

Teaching Your Registrar How to Approach Dermatological Problems

Considering the fact everyone has skin, and the skin conditions patients present with in general practice are so vast in number and varied in type and severity, teaching in this area is largely to cursory at the undergraduate / graduate level.

GP Supervisors play a vital role in addressing this knowledge gap and the stress this causes for Registrar and patient alike.

The framework approach

The Supervisor's primary aim should be to create a structured framework their Registrars can use to approach any dermatological problem.

This is both a valuable and essentially practical educational tool and an essential practical one, allowing a logical approach to any condition and the time to process the presentation before planning the next clinical move.

SKIN PRESENTATIONS

Skin presentations fall into two (2) broad groups:

GROUP 1

- Skin Cancers
- Skin Checks

GROUP 2

- Common Cutaneous problems
- mainly inflammatory

An effective framework will help with all the varieties of skin presentations that fall under these two broad groups.

COMMUNICATION

How the Registrar communicates what they see during a dermatological presentation is key to a good outcome for the patient. Communication needs to be descriptive and consistent whether in their patient notes, to their Supervisor or colleague(s), or in correspondence with a specialist.

Effective communication about a presentation is an expectation approached with relative ease when that presentation involves anatomy / physiology. When a topic is familiar it gives rise to mental pictures that are easily communicated/*, and in turn conjures a list of treatment options, dangers, complications, etc..

In order to create a similar mental image of a skin lesion, the first step is to create a framework and process to facilitate this.

DESCRIPTION

A lesion is described by its morphology, this includes:













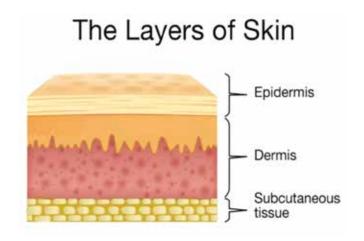
*This is the information needed to produce a mental image and start the deductive process.





LEVEL IT LIES IN THE SKIN

- Skin has 3 levels and skin conditions can occur at any level
- The first step is to identify the level of skin in which the lesion sits
- Epidermal lesions are surface and usually scaly
- Dermal lesions are below epidermis and push up through the top layer
- Subcutaneous lesions are in the fat and present as lumps or cysts



In reality, most skin conditions do not present purely on one level and are usually a combination of two or all levels of the skin

EPIDERMAL



- Scaling
- Usually rough to touch

DERMAL



- Lesions lie deeper
- If the lesion approaches the epidermis it may be erythematous (displaying redness due to the accumulation of blood in dilated capillaries)
- May be felt rather than seen

SUBCUTANEOUS



- Felt as lumps at the skin level
- May be mobile unlike dermal or epidermal lesions





2 COLOUR

- Colour is very important
- Some colours will evoke a list of differential diagnoses in someone who deals with skin regularly

While these are not conditions GP Registrars needs to know, it's important for them to understand the power of a single term they might use to communicate the presentation

COLOURS RANGE FROM:





SHAPE

- Description of shape evokes a mental list of differentials based on single or groups of terms
- The correct terminology is therefore important

ANNULAR - SHAPE



- Defined as a well circumscribed lesion confined to a limited area
- Multiple lesions have this shape:
 - Tinea
 - Annular eczema
 - Psoriasis
 - Granuloma annulare
 - + more
- Associated feature such as scale, itch, satellite lesion, location etc, need to be described and will give some aid to diagnosis





SIZE

MACULE

- A macule is a circumscribed alteration in skin colour and may be:
 - Elevated
 - Flat
 - Depressed
- A macule is usually around 0.5cm
- If the lesion is smaller (<0.5cm) and elevated it is a papule
- If the macule is larger (~>1cm) it is a patch

PETECHIAE



- Leaking vessels are indicative of many things
- The smallest leakage is capillaritis
- Petechiae are larger and usually indicate larger vessel damage/leakage
- Petechiae can coalesce to become purpura
- Purpura coalesce to ecchymoses
- Larger collections are ecchymoses = bruise

