time out of training and less than full time working. Save and upload as pdf (as uploading excel spreadsheet often corrupts and cannot be read).

### ARCP outcomes

- Outcome 1 - Achieving progress as expected
- Outcome 2 - Development of specific competencies required (no extra time required)
- Outcome 3 - Inadequate progress - extra time may be required
- Outcome 4 - Released from training
- Outcome 5 - Incomplete evidence - additional training required
- Outcome 8 - Out of Programme (OOP)
- Outcome 10.1- Delay in competencies due to COVID but not critical point in training, can progress
- Outcome 10.2 - Delay in competencies due to COVID at critical point in training, additional training required

### ARCP decision aid

This decision aid provides guidance on the requirements to be achieved for a satisfactory ARCP outcome at the end of each training year. This document is available on the JRCPTB website

<https://www.jrcptb.org.uk/training-certification/arcp-decision-aids>

Supervised learning events (SLEs):

4 mini-CEX 8 CbD

Other assessments:

- 4 surgical DOPS
- 2 non-surgical DOPS\*
- 1 MSF years (ST3 and ST5 years)
- 1 patient survey
- 1 Teaching Observation
- 1 audit or quality improvement assessment

### Practical Procedures

Practical procedures are assessed using the direct observation of procedural skills (DOPS) tool. All must be achieved by completion of training. The assessment includes consent, aseptic technique, analgesia, awareness and ability to deal with complications. Once a procedure is achieved it does not need to be repeated in subsequent years, unless recommended by supervisors or to demonstrate a further skill set eg different surgical site.

Procedure	ST3	ST4	ST5	ST6
Curette and cautery	Can perform unsupervised	Maintain	Maintain	Maintain
Cryotherapy of benign or premalignant lesions	Can perform unsupervised	Maintain	Maintain	Maintain
Cryotherapy of superficial basal cell cancer	Too early in training or satisfactory supervised practice	Can perform unsupervised	Maintain	Maintain
Dog ear repair	Too early in training	Too early in training or satisfactory supervised practice	Satisfactory supervised practice	Can perform unsupervised
Excision of lesion on trunk or limbs with direct closure using sub-cuticular & skin sutures	Too early in training or satisfactory supervised practice	Satisfactory supervised practice	Can perform unsupervised	Maintain
Excision of lesion on head and neck with direct closure using sub-cuticular & skin sutures	Too early in training	Too early in training or satisfactory supervised practice	Satisfactory supervised practice	Can perform unsupervised
Incisional skin biopsy	Can perform unsupervised	Maintain	Maintain	Maintain

Punch biopsy	Can perform unsupervised	Maintain	Maintain	Maintain
Shave excision	Too early in training or satisfactory supervised practice	Can perform unsupervised	Maintain	Maintain
Small flap repair	Too early in training	Too early in training or satisfactory supervised practice	Satisfactory supervised practice	Satisfactory supervised practice
Genital / mucosal biopsy	Too early in training	Too early in training	Too early in training or satisfactory supervised practice	Can perform unsupervised

**\*Non-surgical DOPS can be performed for:**

ABPI (ankle brachial pressure index) measurement

Allergen prick testing

Botox® injections for hyperhidrosis

Diphencyprone sensitisation

Dermoscopy (essential by end ST6)

DLQI and other assessment tools (essential by end ST6)

Iontophoresis

Minimal Erythema Dose or Minimal Phototoxic Dose (MED or MPD)

Microscopy of hair shaft

Microscopy of skin scrapings

Microscopy for identification of scabies mite

Monochromator testing

Patch test application

Photopatch testing

Photoprovocation testing

Photodynamic therapy

Triamcinolone injection (essential by end ST6)



Take a high-quality teledermatology medical localizing and close-up image using a mobile device

Take a high-quality teledermatology high-quality dermoscopic image using a mobile device

Take skin scrapings and nail clippings for mycology (essential by end ST6)

Wood's light examination (essential by end ST6)

### **Core presentations**

- Inflammatory dermatoses and erythroderma
- Connective tissue disease
- Cutaneous allergy and urticaria
- Immunobullous disease
- Cutaneous infection and infestation
- Skin cancer and benign tumours
- Paediatric dermatology
- Photodermatology
- Mucosal, hair and nail disease
- Skin disease in pregnancy
- Psychocutaneous medicine

BAD publication, "Dermatology training the essentials" in press, aimed at ST3 to ST4, mapped to syllabus and contains SCE examination questions.

