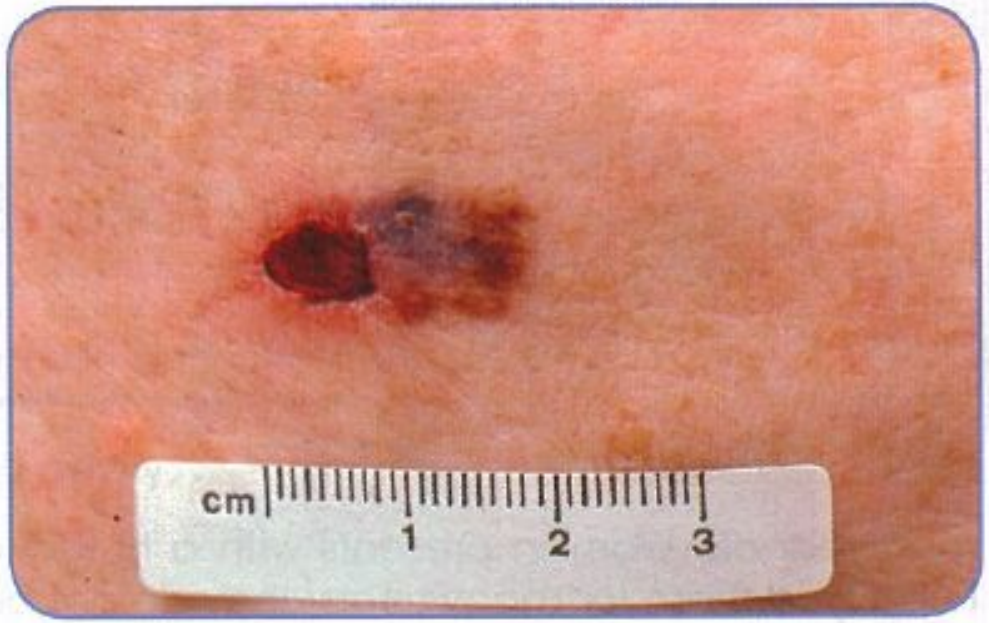
Dermatology

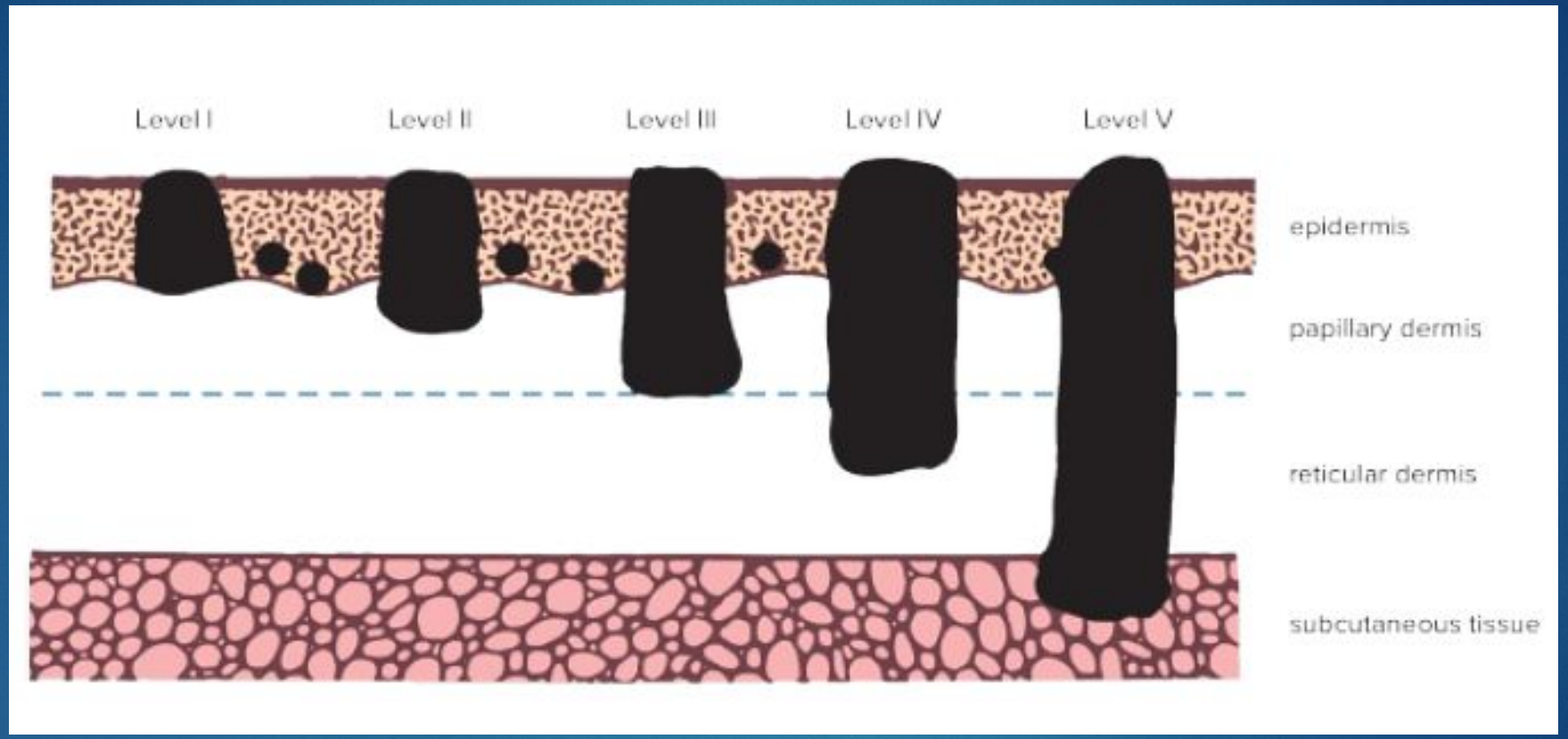
HANDBOOK 3.003 – 3.009

MCQ 3.003

A 60-year-old woman presents with a pigmented skin lesion on her leg (as shown), which has grown in size over three months, and has occasionally bled when she scratched it. You arranged excision, which confirmed the diagnosis of 0.3mm thickness malignant melanoma on histology. In discussing prognosis with the patient, which one of the following features is the most important prognostic indicator?

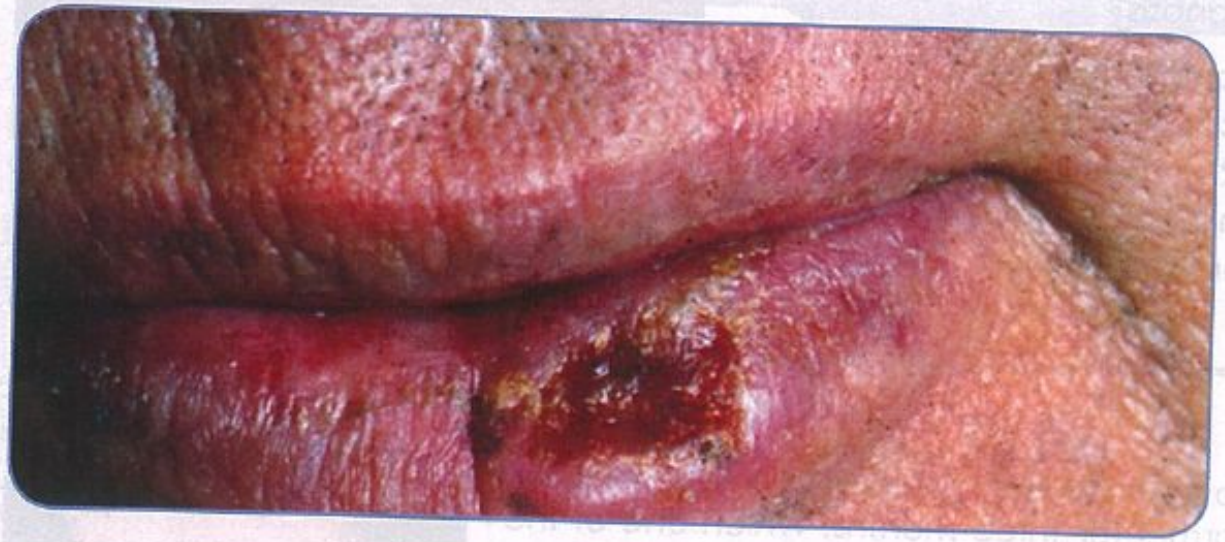


A. Site of the lesion on the body.
B. Width of the lesion.
C. Colour of the lesion.
D. Thickness of the lesion.
E. History of bleeding.


Level I
Level II
Level III
Level IV
Level V
epidermis
papillary dermis
reticular dermis
subcutaneous tissue

MCQ 3.004

The 70-year-old man whose photograph is shown has had the painless lesion shown on his lower lip for the last six months and it is slowly increasing in size. Which one of the following is the most likely diagnosis?

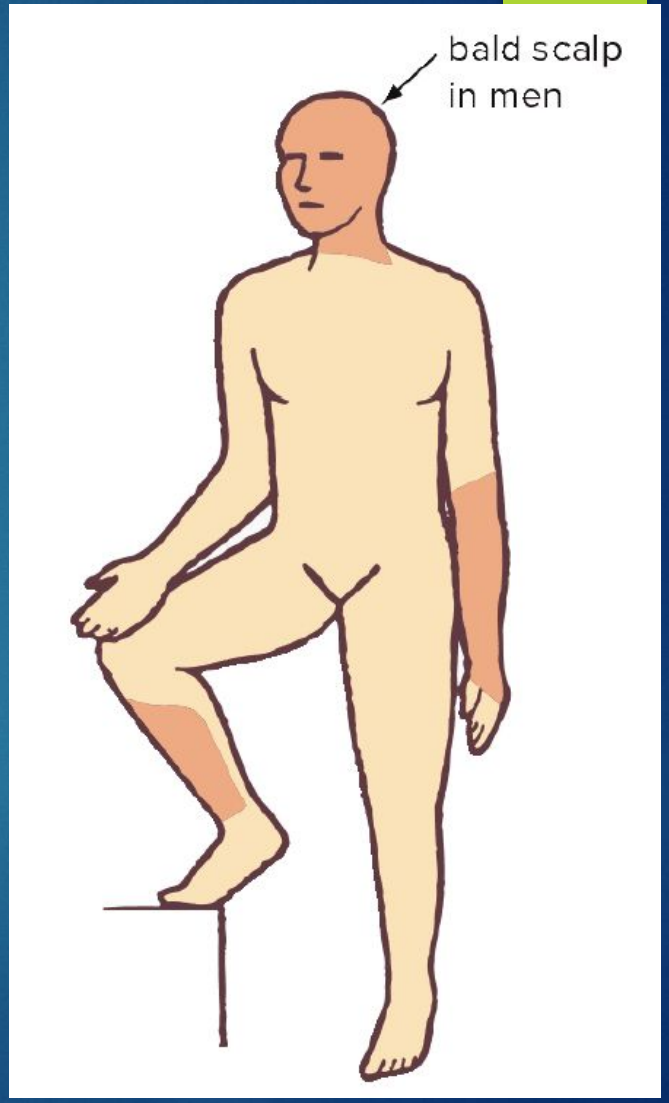


A. Herpes zoster.
B. Herpes simplex.
C. Squamous cell carcinoma.
D. Basal cell carcinoma.
E. Malignant melanoma.

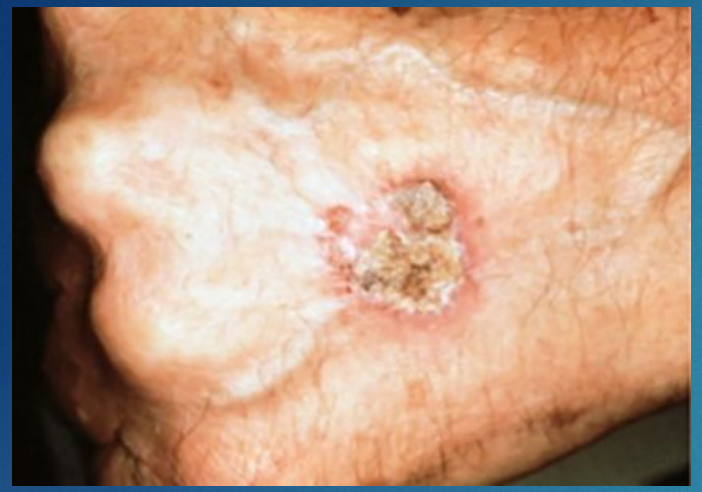
Squamous cell carcinoma

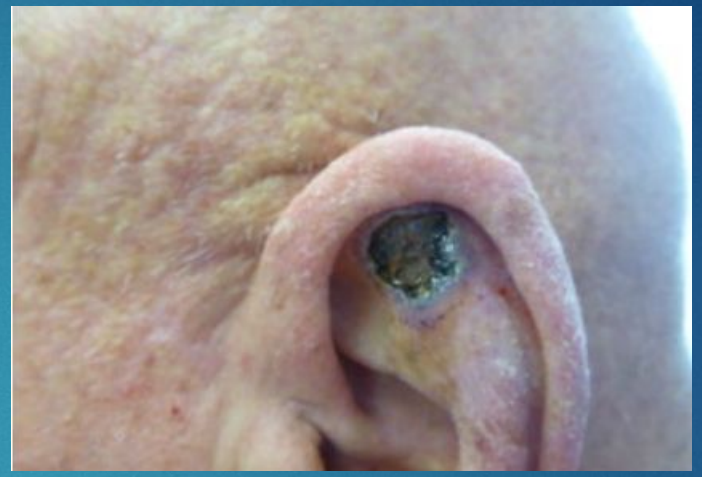
- Malignant tumor of the epidermis
- It is found on sun-exposed areas
- Initially **firm thickening** of skin
- A flash colored lesion
- The hard nodules soon ulcerate

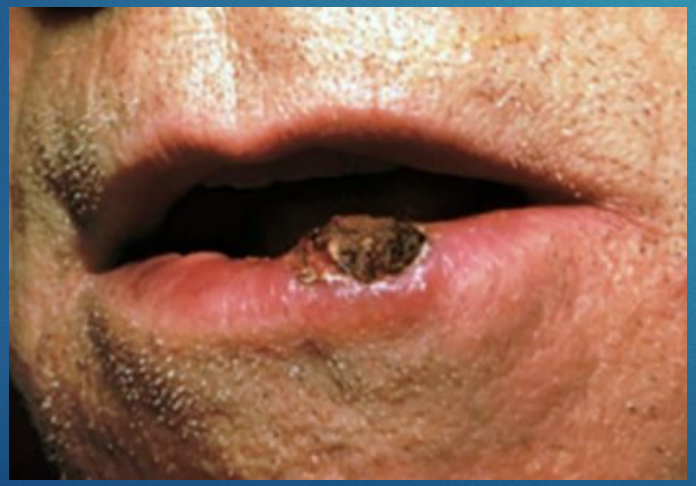
And ulcers have a characteristic everted edge

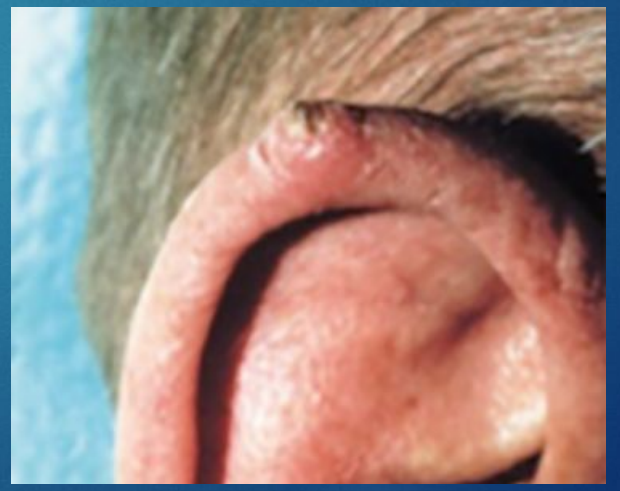


Squamous cell carcinoma









Basal cell carcinoma

- Slowly growing plaque or nodule
- Skin coloured, pink or pigmented
- Varies in size from a few millimetres to several centimetres in diameter
- Spontaneous bleeding or ulceration
- Does not metastasise via lymph nodes or bloodstream

