PN-AAT-070

COMMON SKIN PROBLEMS
MODULE

STUDENT TEXT

1980
Rural Health Development Project
Ministry of Health and Social Welfare
Maseru, Lesotho

ACKNOWLEDGEMENTS

Nurse Clinician training materials are Lesotho adaptations based upon the MEDEX prototype curriculum for training mid-level health workers.

The prototype MEDEX materials were developed by the Health Manpower Development Staff of the John A.Burns School of Medicine, University of Hawaii. The original prototypes were based on training experience in over a dozen third-world countries. These were revised on the basis of HMDS experience in Micronesia, Thailand, Pakistan, and Guyana before being made available to Lesotho under a U.S.A.I.D. funded contract.

Major adaptation in Lesotho began at the National Nurse Clinician Training Programme Curriculum Adaptation Workshop held at Mazenod in January 1980. The nearly fifty participants represented all major health and health related activities in Lesotho, both Government and private. These participants and others working as individuals and then as review committees have adapted the Nurse Clinician training materials to meet the conditions and needs of Lesotho.

The Government of Lesotho and particularly the staff of the Nurse Clinician training Programme are grateful to HMDS for supplying the prototype materials and to all those individuals who have helped in the Lesotho adaptation process.

First Edition May 1980

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SCHEDULE

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5

STUDENT GUIDE

ANATOMY AND PHYSIOLOGY AND IDENTIFICATION OF SKIN LESIONS

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Observe a patient and note general condition of skin.
2. Obtain and record historical information about skin problems.

II. Objectives

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Identify the following structures of the skin on a picture of the skin: dermis, epidermis, sebaceous gland, sweat gland, hair follicle.
2. Identify the following skin lesions on a photo or drawing: scratch, ulcer, wart, macule, papule, nodule, pustule, abscess, blister, wheal, callus, naevus, vesicle, tumour, bulla, plaque, lipoma, granuloma (proud flesh), mongolian spot.

III. Evaluation

Upon completion of this module you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based upon module content. Acceptable performance, 80%.
2. Skills: Identification of the following skin lesions: scratch, wart, ulcer, macule, papule, nodule, pustule, abscess, blister, wheal, callus, mongolian spot, naevus, vesicle, tumour, bulla, plaque. See rating sheet for acceptable performance level.

IV. Activities you will be participating in to accomplish the objectives.

1. Trainees read module text and answer review questions. Each trainee should prepare questions concerning anatomy and physiology and patho-physiology for discussion.
2. Presentation and discussion of slides of anatomy and physiology and pathophysiology.
3. Trainees work in small group to practice describing and identifying anatomy and physiology and patho-physiology of skin.

BASIC CONCEPTS RELATED TO THE SKIN AND ANATOMY/PHYSIOLOGY

IMPORTANT. Review the "Anatomy/Physiology of the Skin" section of the Physical Examination before proceeding with this module.

The skin with its underlying layer of fat protects the body from the outside world. The skin prevents heat, cold, trauma (injury), and bacterial infection from damaging the important structures of the body inside the skin. The skin also plays a part in regulating our body temperature. When the body is too hot with fever, if you cool the skin, it will help lower the fever. If the body is cold, covering the skin with clothes or blankets will warm the body.

The skin consists of two parts, Epidermis and Dermis. (See Figure A.)

1. The upper layer, called epidermis, consists of cells, like the bricks in the wall of a house. Most of the cells in the epidermis are living, but the outside row of cells contains dead cells. These dead cells can be seen dropping off as small flakey scales.

2. The inner layer, called the dermis, consists of a framework of living cells. This inner layer (dermis) contains the blood vessels which supply the skin with nutrients (food). Nerves, hairs, sebaceous glands and sweat glands are also found in this layer.