## Managing complaints

Sadly most, if not all of us, will receive complaints. Most are around administrative issues (appointments being cancelled, letters not received etc). These are usually dealt with by administrative staff with information from clinical HCPS. If you receive a more clinical or worrying complaint:

- Don't panic. Don't keep it to yourself. Do seek advice from senior colleagues. We have all been there and will be able to advise about the next steps. Senior colleagues will be supportive and there is no place for blame.
- Keep notes of all actions taken either in clinical notes or electronic notes.
- Seek advice from professional bodies if necessary ([www.themdu.org](http://www.themdu.org) or [www.medicalprotection.org](http://www.medicalprotection.org))
- Communicate to patients and their families/loved ones. There is a statutory *Duty of Candour*. But there is also every reason to be honest and upfront with patients and their families and loved ones. Almost always the complaint will diffuse with frank honesty. Don't obfuscate as this is likely to escalate the complaint.
- Allow yourself compassion. This is incredibly important. No-one is perfect and recognising that we are all human and mistakes (administrative and clinical) are part of being human. Make sure you talk, eat, exercise and relax healthily.
- Learn from any mistakes.

## Clubs and societies

There are multiple clubs and societies that new trainees should consider joining for the social, development and educational benefits they provide, and we encourage trainees to join the BAD and other relevant societies early in your training. Some are listed below.



### The British Association of Dermatologists (BAD)

#### Why join the BAD?

Welcome to dermatology, those of you who are not already BAD members will have found the Survival Guide course a good introduction to the specialty society and the friendly and collegiate world of dermatology.

For a modest annual subscription of £65 a year you will receive;

- Three leading dermatology journals – BJD, CED and our new open access online journal Skin Health and Disease
- The quarterly BAD Newsletter, with lively articles from the members
- The President's monthly e-Bulletin giving an instant report of important issues and events
- BAD ALERT emails provide rapid communication to Members on issues that require particular note or action.
- The BAD Communications Circular gives an opportunity to circulate less critical information and to allows Members to inform each other of educational events or research studies they are undertaking.
- The BAD Website provides access to guidelines and other important documents

We have a dedicated Trainee Representative who is a Trustee, sits on our Executive Committee and Chairs the National Specialty Trainee Committee.

There is ample opportunity to take part in our work by sitting on committees, contributing to research projects and helping to teach undergraduates and junior doctors.

You can find out about membership by visiting [www.BAD.org.uk](http://www.BAD.org.uk) and clicking the How to Join link  
We look forward to welcoming you.

### **Simon Morrison**

Chief Executive Officer

### **Royal Society of Medicine (RSM)**

- A major provider of postgraduate medical education
- Dermatology Section is very active
- Monthly meeting from October to June on the third Thursday afternoon of the month.
- Format is usually viewing of clinical cases followed by oral presentations and guest lecture
- Monthly prize for best presentation and annual prize for best Registrar presentation – “Hugh Wallace Registrars Prize”
- Other prizes available throughout the year
- Grant available to subsidize attendance if need to travel >100 miles to attend (£250)
- Membership approximately £250-£300 per year or around £50 per meeting
- Further details available at [www.rsm.ac.uk](http://www.rsm.ac.uk) or via [dermatology@rsm.ac.uk](mailto:dermatology@rsm.ac.uk)