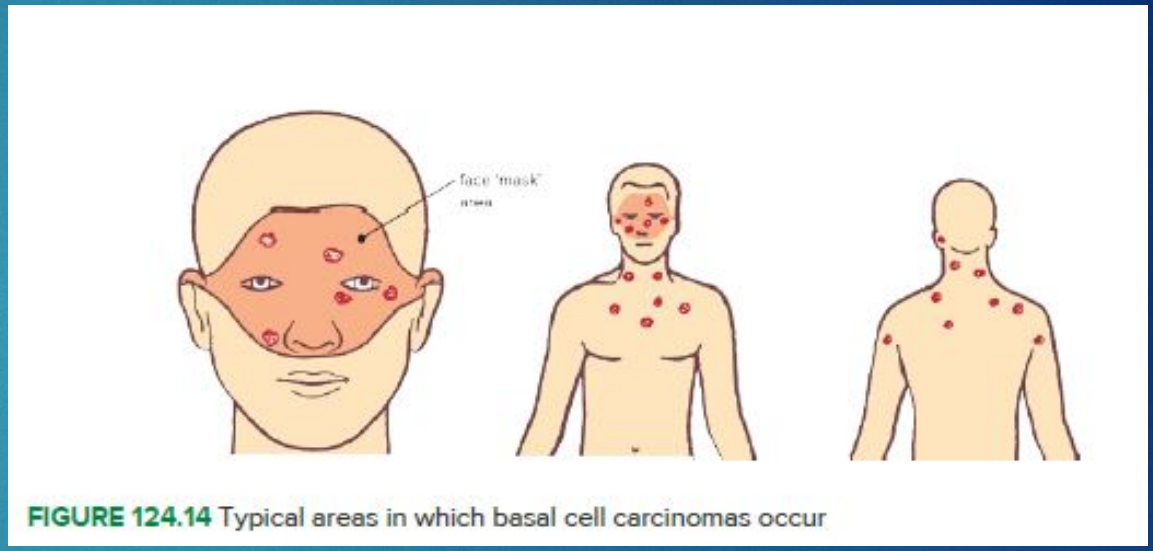
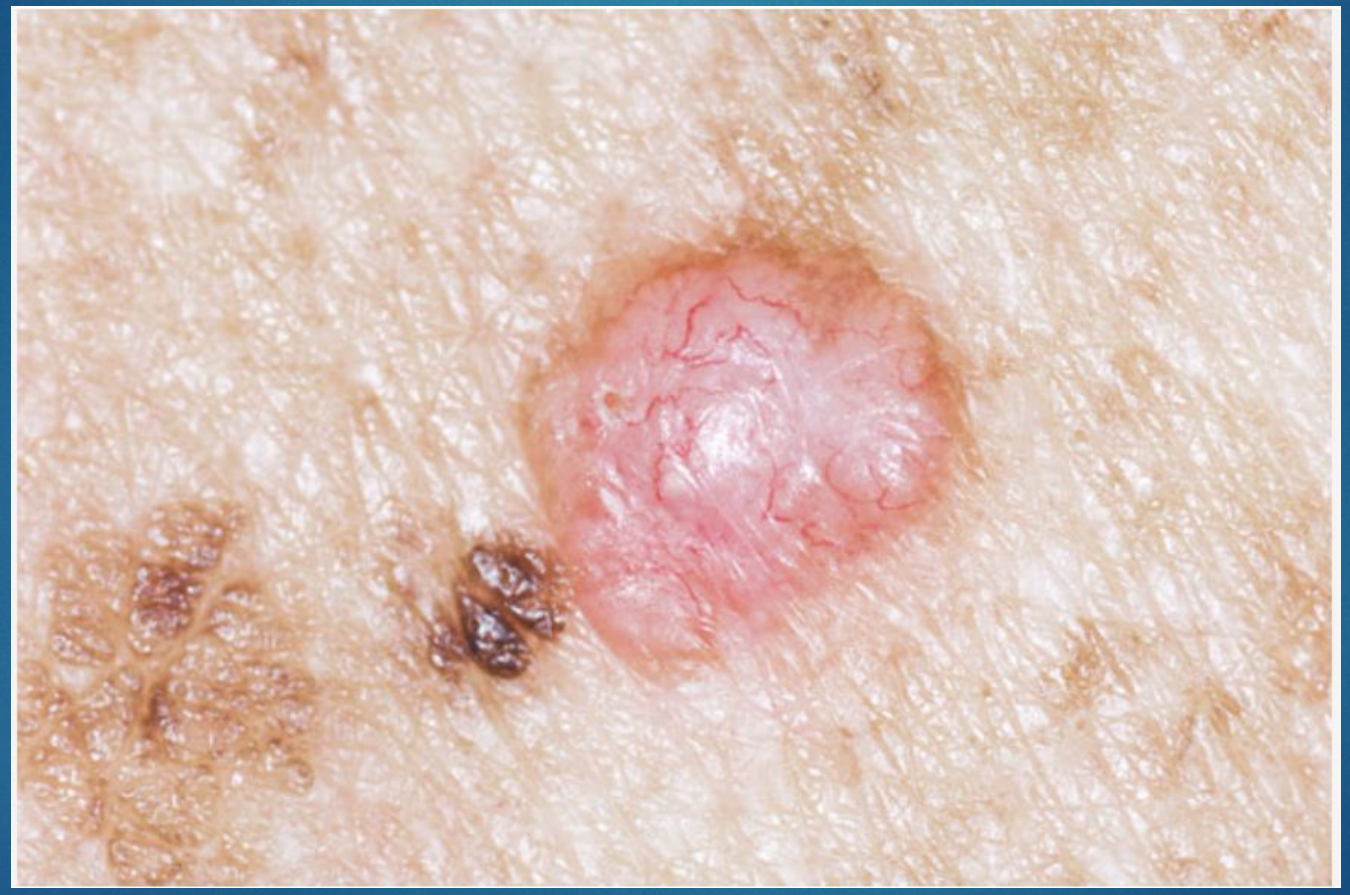
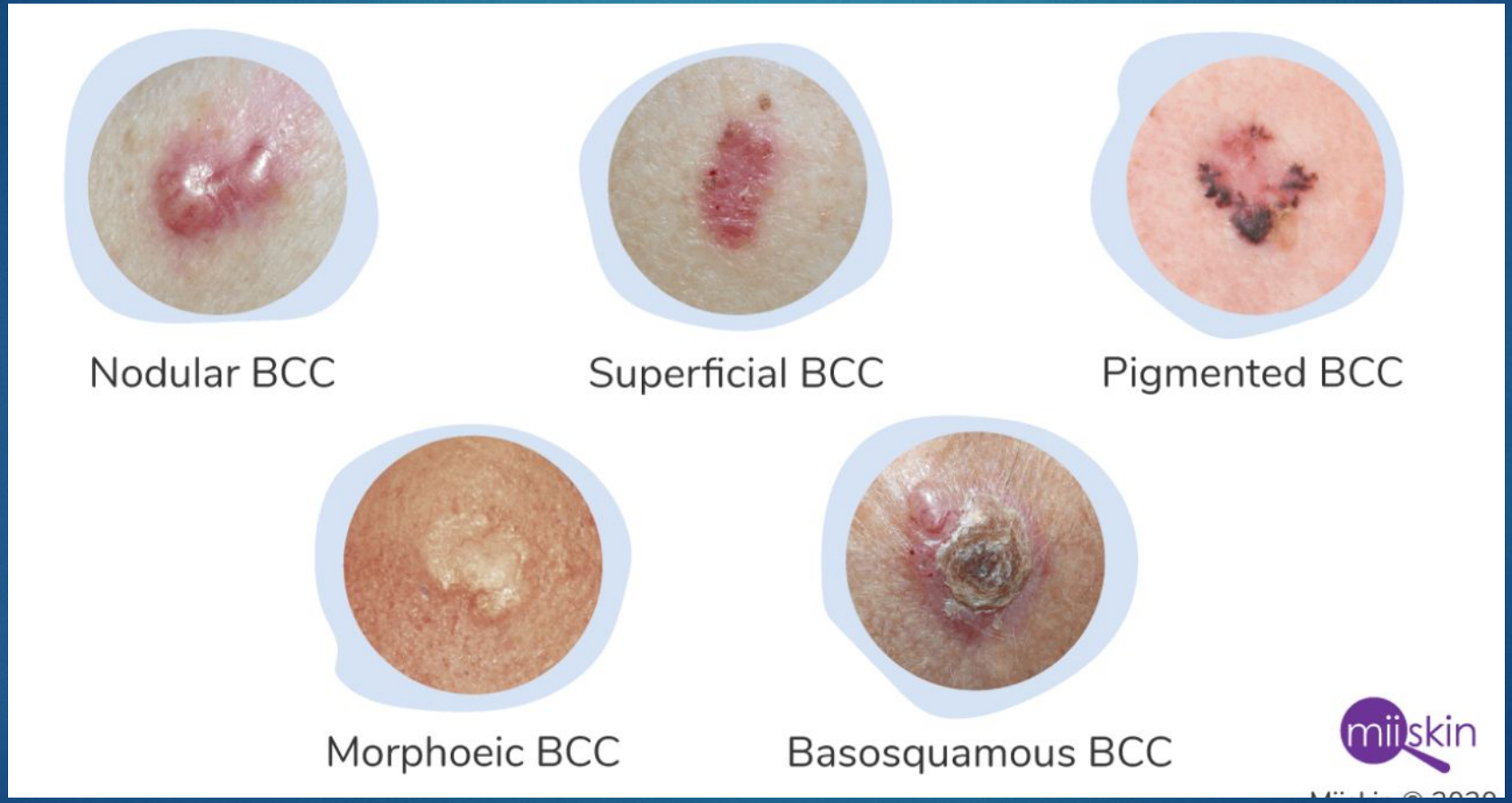


FIGURE 124.14 Typical areas in which basal cell carcinomas occur

Basal Cell Carcinoma



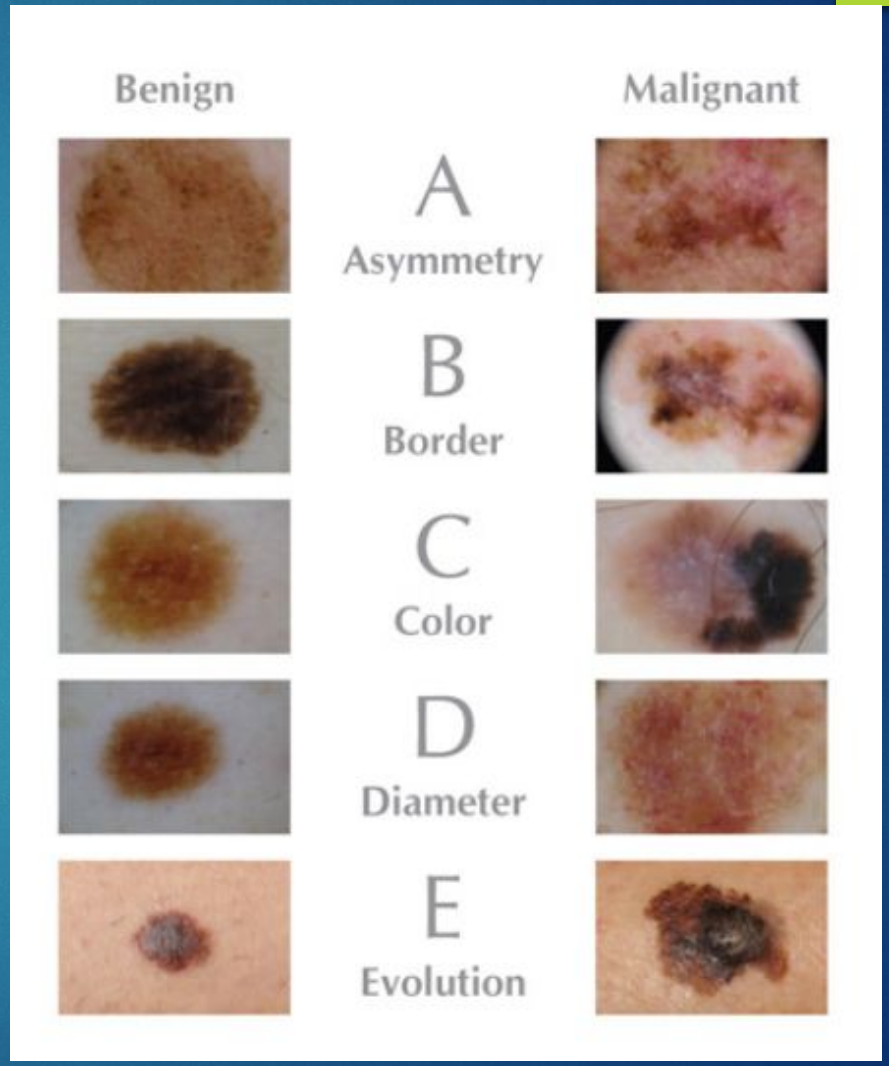
Basal Cell Carcinoma



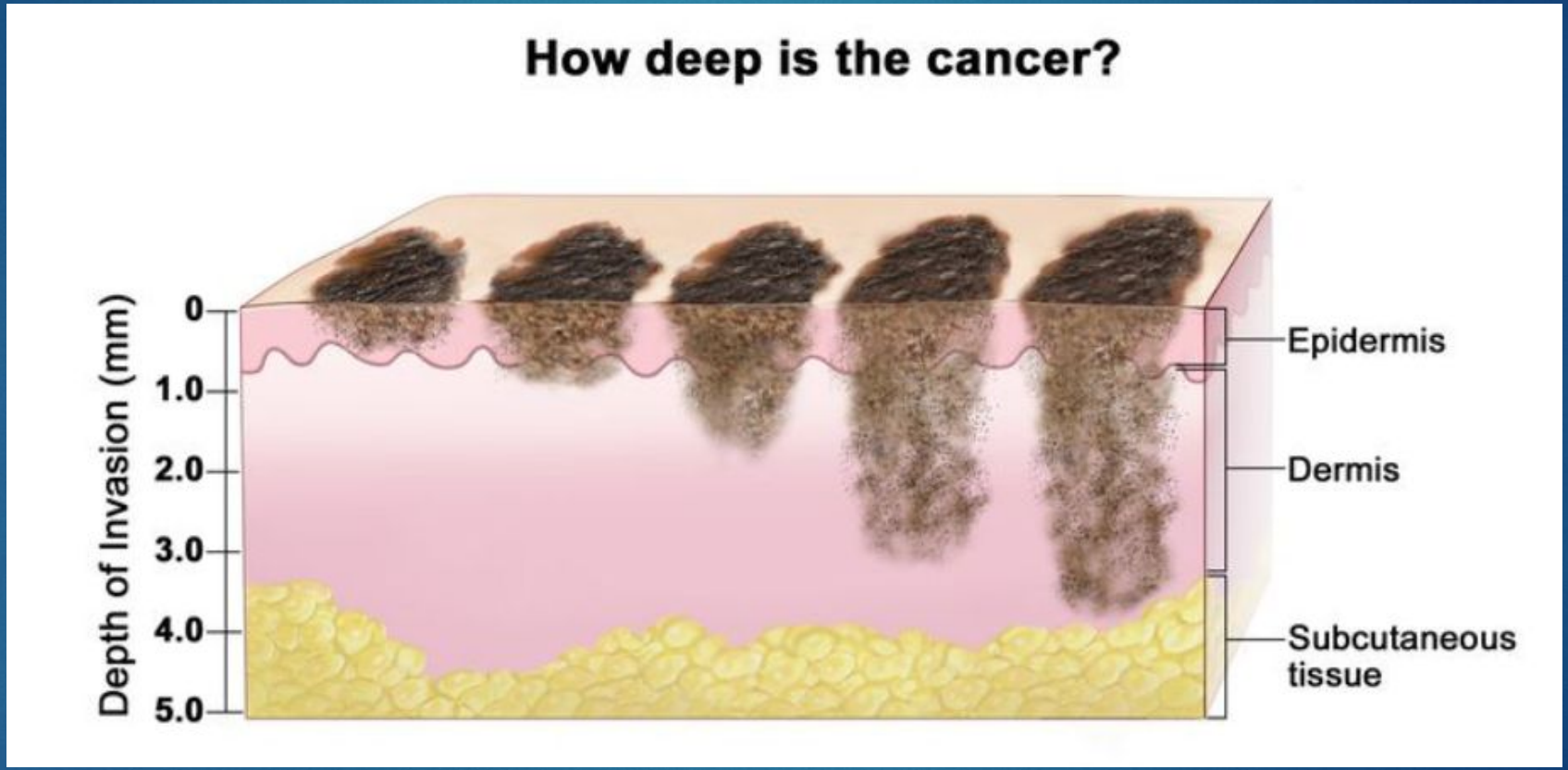
Melanoma

- The cancer of melanocytes
- Metastasizes and locally invade
- A jet-black lesions without any hair

- Diagnostic
  - Punch
  - Excisional biopsy
- Treatment
  - Excision with margins
  - Chemo and radiation
  - Debulking

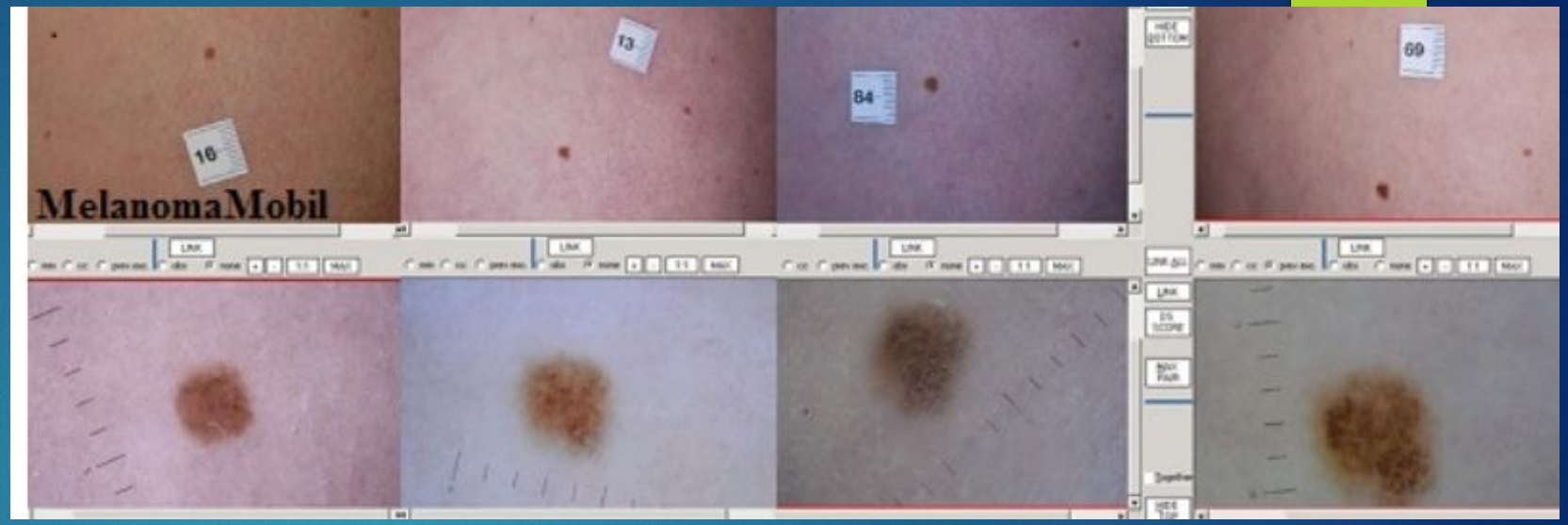


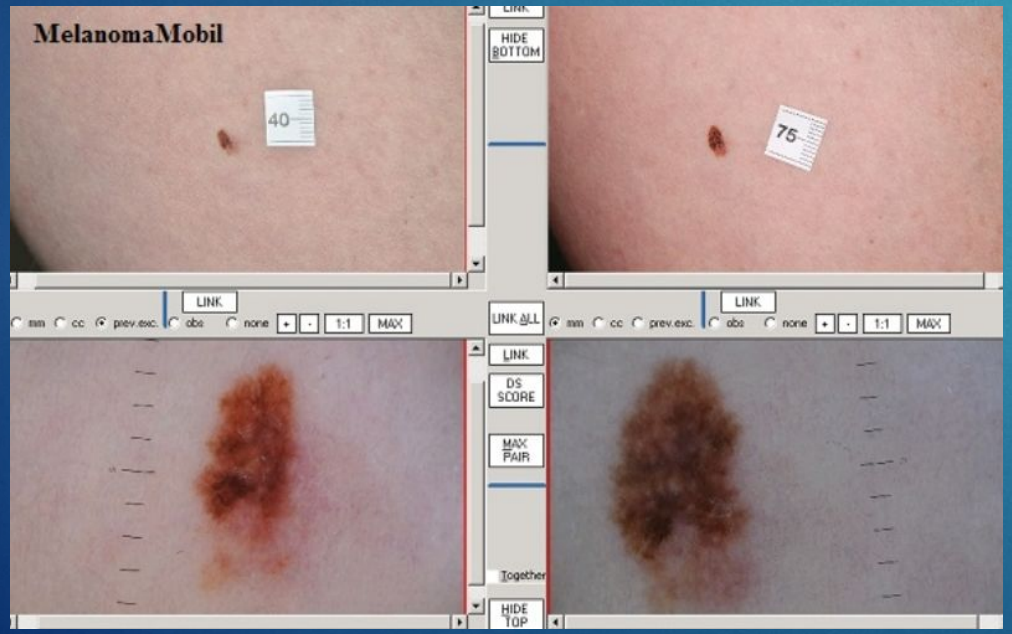
Melanoma

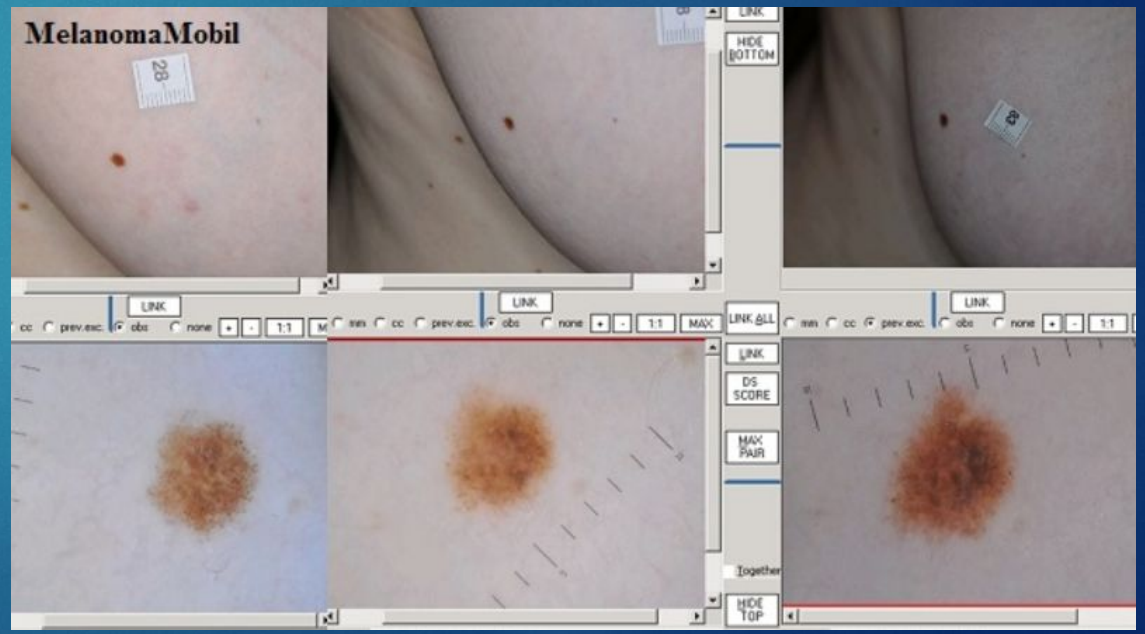

How deep is the cancer?
Depth of Invasion (mm)
0
1.0
2.0
3.0
4.0
5.0
Epidermis
Dermis
Subcutaneous tissue