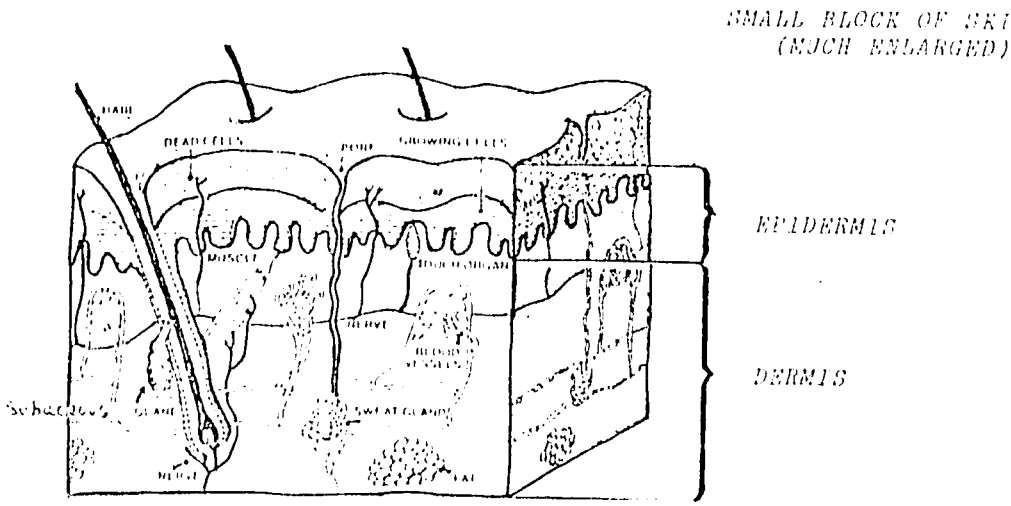


Figure A

PATHOPHYSIOLOGY

Underneath the two skin layers is the subcutaneous or fat layer. The fat layer protects the body from heat and cold.

REMEMBER

The epidermis is tough.

The dermis is easily damaged.

The subcutaneous layer is tough and flexible.

Skin Lesions

1. A scratch (abrasion) is minor damage to the skin, epidermis only. A reddish non-bleeding or slightly bleeding surface is seen upon examination. (Figure B)

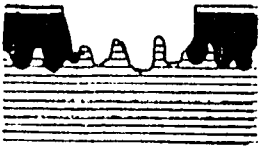


Figure B

2. Ulcer is the name given to skin damage that affects the epidermis and the dermis. An ulcer will bleed because of the damage to the dermis and it may affect the full depth of tissue underlying the skin. (Figure C)

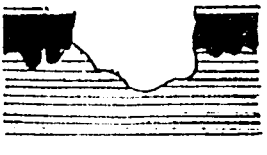


Figure C

3. If the epidermis increases in thickness and forms a rough surface with fissures, it looks like a wart. (Figure D)

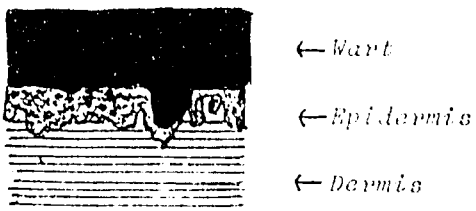


Figure D

4. A macule is a flat circumscribed discolouration of the skin up to 1 cm in diameter. These patches are caused by enlarged blood vessels in the dermis or inner skin layer.

5. Papules are small, solid elevations of the skin and though often they are red, they may be brown, black, yellow or white. They are formed by proliferation of cells. (Figure E)

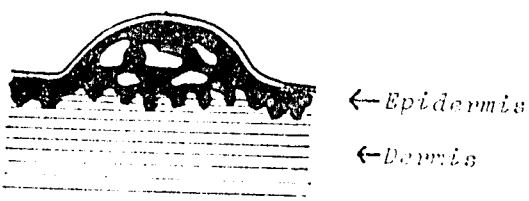


Figure E

6. Nodules are solid, elevated lesions of the skin which involve deeper underlying tissue but do not exceed 1 cm in diameter. They also are aggregates of cells. (Figure F)

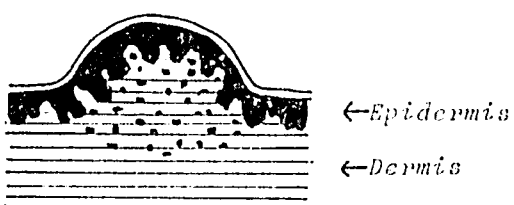


Figure F

7. A vesicle is a sharply defined elevation of the epidermis filled with clear serous fluid. Such a lesion may be up to 1 cm in diameter but if greater than 1 cm it is called a bulla or blister. If the vesicle breaks, it leaves a depression which, when dry, may leave a rounded scaly lesion.