BLISTERS

- Vesicles are less than 5mm diameter
- Bulla is a larger vesicle
- Blistering skin conditions have multiple aetiologies
- When a blister ruptures it tends to become a crust or excoriation



TEXTURE

EXCORIATIONS

- Is the rash pruritic?
- Usually means someone is scratching
 - so generally, means its itchy
- Fingers may be dirty superficial staph has access to 2nd layers thus watch for infection

ULCER

- Depressed lesions
- May be healing or non healing
- May be infected or not infected
- Long term ulcers think vascular issues or neoplasia

CYSTIC

- Cysts, by their nature or either dermal or subcutaneous
- Dermal cysts may be infective or acneiform
- Subcutaneous cysts may be:
 - Epidermal cyst
 - Pilosebaceous cysts
 - Dermoid cysts
 - Tricholemmal cysts
 - etc

WELT



- Urticaria
- Usually pruritic
- Think of triggers allergic, drug reaction etc





- The location on the body tells you something of origin
- Peripheral, well circumscribed lesions may suggest contact or irritant dermatitis

DISTRIBUTION

- Certain conditions have particular patterns
- Eczema antecubital fosse, behind knees etc.
- Psoriasis knees, elbows, natal cleft, scalp, nails
- Lichen planus wrists
- Certain conditions have a specific spread pattern thus a history of where it began is important
- Pityriasis rubra pilaris has a cephalocaudal spread (head to body)
- Crops VZV
- Trunk to periphery spread meningococcal, VZV
- Face to body fifth disease

ITCH

- History of the spread of the pruritis
- Factors which make it worse
- Factors which make it better

Skin Checks



- Very common request
- Pertinent to patients when someone close is affected by skin cancer or advertising campaigns
- The first step is to establish the patient's risk:
 - Where were they born? Where did they spend the first 15-18 years of their lives?
 - Amount of sun exposure
 - Number of sun burns blistering, peeling where on the body?
 - Previous skin cancers BCC, SCC, melanoma also actinic keratosis
 - Family history of skin
 - Phenotype

FITZPATRICK PHENOTYPES

1	Pale white skin, blue/green eyes, blonde/red hair	Always burns, does not tan
2	Fair skin, blue eyes	Burns easily, tans poorly
3	Darker white skin	Tans after initial burn
4	Light brown skin	Burns minimally, tans easily
5	Brown skin	Rarely burns, tans darkly easily
6	Dark brown or black skin	Never burns, always tans darkly