Melanoma

Red flag pointers

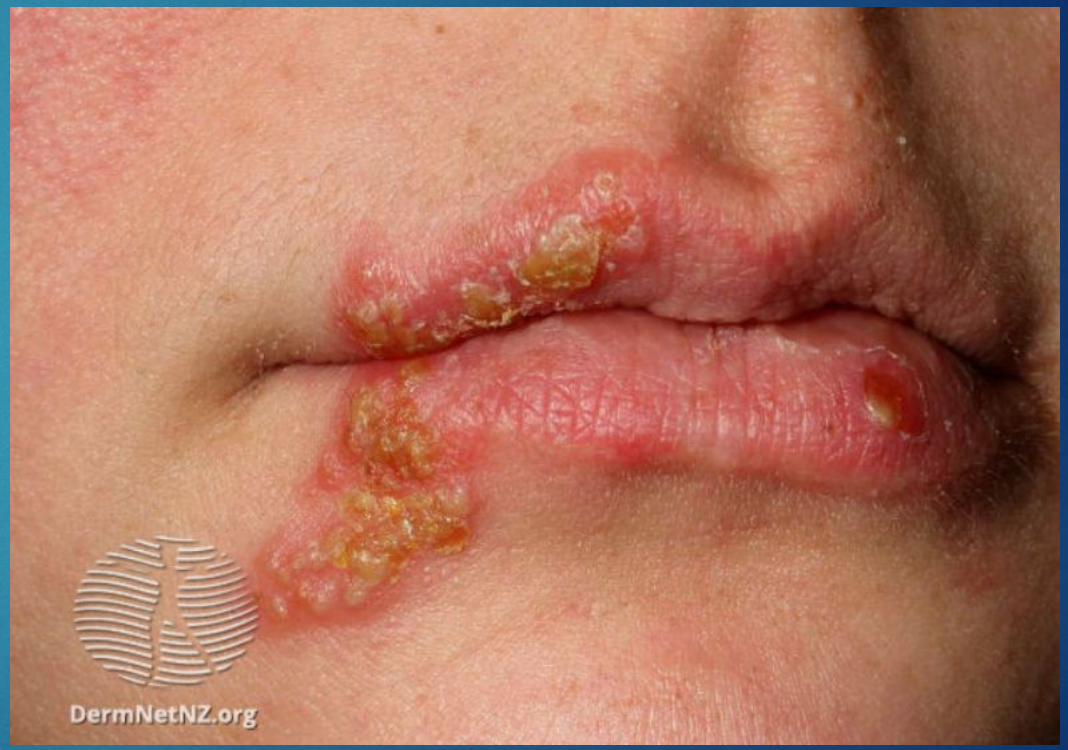






Herpes simplex on the lips

- Vesicles **on an erythematous base**
- Painful prodrome
- Located mucocutaneous
- Usually **self-limiting within days or weeks**
- Conditions that this disease cause:
  - Fever blisters
  - HSV encephalitis
  - Genital ulcers
- Treatment: acyclovir



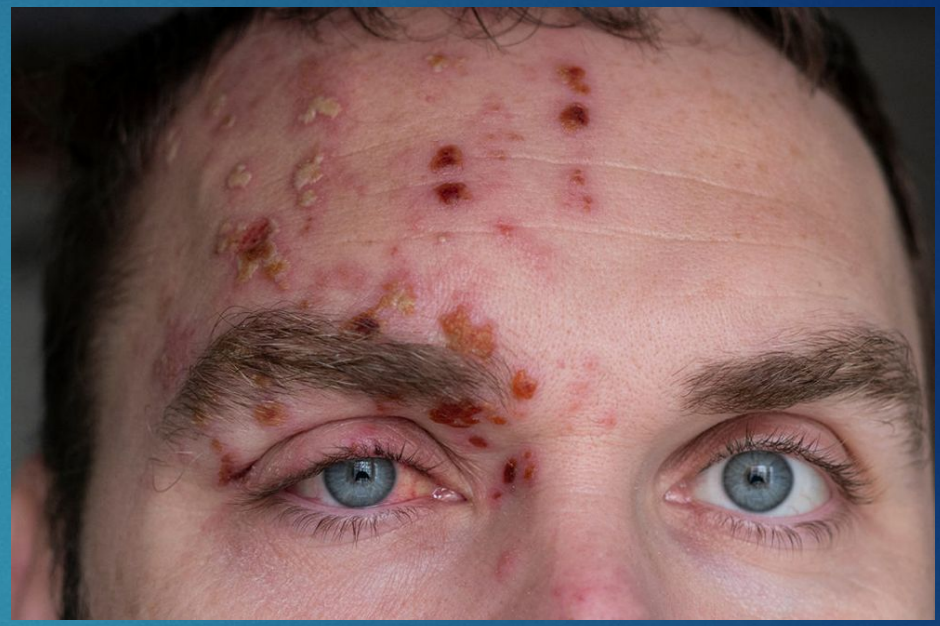
Herpes zoster on the face

- Hyperesthesia or a burning sensation in any division of the fifth nerve
- especially the ophthalmic division

(**ophthalmic herpes zoster**)

- *Herpes zoster is infectious to people who have not previously had chickenpox*

- multiple, painful, unilateral vesicles and ulceration
- increases with age and immunosuppression
- Antiviral treatment can reduce pain and the duration of symptoms



MCQ 3.005

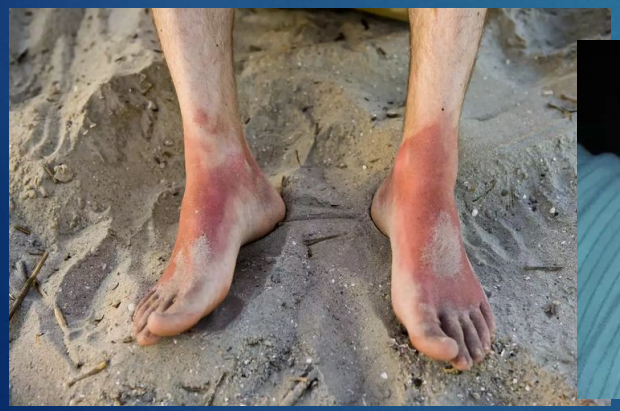
A 51-year-old man sustains burns in a house fire in which he ran back into a burning room to bring out his daughter. The room was full of acrid smoke from burning clothing. He was burnt on his face, trunk and arms and the burns were judged partial thickness, involving 30% of the total body surface area. He speaks in a husky whisper and there is singeing of his hair and eyebrows. Which one of the following actions should be undertaken first?

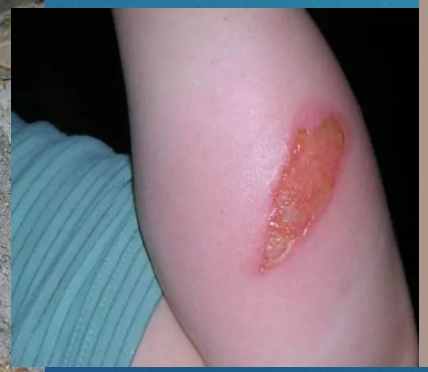
A. Insertion of an intravenous catheter.
B. Endotracheal intubation.
C. Silver sulfadiazine dressings to the burnt areas.
D. Administering systemic antibiotics.
E. A bolus dose of opiate.

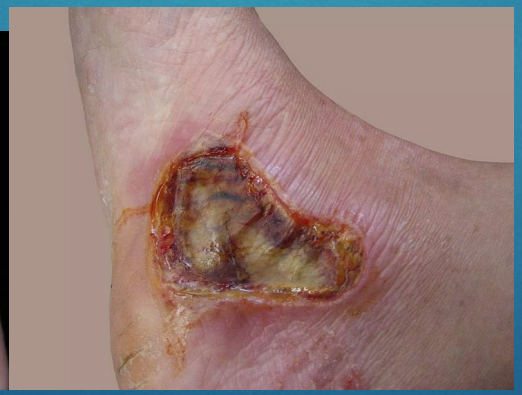
Burns

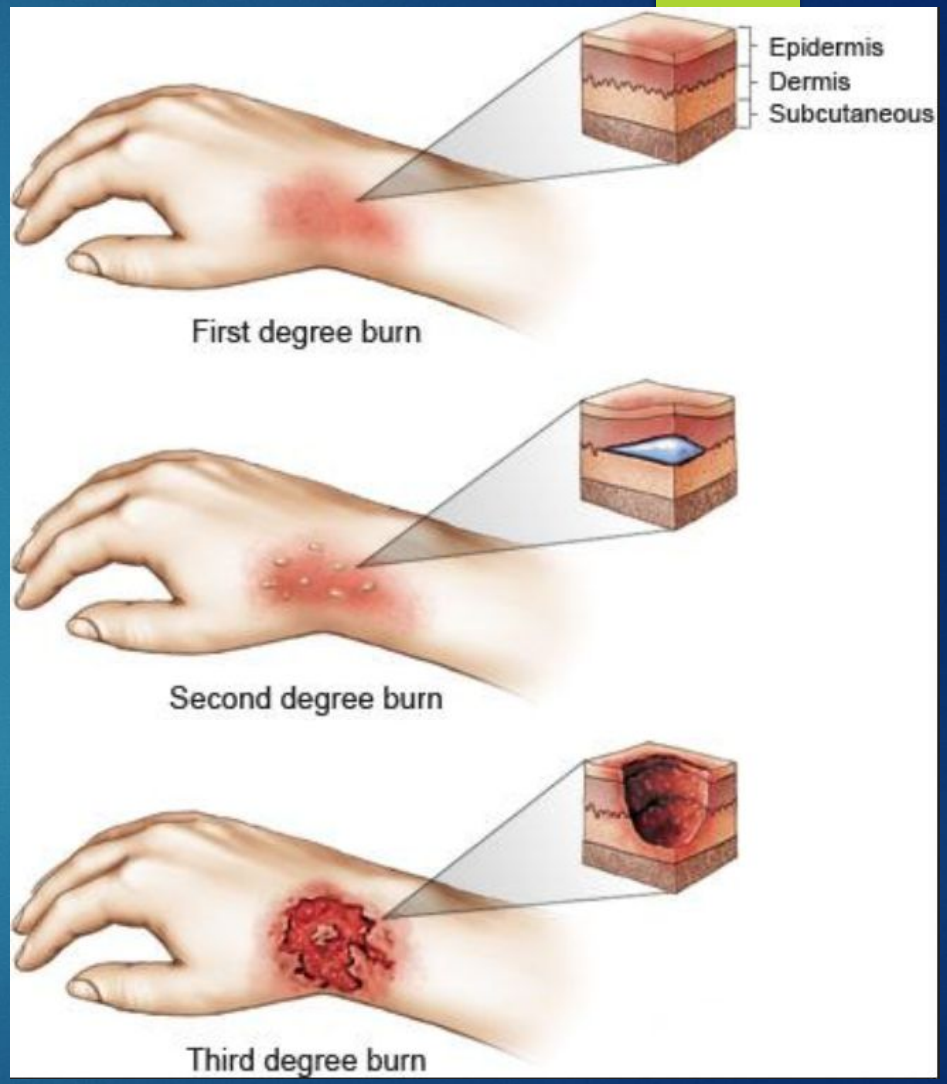
Management depends on extent and depth

- Degree:
  - **First-degree** – the skin may be red or gray, but capillary refill remains normal
  - **Second-degree** - blister formation
  - **Third-degree** burns are deeper and destroy skin appendages such as sweat glands, hair follicles, and sometimes pain receptors





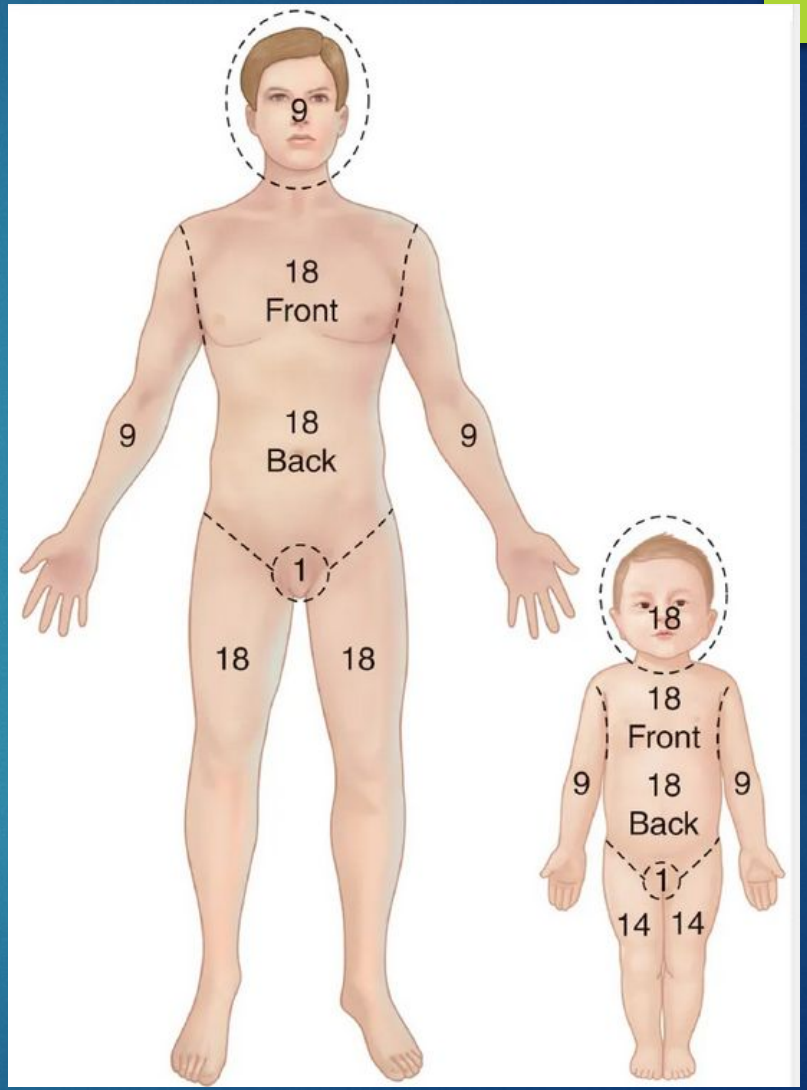




Burns

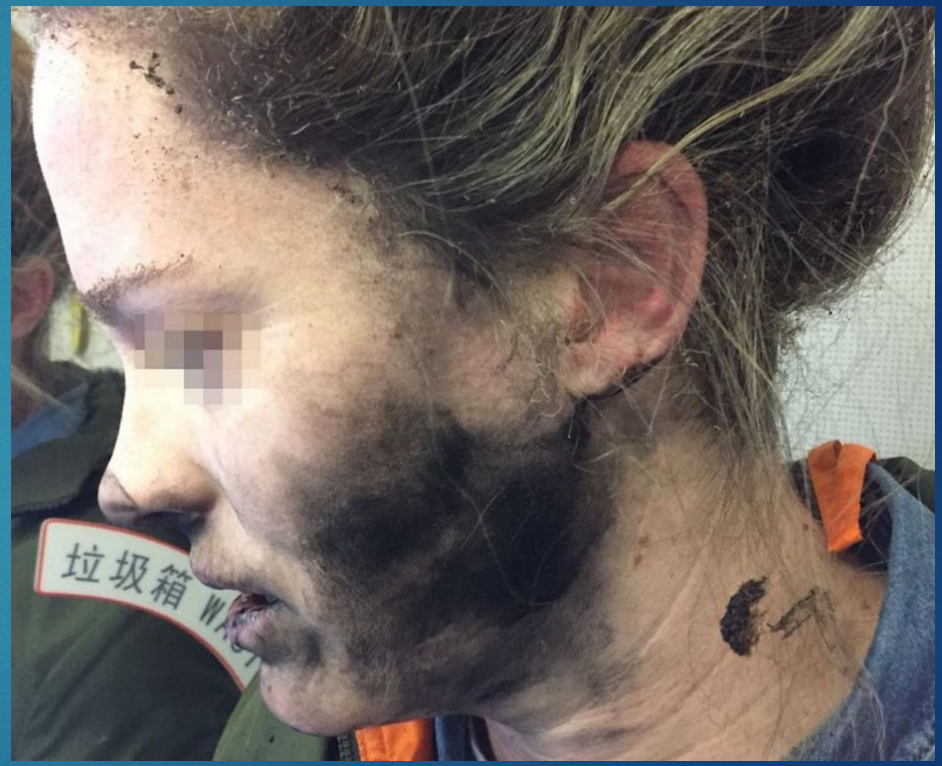
- The "**Rule of Nines**"
  - **Head and arms**: 9% each
  - **Chest, back, and legs**: 18% each

  - Patchy burns can be estimated by using one hand's width as an estimate of 1% of body surface area burned



Burns clues to impending pulmonary and laryngeal edema

- Soot in the mouth or nose
- Stridor
- Wheezing, a husky whisper
- Altered mental status
- Burned nasal hairs, hairs and eyebrows
- Burns involving closed



Burn treatment

- If patient has signs of severe respiratory injury, the first step is to intubate before more severe laryngeal edema can occur and make the intubation difficult.
- If carboxyhemoglobin level is significantly elevated (>5–10%), administer 100% oxygen.
- Fluid resuscitation over the first 24 hours.
- Use Ringer's lactate as the preferred fluid
- Afterward, when the diffuse capillary leak improves, give enough fluid to maintain urine output >0.5–1 mL per kg per hour.
- Give stress ulcer prophylaxis with H2 blocker or PPI.
- To prevent infection, use topical treatment with silver sulfadiazine.
- Do not break blisters and do not use steroids.

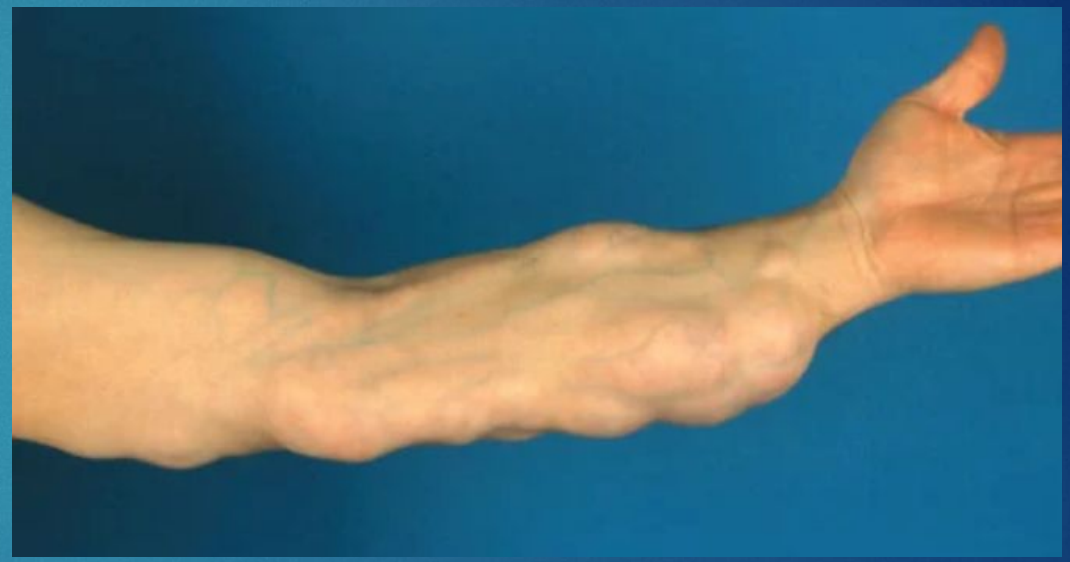
MCQ 3.006

A 45-year-old woman presents with a history of multiple subcutaneous lumps. She has noted them for many years; they do not bother her unduly but are occasionally painful. On examination, she has multiple discrete focal lumps beneath the skin surface of various sizes up to 3cm in diameter which are soft and lobulated; some are mildly tender. She has about 20 in all which are situated bilaterally in the upper and lower limbs and on the trunk. There are no associated skin lesions and she has been otherwise in good general health. She can remember her mother having had some similar lumps removed. Which one of the following is the most likely diagnosis?

A. Neurofibromatosis type 1 (Von Recklinghausen disease of nerve).
B. Adiposis dolorosa (Dercum disease).
C. Multiple symmetrical subcutaneous lipomas.
D. Multiple desmoid tumours.
E. Multiple epidermoid cysts.