### **St. John's Dermatological Society (St. John's)**

- Educational society with teaching provided monthly, on the first Thursday afternoon of the month from October to June.
- Held at Guy's Hospital and usually has format of viewing of clinical cases followed by oral presentations and guest lecture
- Similar format to the RSM but less formal.
- Compulsory for London Trainees to attend
- Join via application form which can be collected at the meeting (free to join) but need signatures from two existing members
- Monthly prize for best case presentation
- Follow St Johns on Twitter @stjohnsdermsoc

### **Dowling Club**

- The Dowling Club exists primarily to promote dermatological education and foster relationships between dermatologists of all ages across the UK and other countries.
- Mixture of social and educational events throughout the year
- There is an annual international trip with reduced prices for trainees
- Open to all Dermatologists in the UK/ Ireland
- Membership costs £30 annually
- Further details available at [www.bad.org.uk/healthcare-professionals/specialist-groups/dowling-club](http://www.bad.org.uk/healthcare-professionals/specialist-groups/dowling-club)

### **Other relevant international societies you can consider joining or attending their meetings**

- European Academy of Dermatology and Venereology (EADV) – [www.eadv.org](http://www.eadv.org)
- British Society of Investigative Dermatology (BSID) - [www.bsid.org.uk](http://www.bsid.org.uk)

- European Society for Dermatological Research (ESDR) – [www.esdr.org](http://www.esdr.org)
- Society for Investigative Dermatology (SID) - [www.sidnet.org](http://www.sidnet.org)
- American Academy of Dermatology – [www.aad.org](http://www.aad.org)

## **Psychodermatology**

Psychodermatology is a newer and emerging subspecialty of dermatology that includes primary psychiatric disease presenting to dermatologists and primary dermatological diseases in which there are psycho-social co-morbidities. Dermatology and psychiatry are closely related. Cutaneous symptoms may be the only presenting picture of a primary psychiatric disease. Likewise, several psycho-social comorbidities such as anxiety, depression and even suicidal ideation may present secondary to skin diseases, and this is not necessarily related to severe and chronic skin conditions only. Awareness of this relationship is the main motive for establishing psychodermatology clinics. Psychodermatology clinics are different from general dermatology clinics with longer consultations per patient and the use of psychological tools to diagnose and monitor psychological symptoms. But psychodermatology clinics are few and far between, whilst patients with psychosocial co-morbidities are common. Improved recognition of the psychological co-morbidities identified alongside cutaneous disease results in better management of psychodermatological conditions.

- Please be aware of psychodermatology networks which can support you
  - o <http://www.psychodermatology.co.uk> (Psychodermatology UK)
  - o <http://www.psychodermatology.net> (the European Society for Dermatology and Psychiatry)
- Please look at <http://www.skincare.org.uk> from the BAD which is aimed at supporting the psychosocial needs of dermatology patients
- Training:
  - o There is a yearly training school in psychodermatology in November. Contact [dr.alia.ahmed@nhs.net](mailto:dr.alia.ahmed@nhs.net) for places (they go quickly, so book earlier in your career).
  - o There is a yearly Psychodermatology UK special interest meeting at the BAD annual conference and in January ([www.psychodermatology.co.uk](http://www.psychodermatology.co.uk))
  - o There is a biennial ESDaP conference ([www.esdap21.com](http://www.esdap21.com)).
  - o Follow the twitter feed @psychodermatologyuk for all news about training events
- IAPT: Improving Access to Psychological Therapies ([www.england.nhs.uk](http://www.england.nhs.uk)) is a great way for patients and HCPs to self-refer, or be referred, for counselling when patients have psychological issues.
- Don't be afraid to ask about psychological issues affecting skin patients. A problem shared is a problem halved. If you feel out of your depth, ask a senior colleague, or consider asking for specialist help from the local liaison psychiatry teams.

# Chapter 9: References and recommended reading

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Skin of colour resources:

<https://www.bad.org.uk/healthcare-professionals/education/skin-of-colour-resources>

Skin of colour descriptors:

<https://www.bad.org.uk/healthcare-professionals/inclusivity-and-representation/descriptors-in-dermatology>

Erythema in skin of colour:

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