CHECKLIST – WHAT THE GP MIGHT ENCOUNTER IN A SKIN CHECK

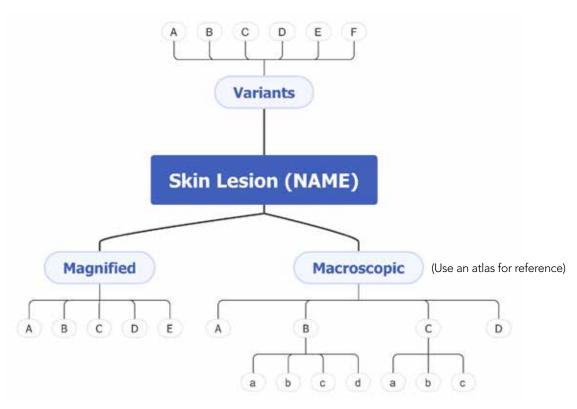






SKIN CHECK FRAMEWORK

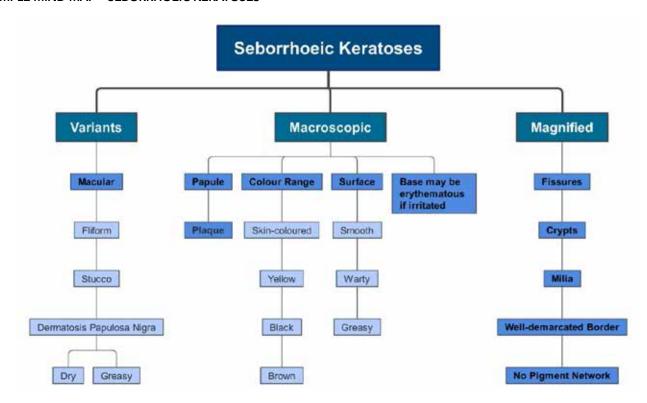
- An important exercise for the GP Registrar early in their term, is to create tables or mind maps for each of the common skin lesions
- This should include:-
 - What you would expect to see macroscopically for each (use an atlas for reference)
 - What you expect to see magnified for each lesion
 - The variants (not too exhaustive a list)



- We need to develop an image for ourselves before we can convey to others
- Look at a dermatology atlas for the types of macroscopic lesion
- Then find a dermoscopy atlas:
 - Atlas of Dermoscopy 2nd edition, Marghood et al 2012
 - Dermoscopy An Atlas 3rd edition, Menzies et al 2009
- Get the Registrar to do this for each type of lesion they encounter and as they examine the patient look for the macroscopic and magnified/dermatoscopic features of each lesion
- GP registrar is not expected to be an expert with a dermatoscope, but it is a tool to aid diagnosis



SAMPLE MIND MAP - SEBORRHOEIC KERATOSES



DOING THE SKIN CHECK CONSULTATION

- Set the stage...
- Explain to the patient what you will do
- You need natural light or at least good light
- You need to expose the patient protect their modesty, may need a chaperone
- Needs some magnification dermatocope, "Maggy" lamp
- Explain liquid nitrogen if you are going to use it – including initial sting, pruritus and long term depigmentation effects

REASSURANCE

- Checking skin is a skill and needs to be practiced
- The more skin you see, the more a "picture" of a specific lesion solidifies in one's mind
- Thus at the start of one's career, the checks are longer, the need for review with someone senior is high and there will be queries on multiple lesions
- The GP registrar will learn from someone else reviewing the lesion
- Photography is very useful if unsure

DOCUMENT

- Note the skin check areas examined, areas not examined
- Note lesions which are of concern
- Note any areas where photos were taken
- Note anything that needs surgery
- Note anything treated with liquid nitrogen
- May want to use a body diagram proforma
- Decide what happens next is surgery needed? If so by whom?
 Does it need a biopsy?







DETECT Skin Cancer: Body Mole Map

your dermatologist to make an appointment. If you don't have one, visit aad.org/findaderm

The ABCDEs of Melanoma What to Look for:

Melanoma is the deadliest form of skin cancer. However, when detected early, melanoma is highly treatable. You can identify the warning signs of melanoma by looking for the following:



One half unlike the other half.



Irregular, scalloped or poorly defined border.



Varied from one area to another; shades of tan and brown, black; sometimes white, red or blue.



While melanomas are usually greater than 6mm (the size of a pencil eraser) when diagnosed, they can be smaller. See the ruler below for a guide.



A mole or skin lesion that looks different from the rest or is changing in size, shape



Skin Cancer Self-Examination How to Check Your Spots:

Checking your skin means taking note of all the spots on your body, from moles to freckles to age spots. Skin cancer can develop anywhere on the skin and is one of the few cancers you can usually see on your skin. Ask someone for help when checking your skin, especially in hard-to-see places.



Examine body front and back in mirror, especially legs



Rend elhows look carefully at forearms, back of upper arms, and palms.



Look at feet, toes and soles.



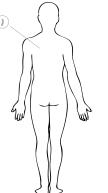
Examine back of neck and scalp with a hand mirror. Part hair and lift.

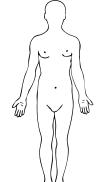


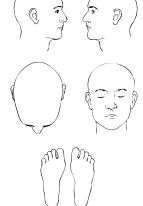
Finally, check back and buttocks with a hand mirror.



Make notes of your spots on the images below so you can regularly track changes.