Multiply symmetrical subcutaneous lipomas

- benign tumours of mature fat cells
- situated in subcutaneous tissue
- Soft and may be fluctuant
- Well defined
- Rubbery consistency
- Painless
- Most common on limbs (especially arms) and trunk
- Can occur at any site



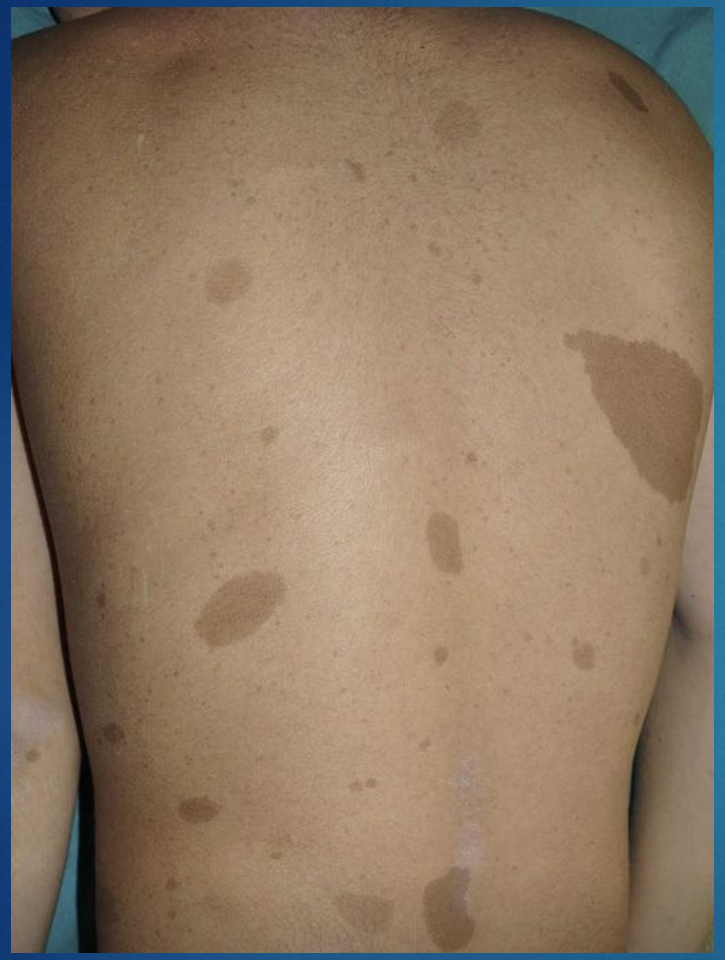
Neurofibromatosis type 1

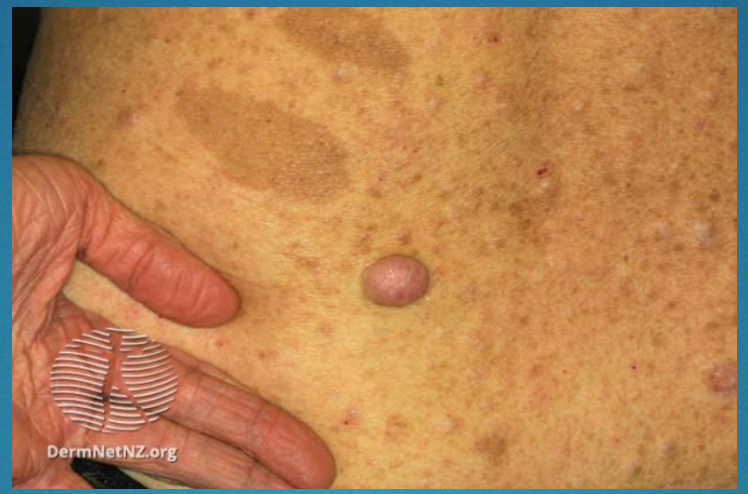
von Recklinghausen disorder

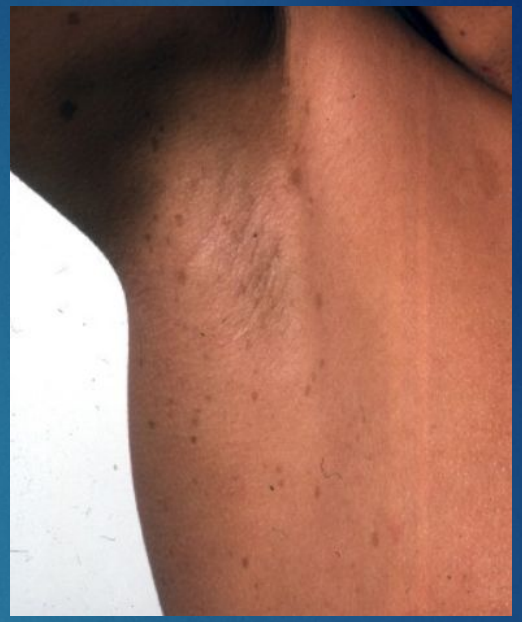
Clinical features

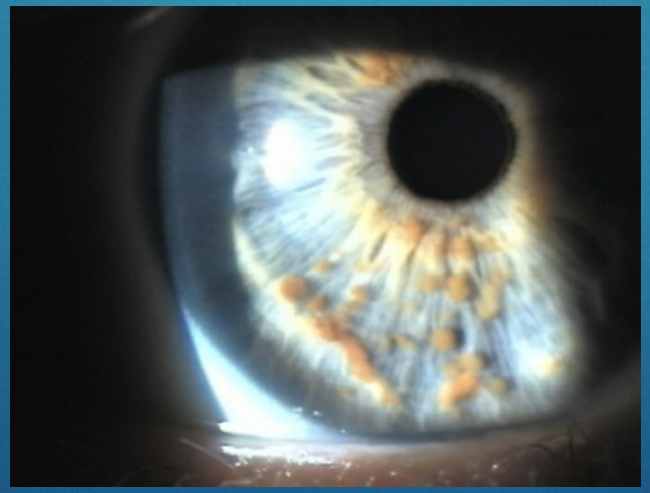
- Six or more café-au-lait spots
- Freckling in the axillary or inguinal regions
- Flesh-coloured cutaneous tumours
- Hypertension
- Iris hamartomas
- Learning difficulty
- Musculoskeletal problems
- Optic nerve gliomas

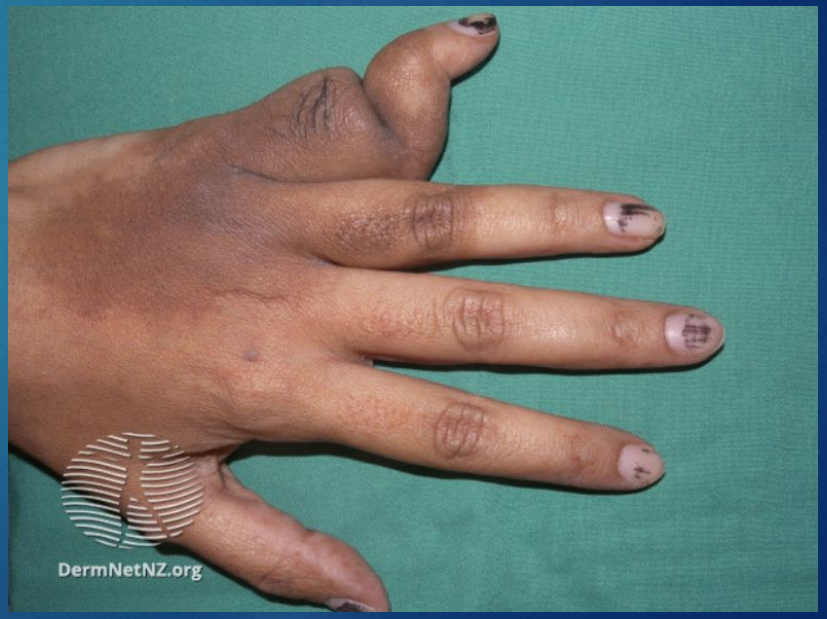
Neurofibromatosis type 1







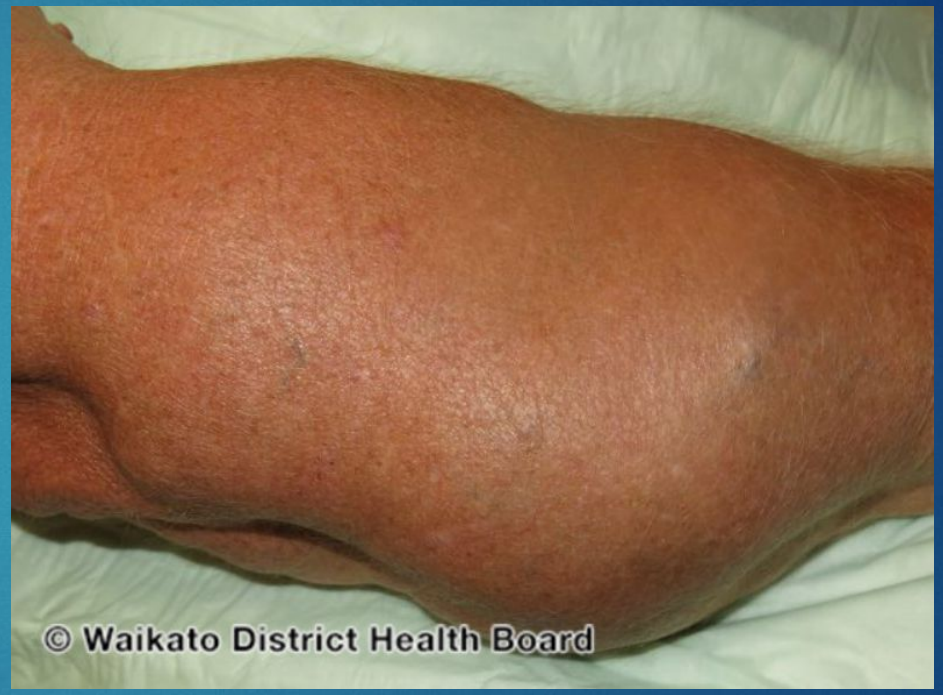




Adiposis dolorosa

Dercum disease

- Multiple encapsulated fat overgrowths (lipomas) on the trunk and limbs
- Painful subcutaneous plaques
- Ecchymoses (bruises) without noticed trauma.
- It usually appears between 35 and 50 years of age.
- It may be more common in people with obesity.



obesity (most often) and chronic pain in the adipose tissue (for more than 3 months)

Dermoid cyst

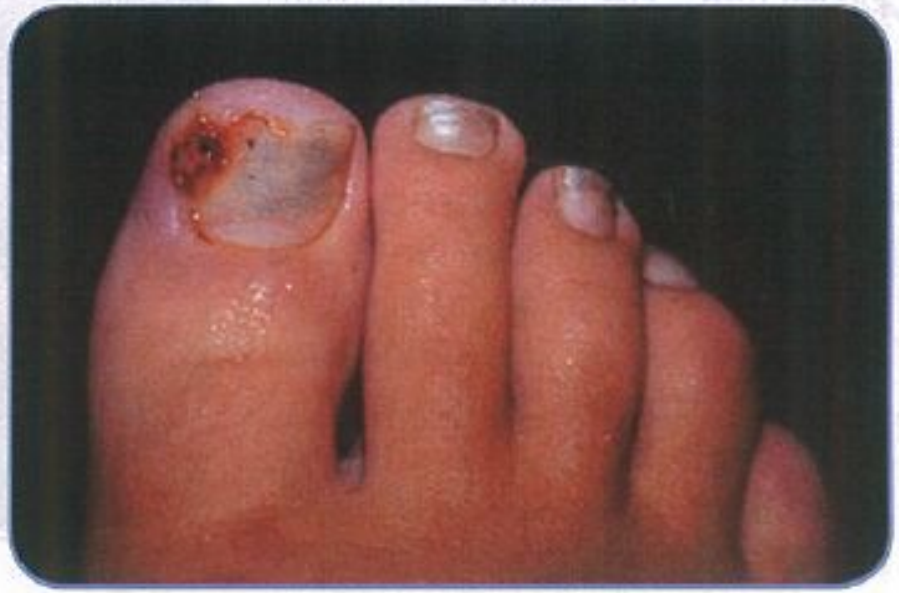
- The most common location for dermoid cysts is the **lateral third of the eyebrows**; however, they also may occur on the mid forehead, scalp, nose, anterior neck, and trunk.
- they are caused by the implantation of epithelial tissue into another structure
- dermoid cysts are made up of epidermal and dermal components: keratinocytes, hair follicles and hair, and sweat glands

Epidermoid cyst

- Are similar in structure and origin to dermoid tumors and the two are often grouped together. Epidermoid tumors are lined with stratified squamous epithelium (skin) as dermoids are, but do not contain the additional skin appendages

MCQ 3.007

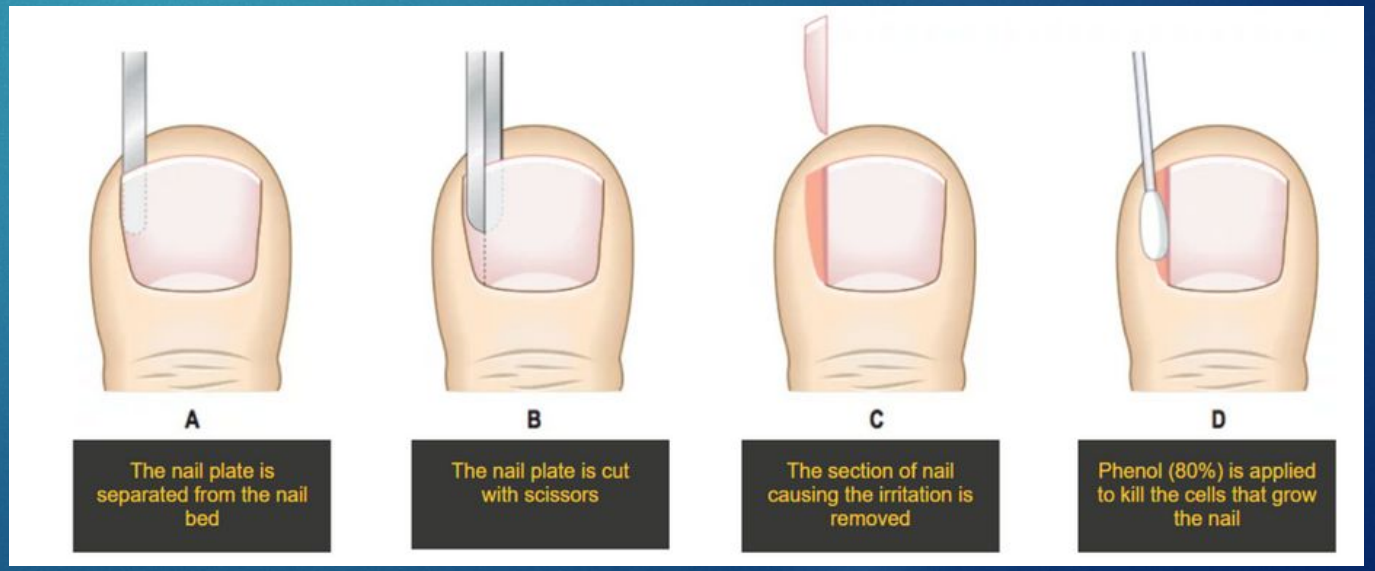
An 18-year-old youth presents with the changes shown in the photograph. This condition has been present for many weeks and is the sixth acute episode he has suffered over the previous three months. Which one of the following would be the most effective treatment to offer the patient?



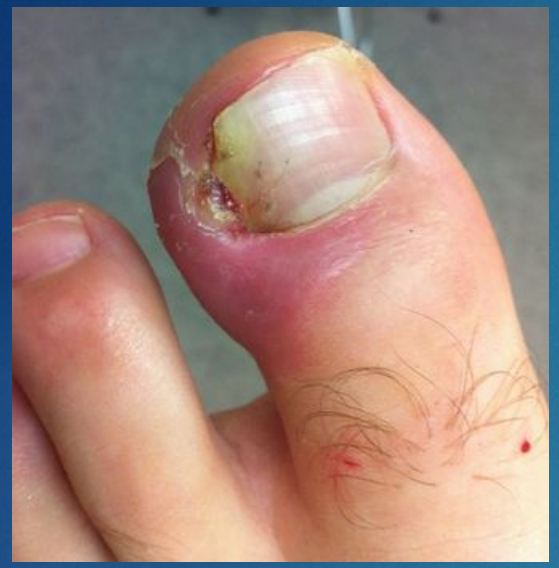
A. Regular salt water bathing of the toe.
B. Application of an antiseptic dressing to the edge of the toenail.
C. Long-term antibiotic therapy.
D. Wedge resection of the affected region.
E. Phenol injection into the affected area.

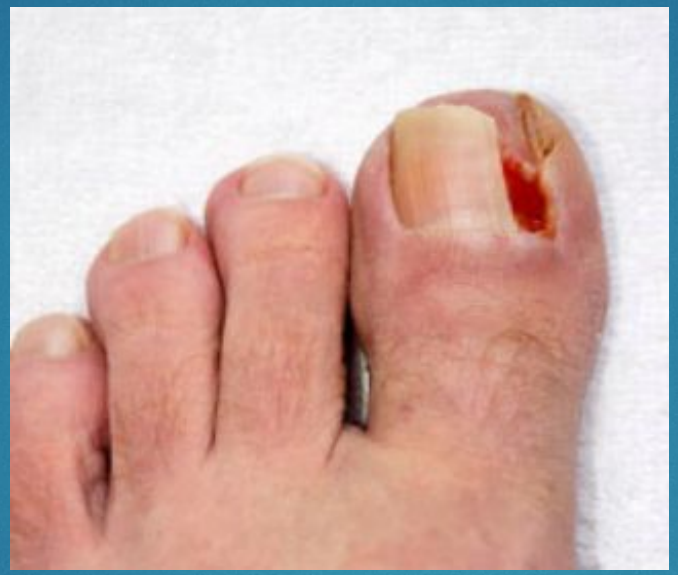
Ingrowing toenail

- the sides or corner of the toenail digs into the skin at the end or side of the toe
- Mostly affects the outer edge of the big toe
- **Causes: i**ll-fitting shoes, improper trimming of toenails, injury near the nail, fungal infections of the nail, prescribed medications, abnormal nail shape

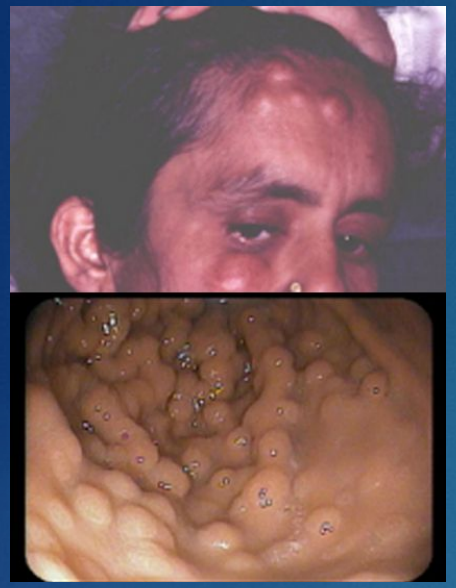


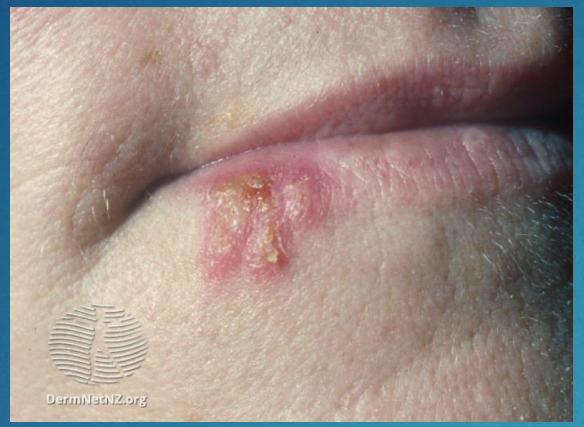
Ingrowing toenail

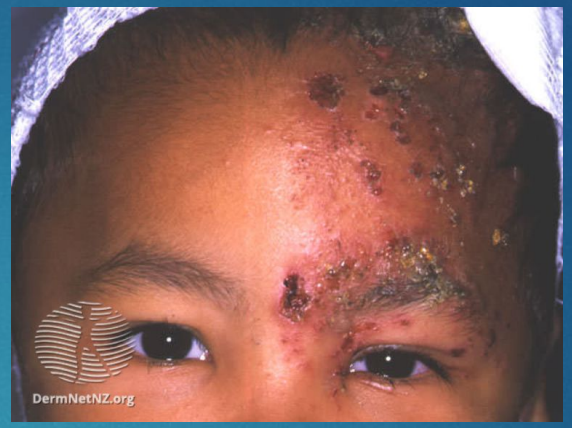




The end




DermNetNZ.org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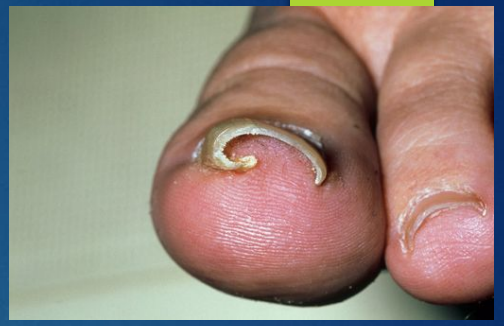

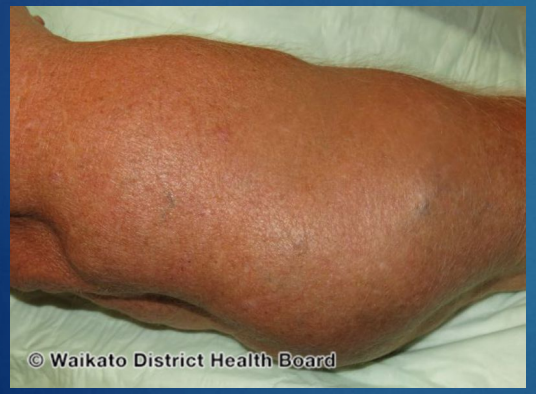
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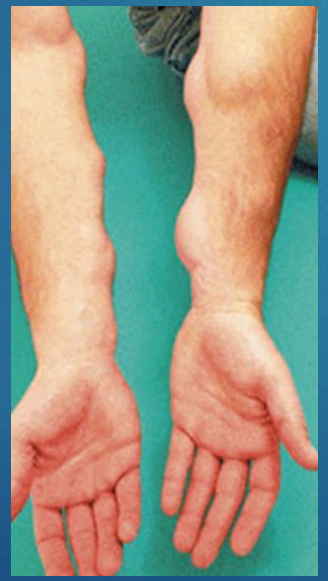
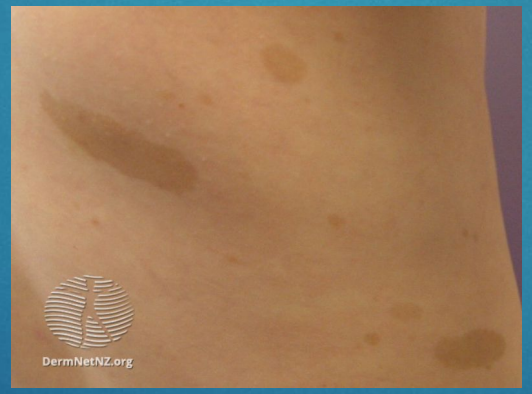
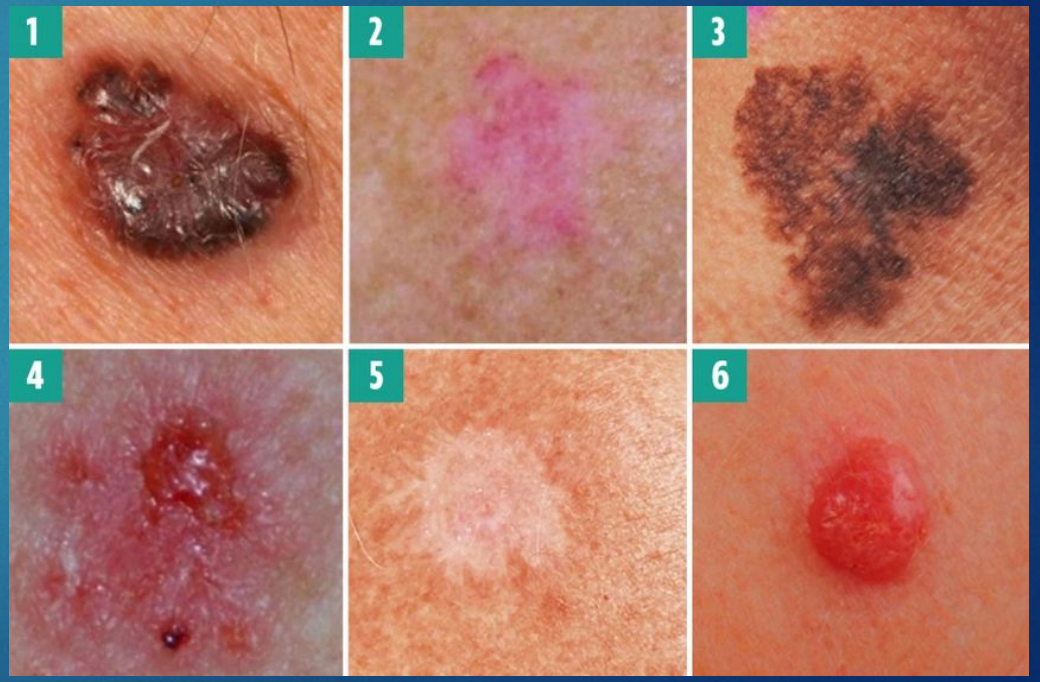
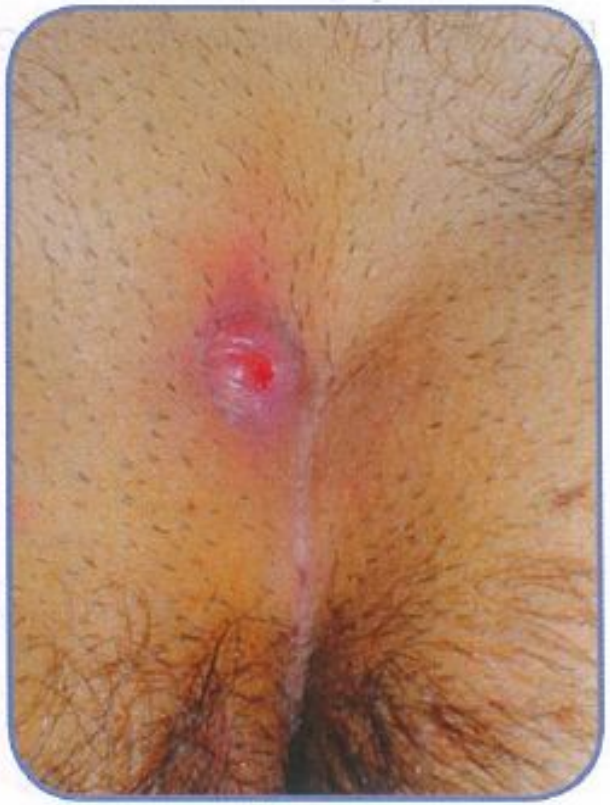



DermNetNZ.org


1
2
3
4
5
6

MCQ 3.008

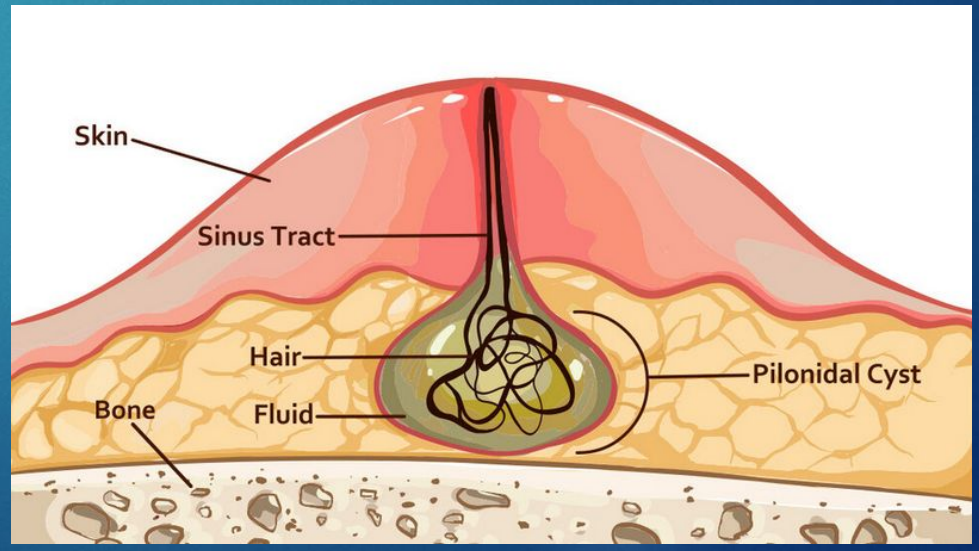
This is the photograph of the natal cleft region of a 28-year-old man who presented with an intermittently discharging swelling. The anus is at the bottom of the picture. The discharge has been offensive smelling and associated with some pain. Which one of the following is the most appropriate next step in management?



A. MRI scan to define the anatomical boundaries of the underlying fistulous tract.
B. Computed tomography to define the underlying abscess cavity.
C. A prolonged course of antibiotics.
D. Laying open of the fistula between skin and anal canal.
E. Excision of the sinus and underlying cavity.

Pilonidal Sinus

- A pilonidal cyst is an abnormal pocket in the skin
- usually contains hair and skin debris
- located near the tailbone at the top of the cleft of the buttocks
- Pilonidal cysts usually occur when hair punctures the skin and then becomes embedded
- Pilonidal cysts most commonly occur in young men
- the problem has a tendency to recur

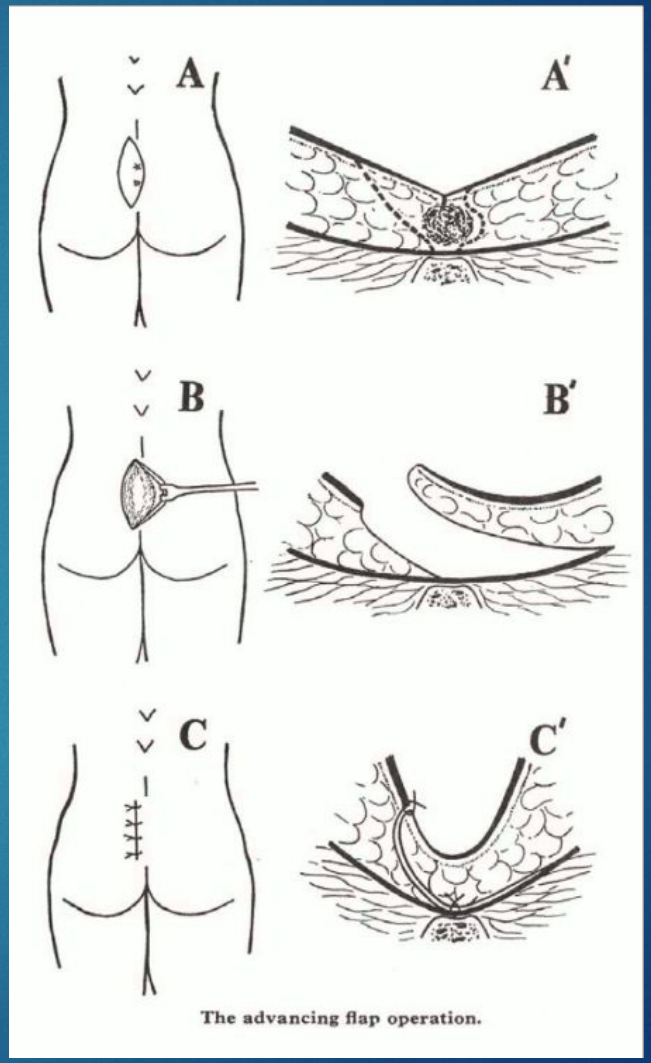


Pilonidal Sinus

Simptoms

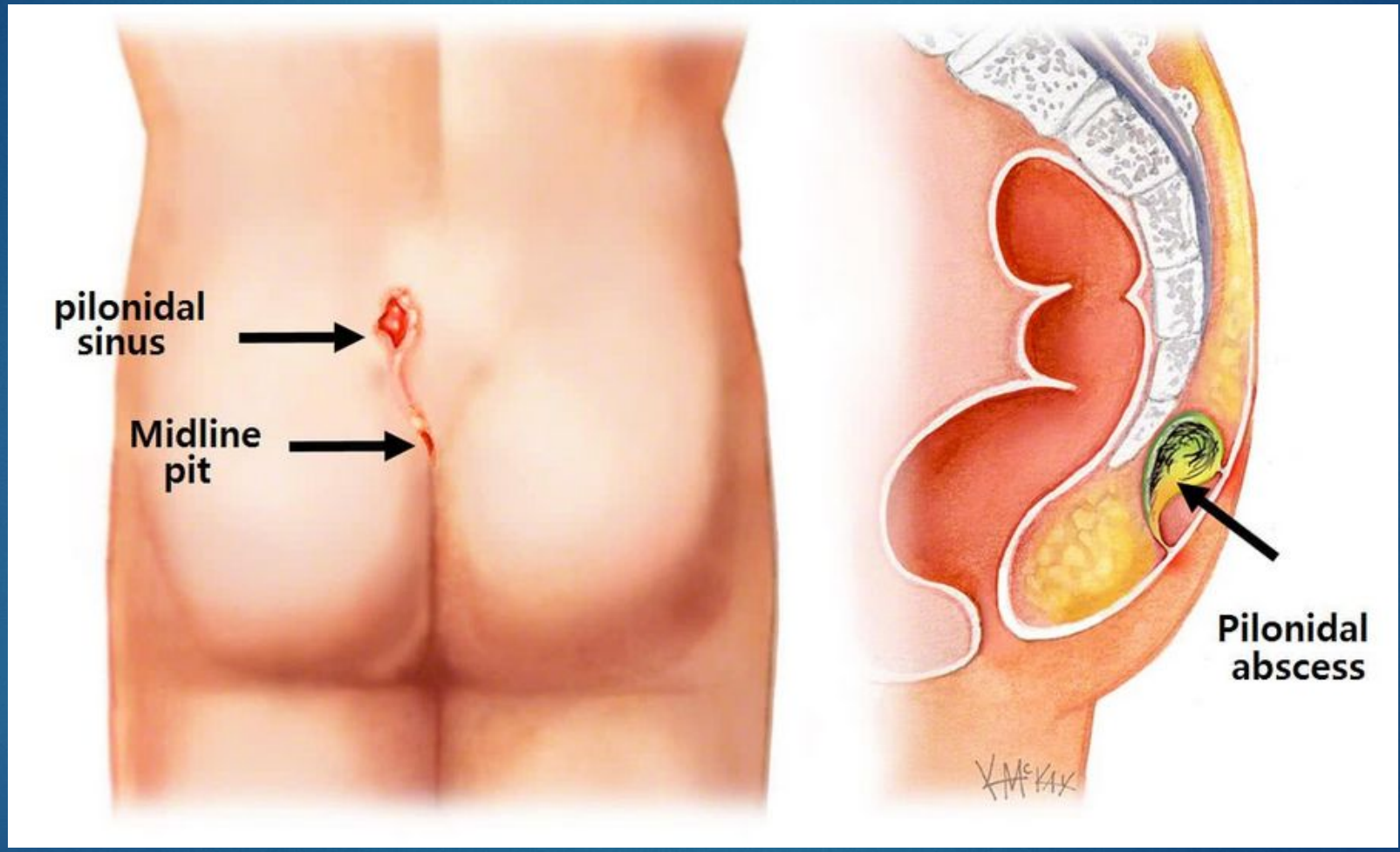
- Pain
- Reddening of the skin
- Drainage of pus or blood from an opening in the skin
- Foul smell from draining pus

- Treatment
- The cyst can be drained through a small incision or removed surgically

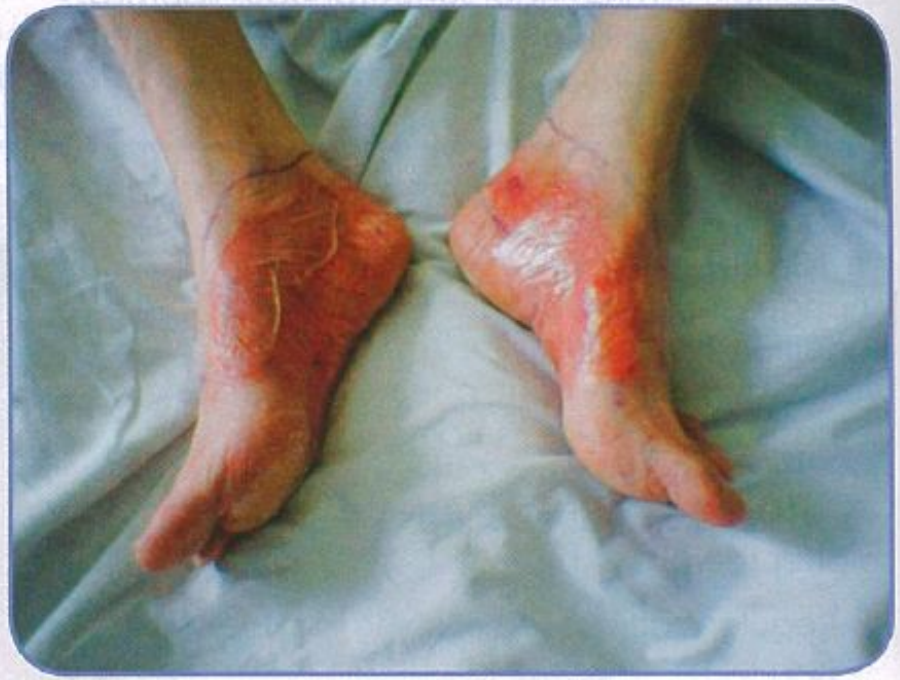


The advancing flap operation.

Pilonidal Sinus



MCQ 3.009



A 65-year-old man presents with a three-day history of a rash on his feet. He had just completed a course of trimethoprim for an attack of prostatitis. He woke up with the feet reddened and hot and both feet seemed equally involved. Over the next two days his rash persisted and there was blistering on both sides. An illustration of his feet is shown. The line markings were made the previous day. He has a history of chronic arthritis of his knees and back, for which he takes regular paracetamol. He remembers having a rash with the same distribution after being treated for a urinary tract infection some years ago. Which one of the following is the most likely diagnosis?

A. Acute gout.
B. Reiter syndrome.
C. Bilateral streptococcal cellulitis.
D. Fixed drug eruption.
E. Systemic lupus erythematosus.

Fixed drug eruption
trimethoprim

- The mechanism of fixed drug eruption is unknown
- The most commonly affected areas are the face, hands and genitalia
- appearance within hours of the drug's administration

Treatment

- To recognise the offending agent
- and withdraw it
- The rash should be treated according to its nature

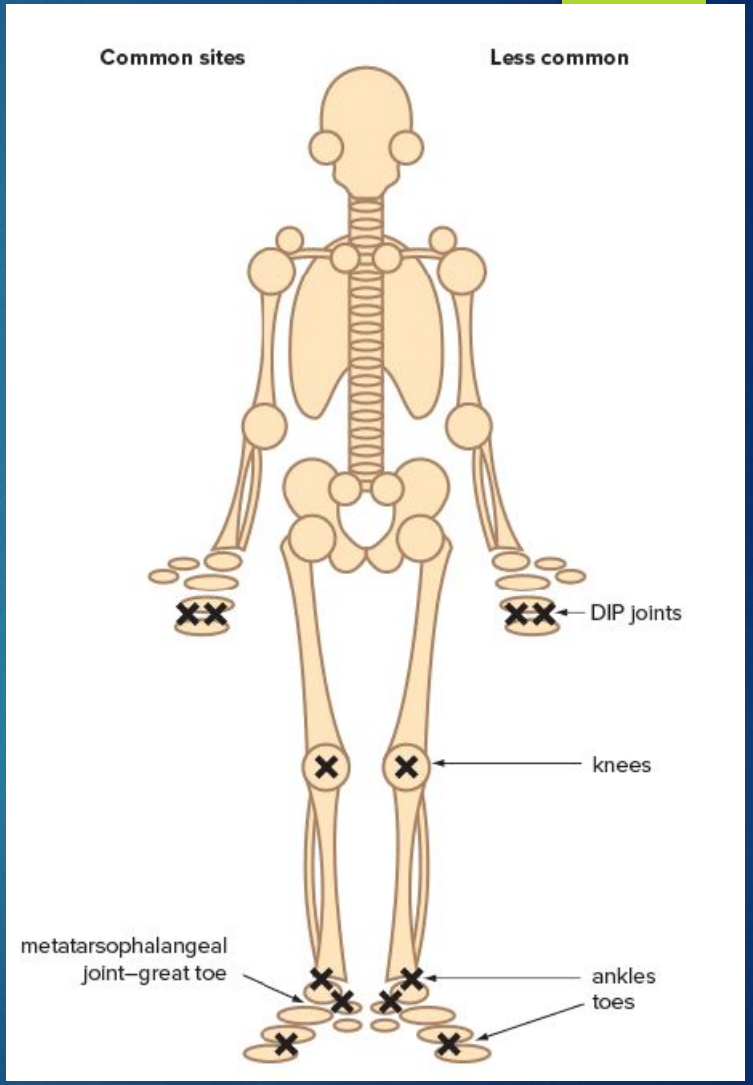
Drugs with the highest skin reaction rates

- Penicillin and derivatives
- Sulphonamides*
- Trimethoprim*
- Thiazide diuretics
- Allopurinol*
- Dapsone*
- NSAIDs, esp. piroxicam*
- Nevirapine*, abacavir*
- Barbiturates
- Quinidine
- Anti-epileptics (phenytoin, lamotrigine*)
- Blood products
- Gold salts

Gout

- a type of inflammatory arthritis
- as a result of high levels of uric acid in the blood
- It affects mostly middle-aged men (85%), but women become increasingly susceptible to gout after menopause