MOLE #	Asymmetrical? Shape of Mole	B Type of Border?	Color of Mole	Diameter/Size of Mole. Use ruler provided.	How has mole changed?
)	OVAL, EVEN	JAGGED	PINK	1.5MM	YES, LARGER

Name: Date:



Common Inflammatory Skin Conditions

The common conditions seen in general practice should also have a framework, describing the lesion by its morphology:



1 LEVEL IT LIES IN THE SKIN



2 COLOUR



3 SHAPE



4 SIZE



5 TEXTURE



6 LOCATION

PROCESS

- Like a skin check, the GP registrar should review an atlas for macroscopic and magnified aspects of each condition
- Create a table
- Create a mind map
- The registrar will work out the best system for them

APPROACH

- The basic approach will focus on:
 - Recognising the condition
 - Decide the extent of the condition
 - Treatment options
- This should include:
 - Have a list of differentials based on history and clinical examination
 - Do we need a biopsy to establish diagnosis?
 - Identify extent this includes physical extent but also the impact on the patient - mentally, socially and psychologically.
- What has been done so far?
- Do I start treatment?
- Does this need referral?

COMMON CONDITIONS

- The conditions the GP registrar will come into contact with in their clinical experience will vary based on :
 - Age of patient
 - Race of patient
 - Occupation of patient
 - Type of skin
- Although not exhaustive, the below examples provide the basis of a framework and an approach to anything novel:
 - Describe the condition
- History
- Examination
 - The extent:
- Physical
- Social
- Psychological
 - Treatment



ECZEMA

- Very common
- History:
 - Atopy eczema, asthma, hay fever
 - Allergies/exposure/triggers
 - Two peaks
- Young kids
- Older patients
- Clinical:
 - Erythema
 - Scale
 - Pruritus
 - Lichenification
 - Antecubital fossae
- The process is a combination of barrier defect and allergen sensitivity
- Bear in mind that infections are more common with the barrier defect
- Higher sensitivity to:
 - Staph infection impetigo
 - Molluscum contagiosum
 - Herpes simplex 1, 2 Eczema herpeticum



Eczema Treatment

- Swab anything open steroids WON'T work if there is staph
- Avoid soap
- Maintain barrier
- Moisturise three times a day
- Thickened areas need topical steroids
- + wet dressing

PSORIASIS

- Common 1 in 25 will have some form
- History
- Can start at any age, more common starting as an adult (~30 vrs)
- Can have a history of dandruff, seborrhoeic dermatitis, nappy rash as a baby
- Clinical
- Erythema, scale, raised plaques
- Elbows, knees, scalp, natal cleft, nails
- Types plaque-like, guttate, erythroderma



Psoriasis Treatment

- Look for triggers stress, infection, koebnerization
- Steroid and vit D
- Moisturise
- + wet dressing



FUNGAL

- Tinea is common on feet, groin and body if immunosuppressed
- History:
 - Annular pruritic lesion
 - Unilateral
- Clinical
 - Annular
 - Erythema
 - Scale
 - Satellite lesions
- Pityriasis vesicolor young adults



Fungal Treatment

- Scrape the lesion
- Oral or topical
- Depends on patient health, extent

VIRAL

- Warts are common
- Molluscum contagiosum are common in kids
- History
 - Usually starts with a single lesion and may spread
 - Start on extremes fingers, feet
- Clinical
 - Verrucae filliform papule, not pruritic
 - Molluscum smooth topped papule, with crater/ punctum, usually white





Viral Treatment

- Aim is to mount an immune response
- This is done by irritating the lesion chemically (Imiquimod, salicylic acid, cantharadin, podophyllin) or physical (liquid nitrogen, pricking, surgery)
- Be aware it may take several visits, children have a long memory

ACNE TREATMENT

- Regular wash morning and night
- Non comodogenic make up mineral based
- Antibiotics oral tetracyclines (watch the age)
- Topical retinoids
- Extensive cystic and scaring will need a referral on

ROSACEA TREATMENT

- Genetic cause, so can be difficult
- Sunscreen is very important
- Erythema needs sun avoidance
- Papules can be treated with acne treatment tetracycline and topical retinoid
- Laser
- Ivermectin topically
- Possible relationship with H. pylori



TREATMENT FOR SKIN CONDITIONS

Treatment for a skin condition requires input from the patient

- To avoid soaps
- Use moisturizers
- Use sunscreen
- Avoid irritants
- The patient must become invested in the treatment regime for a good health outcome.