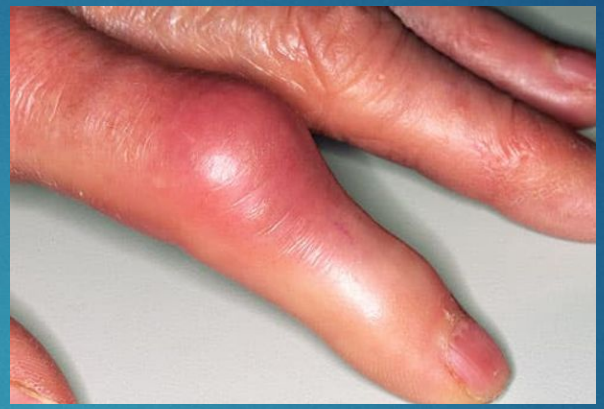
- Certain events can precipitate gout: excessive alcohol ingestion, red meat intake, trauma and others
- Diagnostic
  - Synovial fluid aspirate of affected joint, bursa or tophus → typical uric acid crystals using compensated polarised microscopy

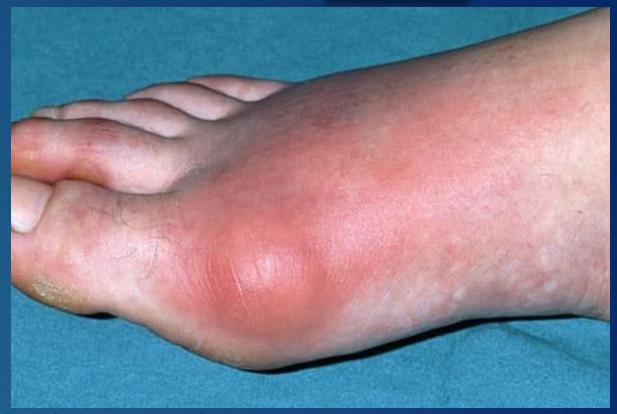


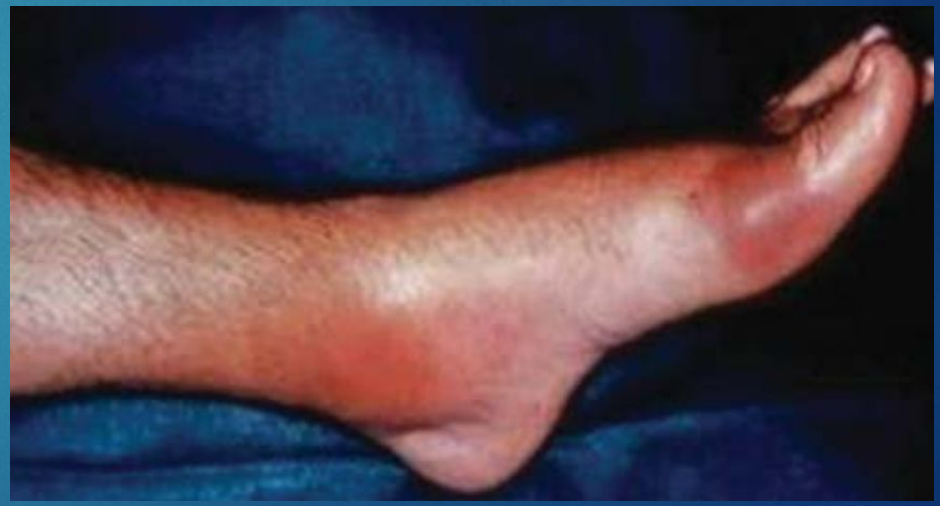
Gout

Clinical features

- acute attack: excruciating pain in great toe early hours of morning
- skin over joint—red, shiny, swollen and hot
- exquisitely tender to touch
- relief with colchicine, NSAIDs, corticosteroids
- can subside spontaneously (3–10 days) without treatment







Gout

- good advice and patient education information
- provision of rapid pain relief
- preventing further attacks
- prevention of destructive arthritis and tophi dealing with precipitating factors and comorbid conditions

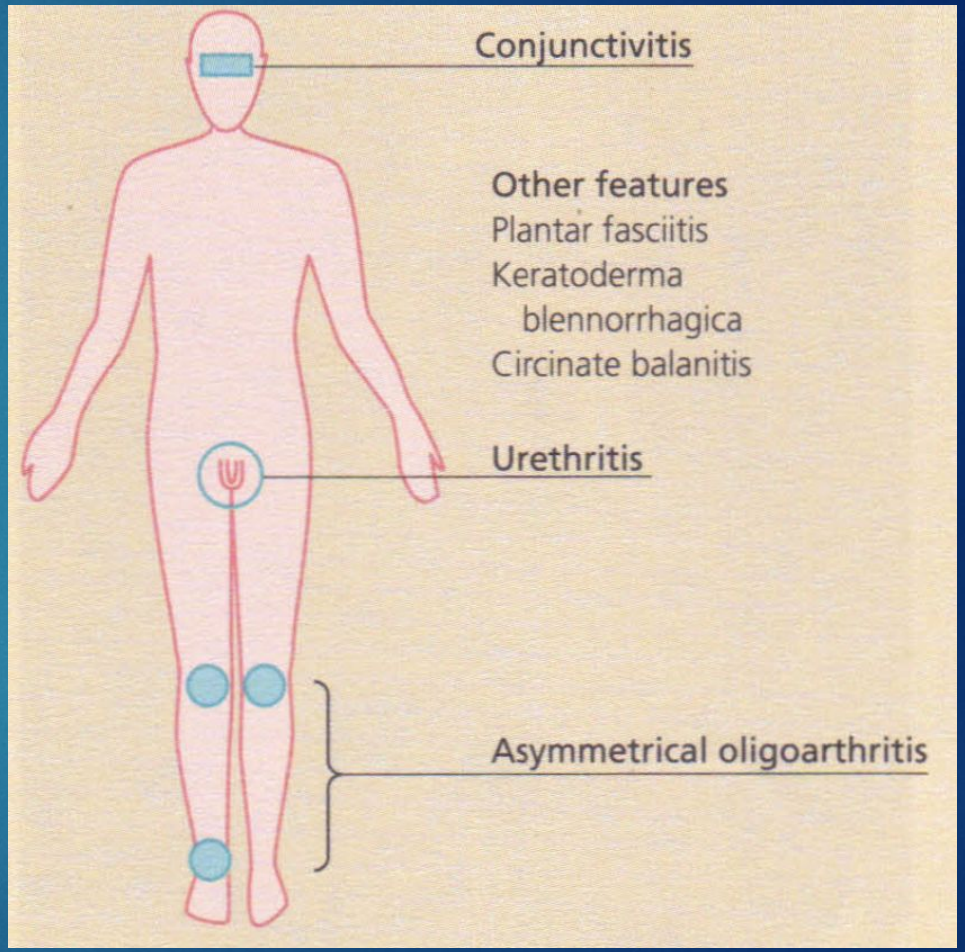
The acute attack

- NSAIDs (except aspirin), in full dosage
- Corticosteroids: prednisolone
- Colchicine: colchicine

Prevention: *Allopurinol*

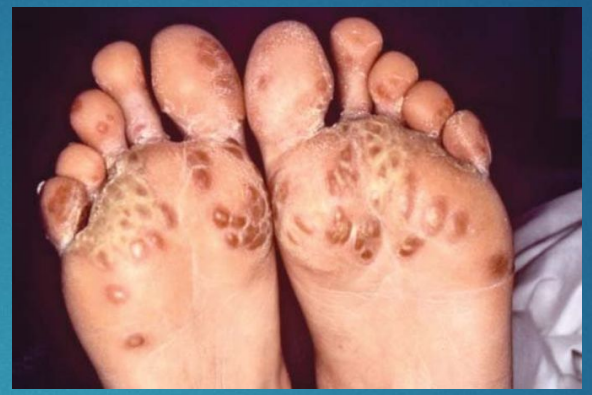
Reiter syndrome

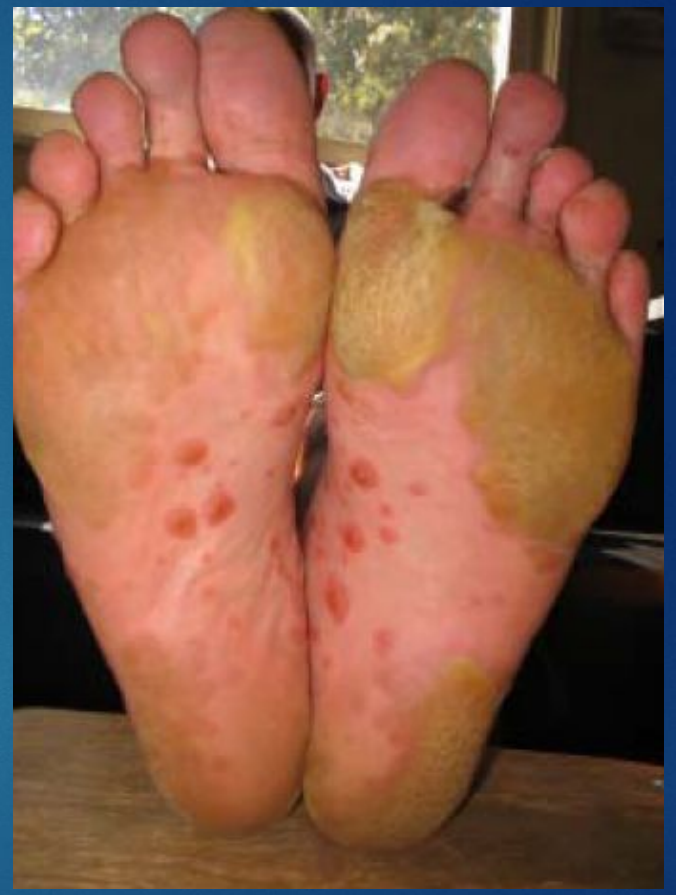
- Reactive arthritis is joint pain and swelling triggered by an infection in another part of the body
- Reactive arthritis usually targets your knees and the joints of your ankles and feet. Inflammation also can affect your eyes, skin and urethra
- Symptoms:
  - Urethritis, joint pains, and occasional cutaneous manifestation, conjunctivitis

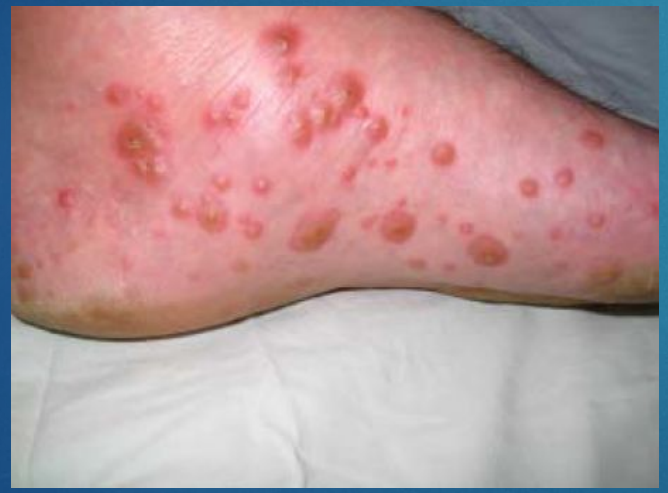


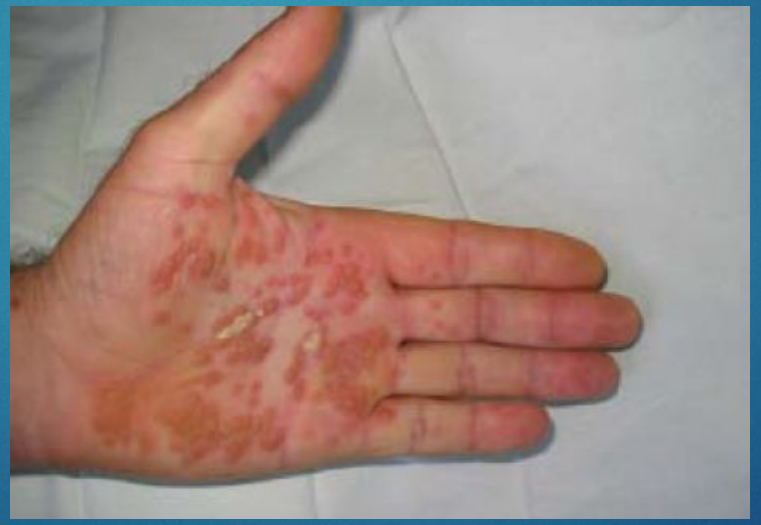
Reiter syndrome

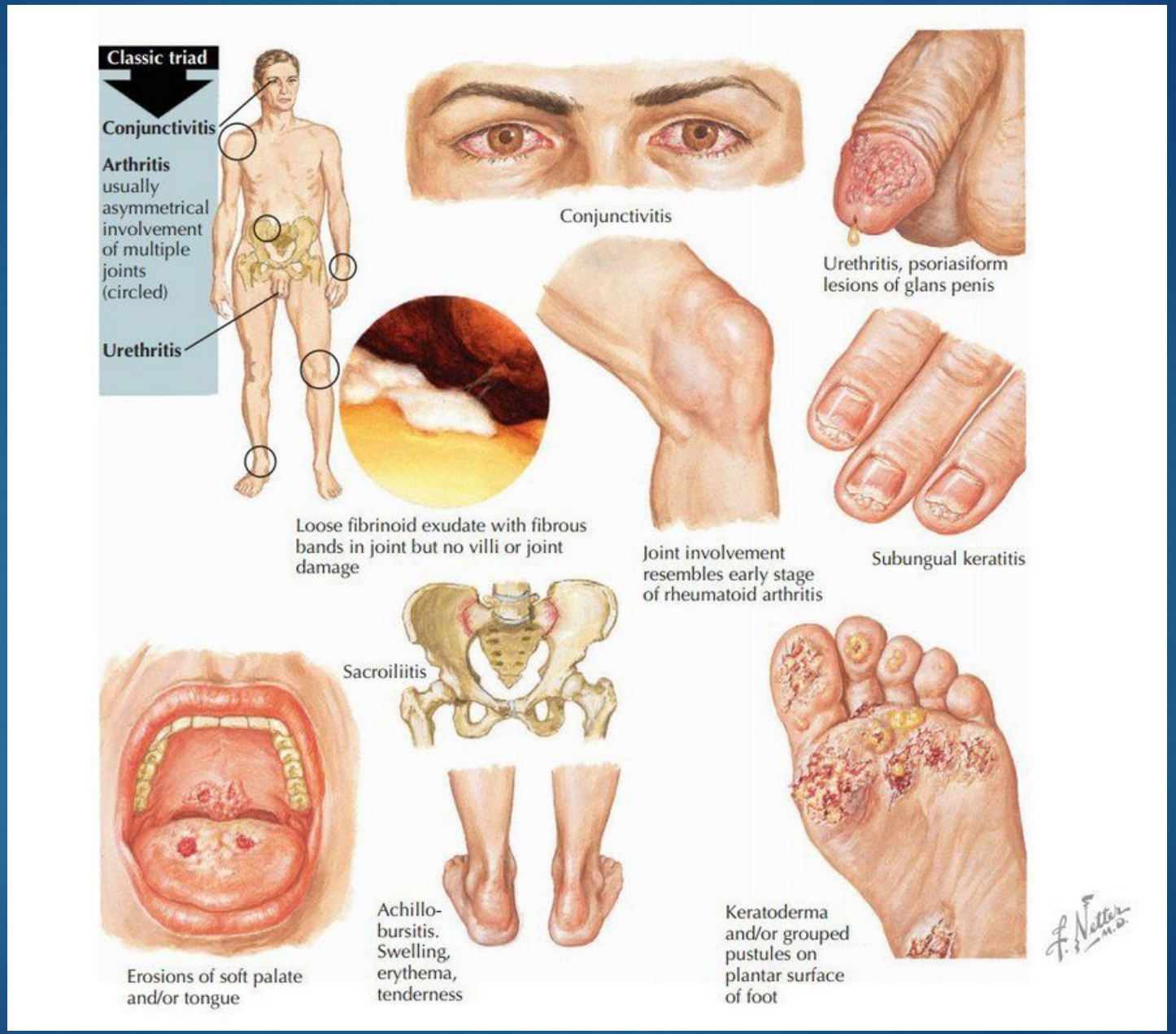
- Skin lesions
  - Waxy papules on soles, palms







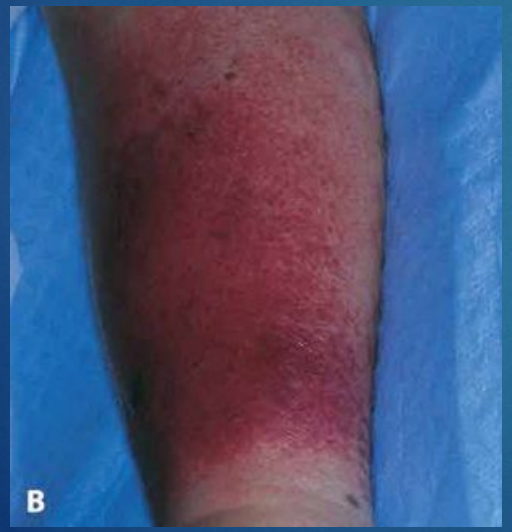



Classic triad
Conjunctivitis
Arthritis
usually
asymmetrical
involvement
of multiple
joints
(circled)
Urethritis
Conjunctivitis
Urethritis, psoriasiform
lesions of glans penis
Loose fibrinoid exudate with fibrous
bands in joint but no villi or joint
damage
Joint involvement
resembles early stage
of rheumatoid arthritis
Subungual keratitis
Sacroiliitis
Erosions of soft palate
and/or tongue
Achillo-
bursitis.
Swelling,
erythema,
tenderness
Keratoderma
and/or grouped
pustules on
plantar surface
of foot

Bilateral streptococcal cellulitis

- Cellulitis is a common bacterial infection
- a localised area of red, painful, swollen skin, and systemic symptoms
- The most common bacteria causing cellulitis are *Streptococcus pyogenes* (two-thirds of cases) and *Staphylococcus aureus* (one third)
- **Clinical features:**
  - Cellulitis can affect any site, most often a limb
  - It is usually unilateral; a bilateral disease is more often due to another condition
  - It can occur by itself or complicate an underlying skin condition or wound.

Cellulitis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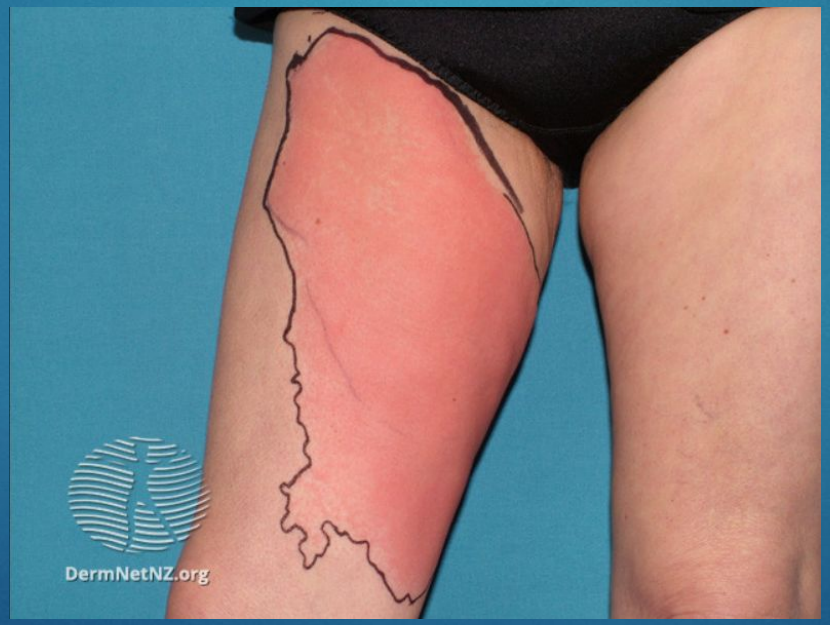
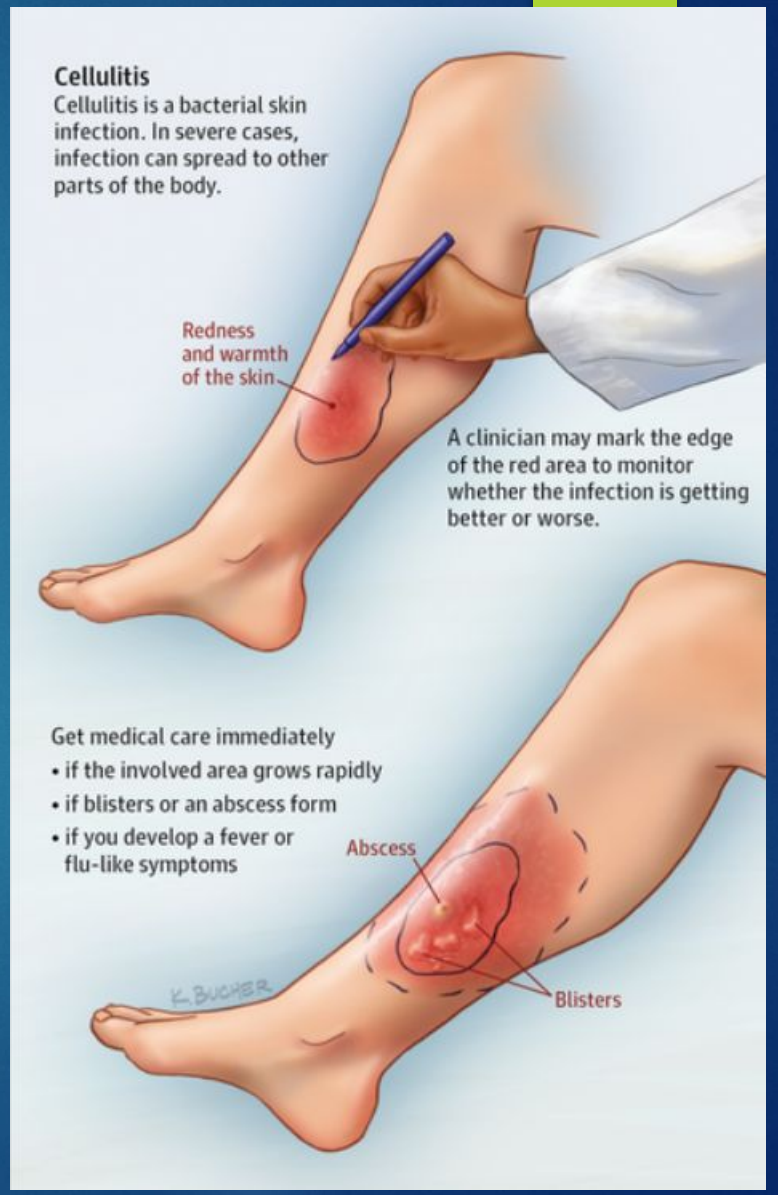
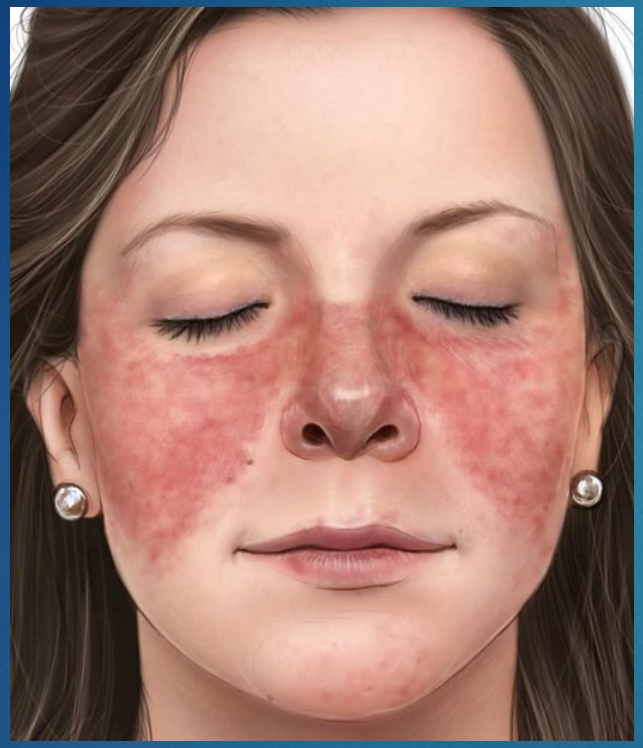
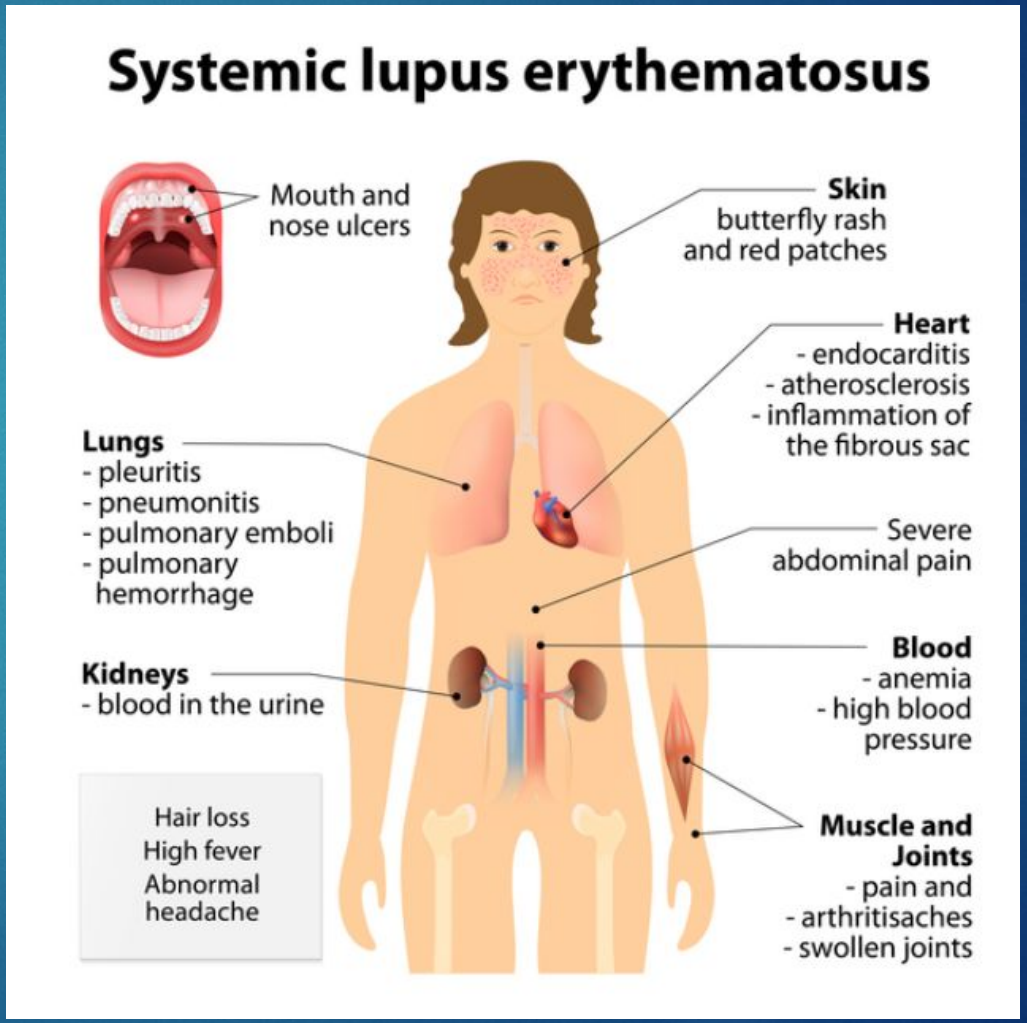

DermNetNZ.org


Cellulitis
Cellulitis is a bacterial skin infection. In severe cases, infection can spread to other parts of the body.
Redness and warmth of the skin
A clinician may mark the edge of the red area to monitor whether the infection is getting better or worse.
Get medical care immediately
• if the involved area grows rapidly
• if blisters or an abscess form
• if you develop a fever or flu-like symptoms
Abscess
Blisters
K. BUCHER

Systemic lupus erythematosus

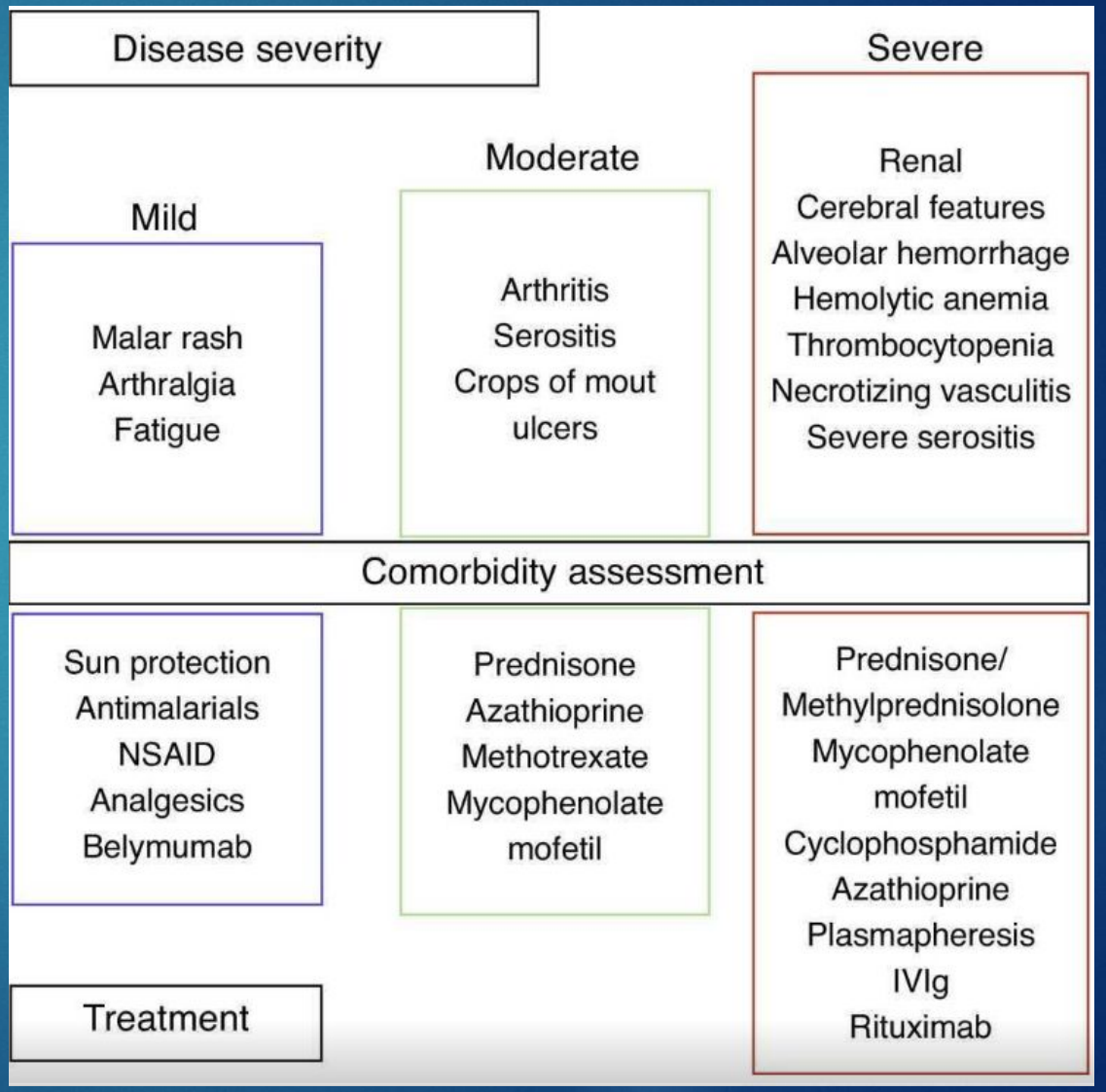




Systemic lupus erythematosus

- DxT
  - Polyarthritis + fatigue + skin lesion

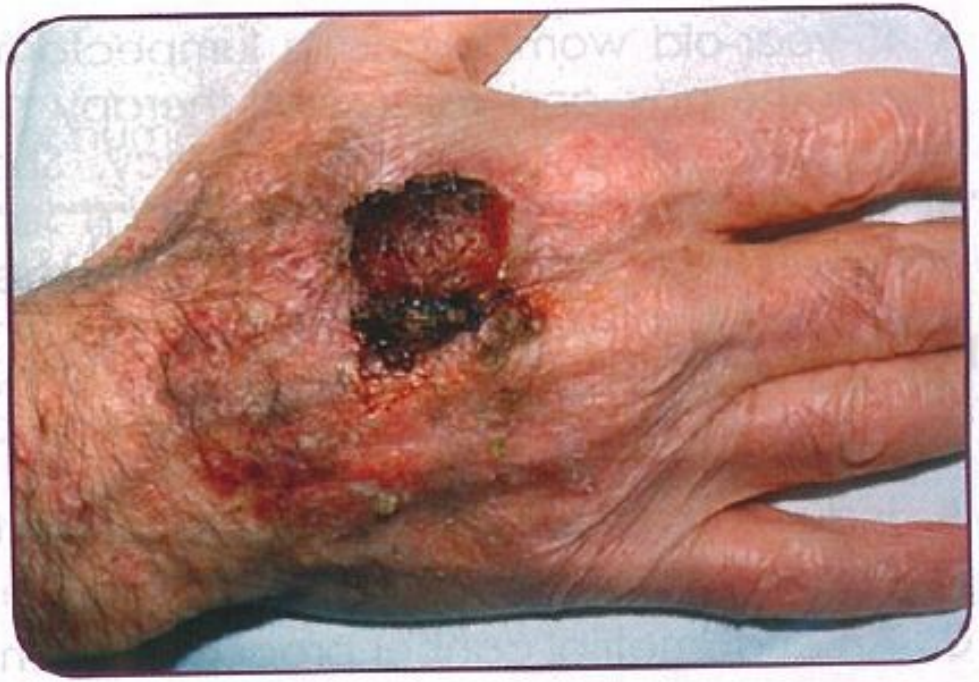
General recommendations for SLE* patients.
Balanced diet and exercise
Avoid substances and drugs that might induce lupus
No smoking
Vaccination schedule
Assessment of cardiovascular risk factors
Screening of cancer
Evaluation of reproductive health
Assessment of cognitive function



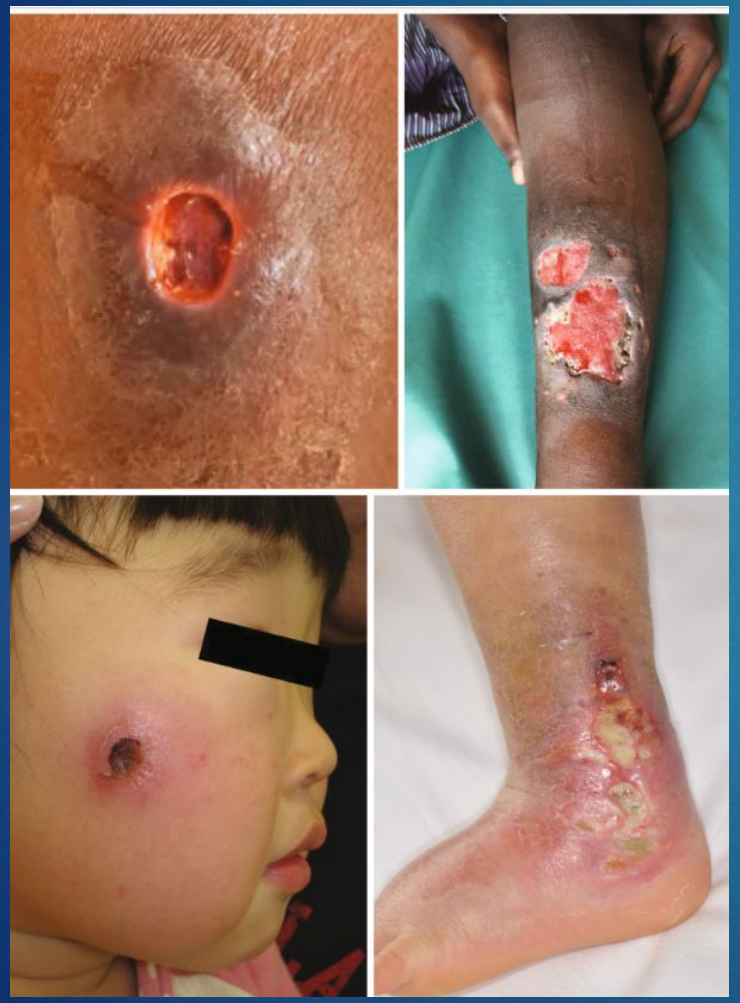
MCQ 2.034

The right hand of a 66-year-old farmer from northern Australia is shown (see illustration). The lesion has been present for one year. Which one of the following is the most likely diagnosis?

A. 'Bairnsdale' ulcer (*Mycobacterium ulcerans* lesion).
B. Malignant melanoma.
C. Squamous cell carcinoma (SCC).
D. Actinic keratosis.
E. Seborrhoeic keratosis.



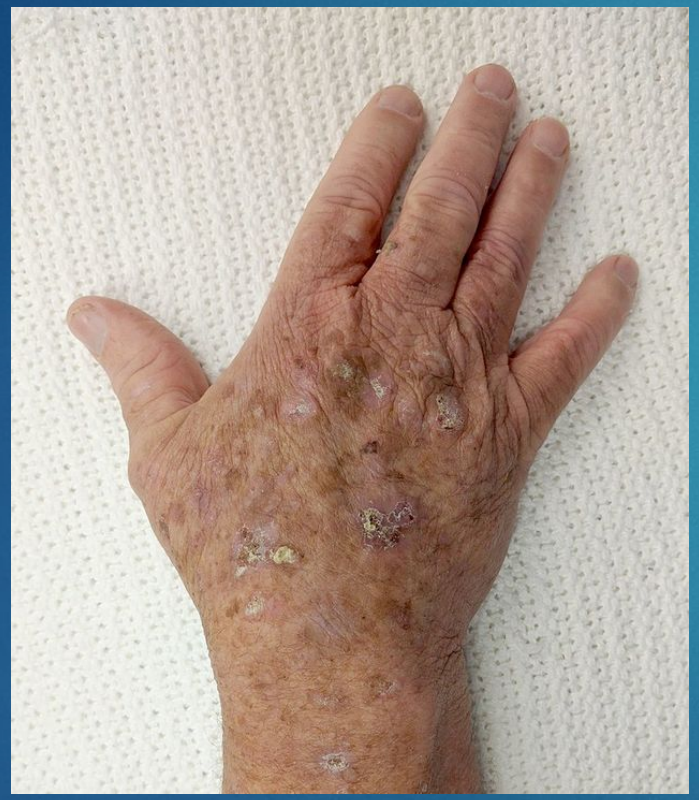
Bairnsdale' ulcer (Buruli ulcer)
by the bacterium Mycobacterium ulcerans



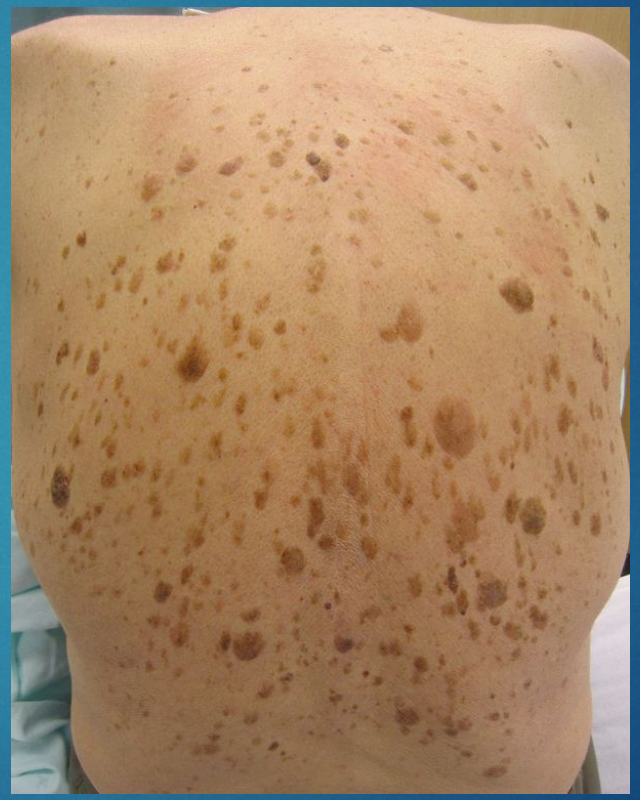
- usually begins as a painless papule or nodule that forms a necrotic ulcer over weeks to months
- It occurs in specific geographic locations, namely coastal Victoria, Far North Queensland and the tropical regions of Central and West Africa
- It has been speculated that the mycobacterial infection may follow an infected mosquito bit
- People of any age can be affected, but most cases are among children aged less than 15 years
- The limbs, particularly the lower limbs, are most commonly involved