Medical Options - Steroids

- The majority of conditions need some topical steroid treatment
- Steroids are an issue for GPs and patients alike
- The "danger" of steroids is not understanding them
- The Registrar must then ask themselves:
 - Which Steroid to use?
 - Vehicle?
 - How much?
 - How long?
 - If it doesn't respond?

Topical Steroids

- Know the steroid strengths and where and when you can use/not use them
- Patients see the % as the main measure of strength, but betamethasone diproprionate 0.05% in optimized vehicle is a Class 1 super potent steroid- 1% hydrocortisone is Class 6/7 low potency
- If the GP registrar is not sure they should ask supervisors, derm reg, specialist – they will build their knowledge base from this input
- It may be better to use a strong steroid for a short period over a weak steroid for a long period
- Type of steroid used depends on site, patient, extent of disease

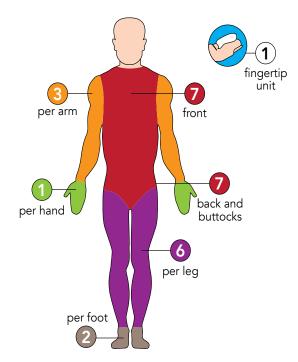


Vehicle

- CREAMS water based
 - OINTMENTS oil based
 - GEL alcohol based
 - LOTION is water based but lighter than cream concentration

How much?

 Dry skin does NOT absorb well - couple the steroid with a moisturiser + wet dressing



How long?

- Appropriate strength steroid should settle a rash within 3-4 days.
- If not, especially with eczema, think infection

Not responding? Next Step

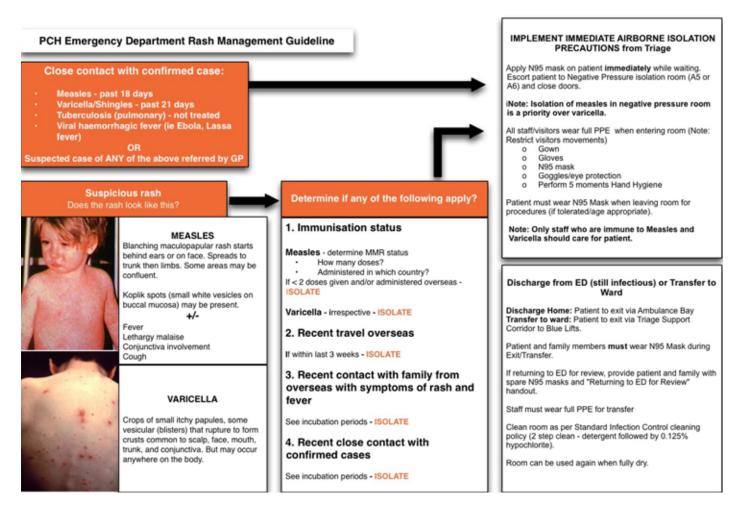
- Is the treatment being used?
- Right treatment?
- Wrong diagnosis
- Biopsy?
- Don't keep pushing stronger and stronger steroids if things aren't working get advice



Other Recommendations

The early work Registrars put into creating their own checklists and individual mind maps for the lesions they are likely to come across will pay off in the long run.

Some may like to add to their tools with flow charts or algorithms such as the below evidence-based Rash Management Guideline created for the Perth Children's Hospital (https://www.healthywa.wa.gov.au/~/media/Images/Hospitals/PCH/Page-Images/Health-professionals/ED-Guidelines/Rash-management/PCH-ED-Rash-Management-Guideline.pdf)



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