- Treatment: rifampicin and clarithromycin, excision and skin grafting

Actinic keratosis



Seborhhoeic keratosis



Actinic keratosis

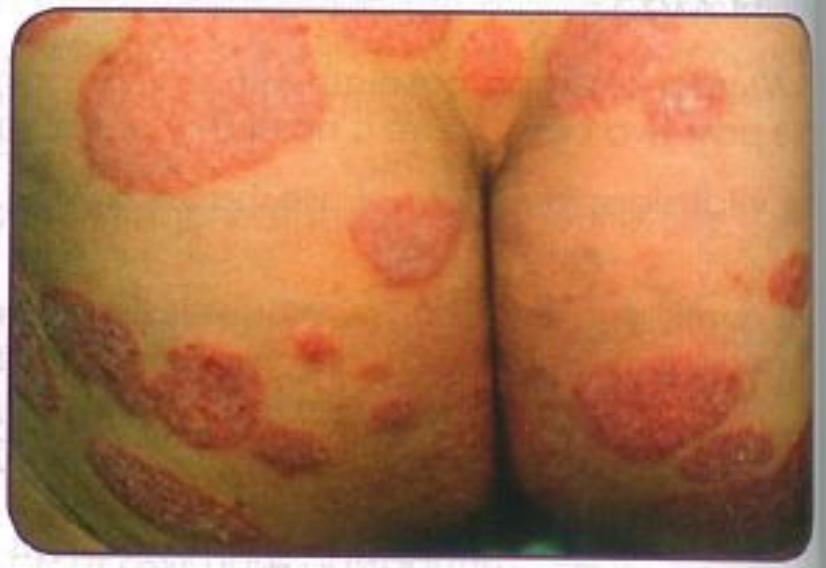
- Actinic keratosis is a scaly spot found on sun-damaged skin
- It is considered precancerous or an early form of cutaneous **squamous cell carcinoma**
- usually easy to diagnose clinically or by dermoscopy
- Treatment of an actinic keratosis requires removal of the defective skin cells

Seborhhoeic keratosis

- are not premalignant tumours
- a common sign of skin ageing
  - over 90% of adults over the age of 60 years have one or more of them
- can easily be removed if desired
- reasons for removal may be that it is unsightly, itchy, or catches on clothing

MCQ 2.098

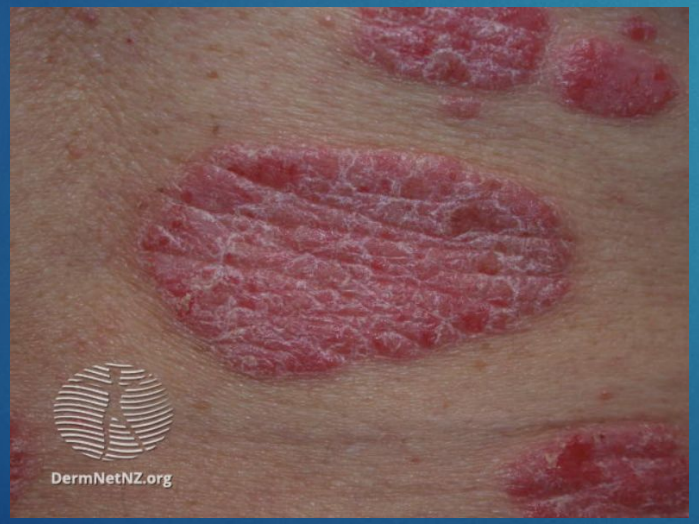
A 36-year-old man has developed a rash on his buttocks (see illustration), back and, to a lesser extent, on his arms and legs over the past four weeks. It has been mildly pruritic. He has recently been commenced on atenolol for hypertension and allopurinol for recurrent gout. As a child he suffered atopic eczema. Which one of the following is the most likely cause of his skin condition?



A. Atopic eczema.
B. Tinea corporis.
C. Discoid lupus erythematosus.
D. Psoriasis.
E. Adverse drug reaction to allopurinol.

Psoriasis

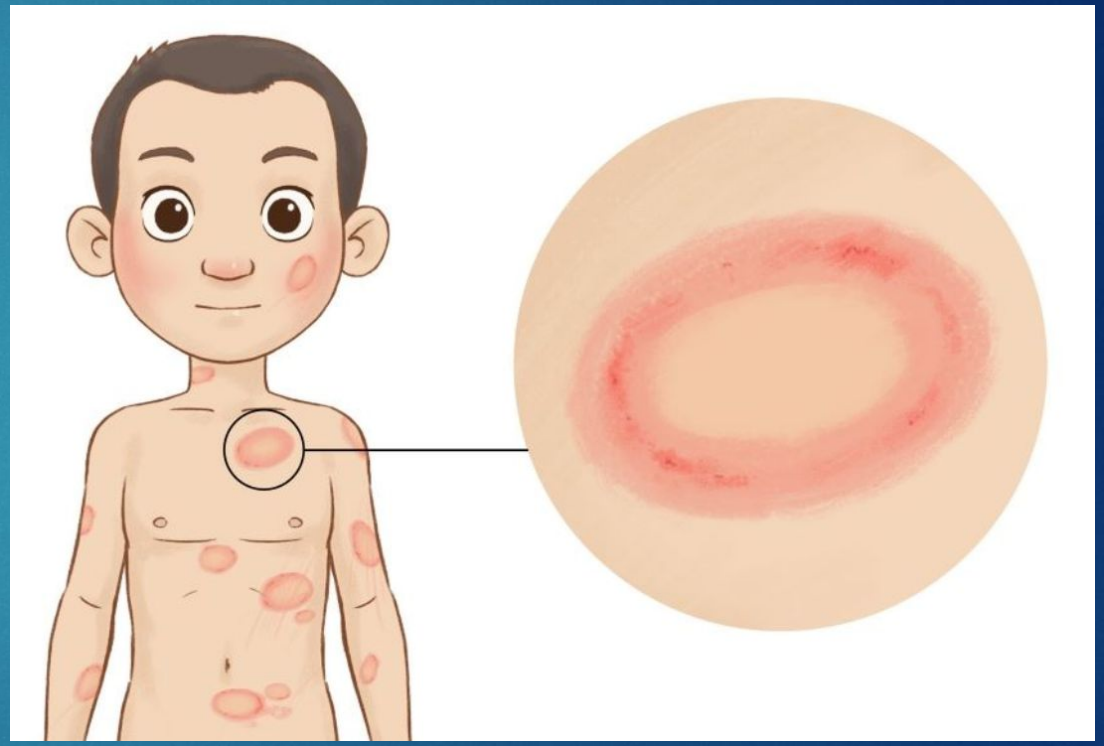
- symmetrically distributed, red, scaly plaques with well-defined edges
- The scale is typically silvery white
- The most common sites are scalp, elbows, and knees, but any part of the skin can be involved



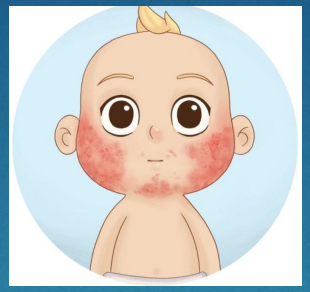
- **Factors that aggravate psoriasis**
- Streptococcal tonsillitis and other infections
- Injuries such as cuts, abrasions, sunburn
- Sun exposure in 10%
- Obesity
- Smoking
- Excessive alcohol
- Stressful event
- Medications such as lithium, **beta-blockers**, antimalarials, nonsteroidal anti-inflammatories, and others
- Stopping oral steroids or strong topical corticosteroids.

Tinea corporis

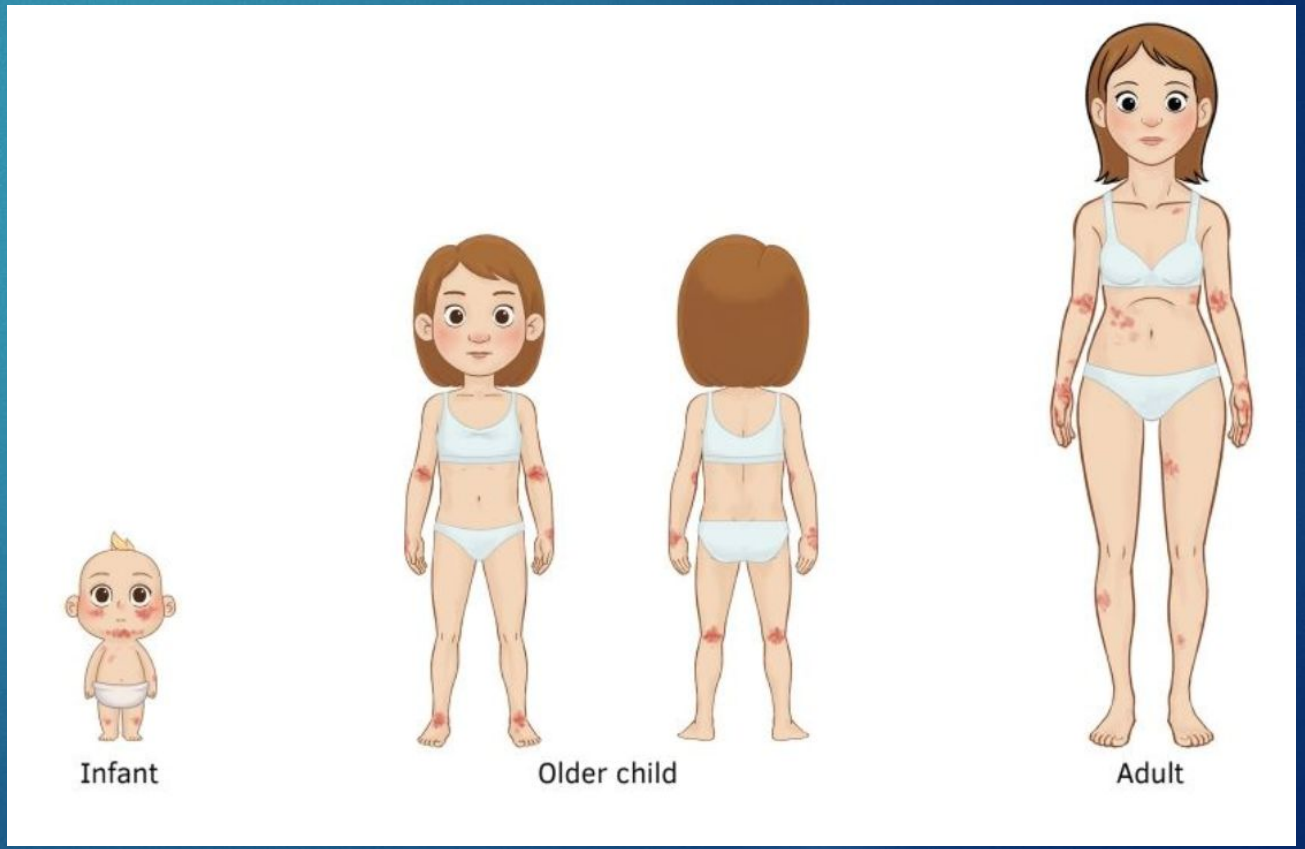
- Spreading circular erythematous lesions
- Slight scaling or vesicles at the advancing edge
- Central areas usually normal
- Mild itch
- May involve hair, feet and nails



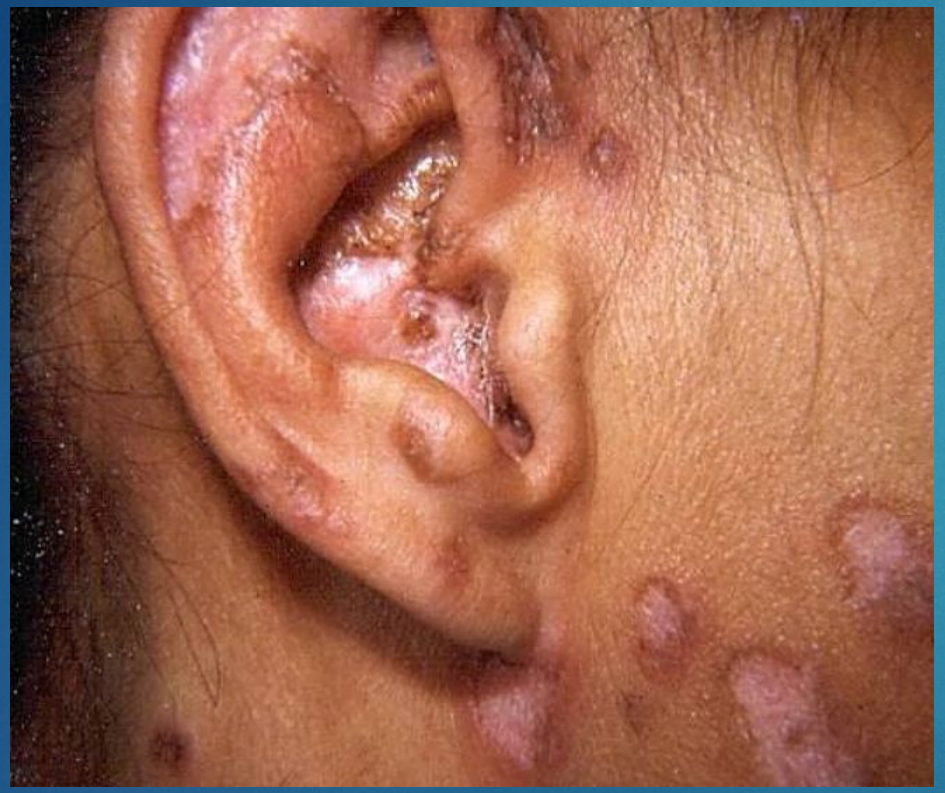
Atopic eczema



- Dry skin
- Cracks behind the ears or in other skin creases
- Scaly areas that are red, inflamed and itchy
- Thickened patches of skin from scratching
- Small, raised bumps on the skin
- Crusted, weeping or cracked skin
- On face, neck and antecubital and popliteal fossae

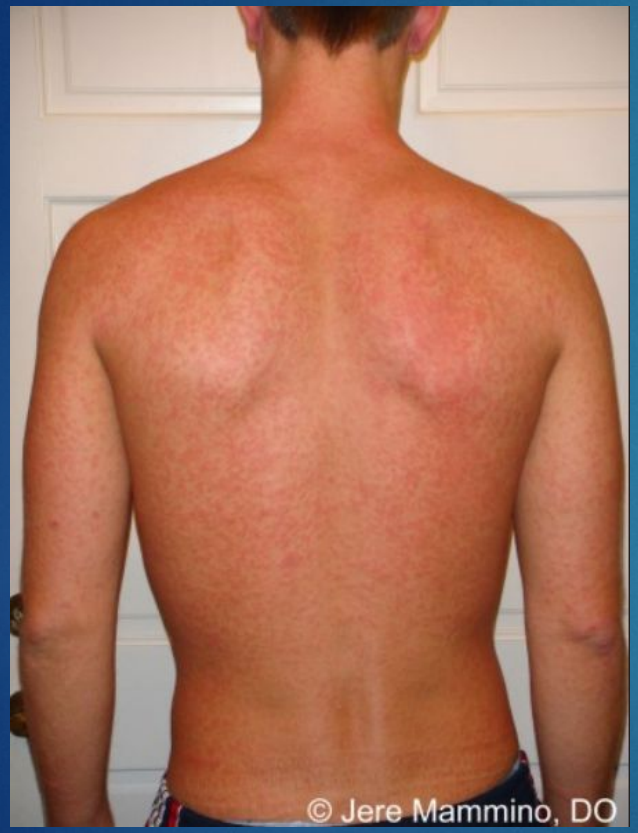


Discoid lupus erithematosus

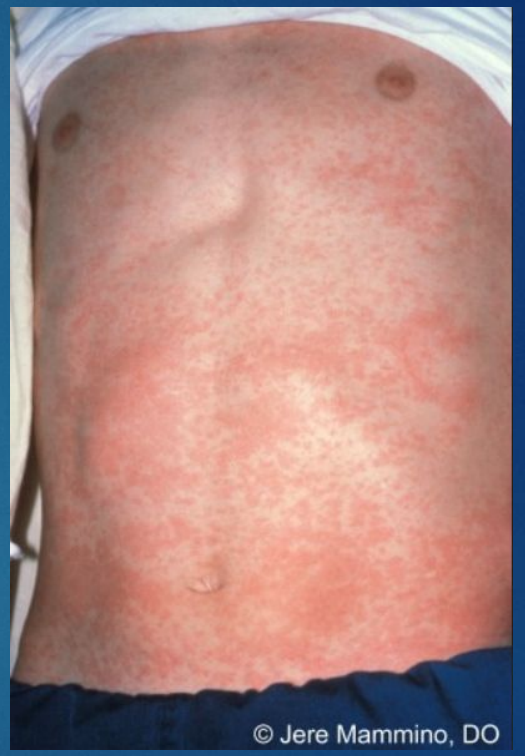


- scaly, disk-like plaques on the scalp, face, and ears that may cause pigmentary changes, scarring and hair loss

Adverse drug reaction

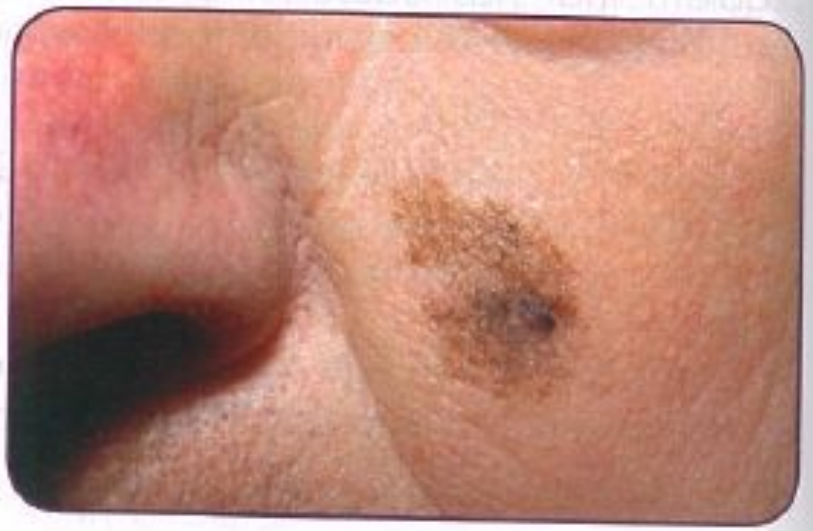


- an adverse skin reaction to a drug
- antimicrobial agents, sulfa drugs, NSAIDs, chemotherapy agents, anticonvulsants, and psychotropic drugs
- The onset of drug eruptions is usually within 2 weeks of beginning a new drug or within days if it is due to re-exposure to a certain drug
- Itching is the most common symptom



MCQ 2.129

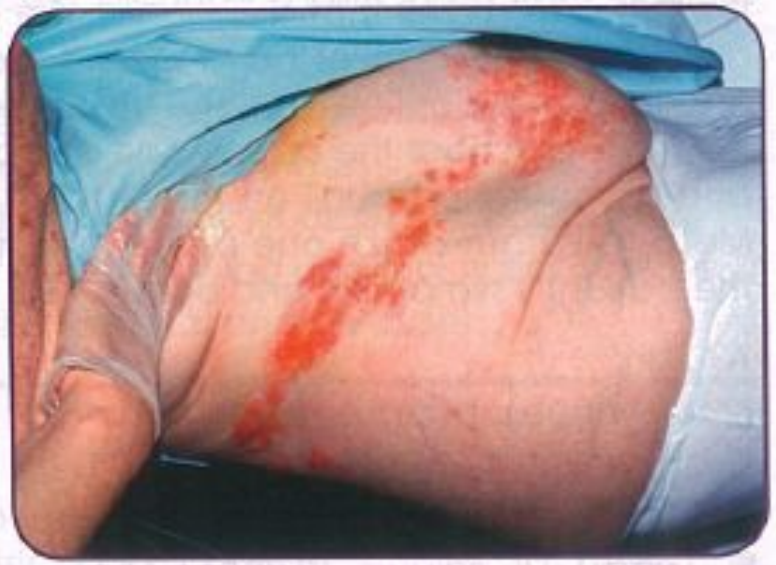
An 89-year-old man has had a lesion on his left cheek for two years (see illustration). It has not undergone any recent change. Which one of the following is the most likely diagnosis?



A. Lentigo maligna melanoma (Hutchinson melanotic freckle).
B. Squamous cell carcinoma.
C. Seborrhoeic keratosis.
D. Dermatofibroma.
E. Pigmented basal cell carcinoma (BCC).

MCQ 2.102

A 70-year-old woman presents with a vesicular rash associated with burning pain. The rash has been present for the past ten days, and is increasingly painful. Her other medical conditions are osteoarthritis affecting the knees, hips and shoulders, for which she takes paracetamol and a nonsteroidal anti-inflammatory drug. The rash is as illustrated. General physical examination is otherwise normal. Which one of the following is the most appropriate immediate management?



A. Oral famciclovir.
B. Intravenous famciclovir.
C. Intramuscular immunoglobulin.
D. Oral amitriptyline.
E. Oral Phenergan® (promethazine).