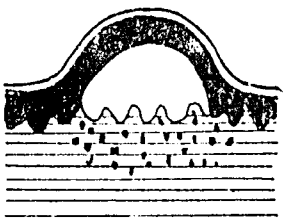


Figure G

8. A pustule is a vesicle or a bulla filled with pus instead of clear fluid. Pustules can result from the vesicles which become infected and vary considerably in their size. (Figure H)

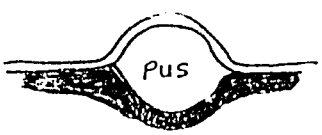


Figure H

9. A pus-filled lesion <u>under</u> the <u>dermis</u> is an <u>abscess</u>.

10. All of the above individual lesions are circular. They may come together to form a larger lesion that may be any shape.

11. A wheal is an irregular, elevated, solid, changing lesion usually resulting from an allergy. Many wheals together are called hives. Severe hives may cause oedema of the lip, tongue, or throat. If the throat swells from an allergy, laryngo-pharyngeal oedema, the patient cannot breathe. This is an emergency which requires surgical intervention (tracheostomy).

12. A plaque is a solid, elevated lesion of the skin or mucous membrane, greater than 1 cm in diameter.

13. A tumour is a solid, elevated lesion of the skin or mucous membrane which also involves tissue deeper than the skin and is greater than 1 cm in diameter.

14. A wart (verruca) is a viral infection of the skin which causes the epidermis to thicken and overgrow, making a rough surface with fissures.

15. A callus is a thickening of the skin and overgrowth of horny layer usually due to repeated friction or pressure often on the soles of the feet or palms of the hands.

16. A naevus or mole is a developmental defect of the skin and although naevi often occur before birth or soon after, they may appear at any time of life. Naevi are of several different types but the causes of naevi are not well understood.

17. Mongolian spots are very common among Basotho infants. They are dusky, pigmented lesions of various sizes. They are harmless and usually disappear in childhood.

LESIONS:

Less than 1 cm in size	Greater than 1 cm	Of varying sizes
macule papule nodule vesicle	patch plaque tumour bulla	pustule, wheal, abscess, scratch, ulcer, wart, naevus, callus, Mongolian spot

REVIEW QUESTIONS

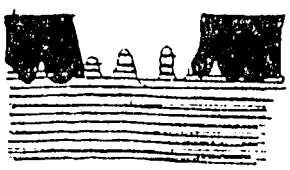
Answer the following questions about what you just read. You may look back for answers.

1. The major function of the skin is to _____ the deeper tissues from drying, injury, and damage by infectious organisms.

2. Identify the two skin layers. Draw an arrow to its place on the drawing.

   a. Dermis

   b. Epidermis



3. The inner skin, or dermis, contains which of the following. Check (✓) correct answer(s).

   ____ a. Nerves

   ____ b. Fat

   ____ c. Dead skin cells

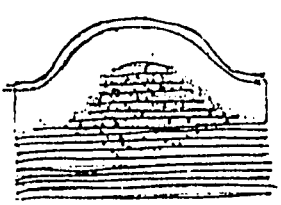
   ____ d. Blood vessels

Identify the following skin problems:

4. Involves outer skin (epidermis) and upper part of inner skin (dermis), contains free pus. Can result from vesicles which become infected.

Answer:

5. Small, solid elevations of skin. Involve outer layer (epidermis) and inner layer (dermis) of the skin. Caused by proliferation of cells.



Answer:

7. An ulcer in the skin is accompanied by inflammation and pain. What skin layers does it involve? Check the answer or answers:

____ a. Epidermis

____ b. Dermis

____ c. Subcutaneous tissue

8. A person with normal skin will shed large, dry or greasy fragments of dead skin.

True ____ False ____

STUDENT GUIDE

SKIN PROBLEMS CAUSED BY FUNGUS

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Identify skin lesions.
2. Examine skin.
3. Obtain and record historical information.

II. Objectives

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Describe the clinical picture, management, and prevention of:
   a. Ringworm of the scalp and body, tinea pedis, tinea versicolour.
   b. Tinea of the nails (onychomycosis).
2. Use protocols to diagnose fungal problems.

III. Evaluation:

Upon completion of this module, you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based on module content. Acceptable performance, 80%.
2. Skill: See rating sheet for acceptable performance level on use of protocol.

IV. Activities you will be participating in to accomplish the objectives:

1. Trainees read module text and answer review questions on fungal problems. Each trainee should write at least one question concerning these skin problems to bring to discussion group.
2. Instructor presents slides.
3. Discussion of skin problems conducted by instructor or trainee.
4. Instructor demonstrates use of protocols in the diagnosis of fungal problems. Trainees practice using protocol to diagnose case study examples.

RINGWORM

General Considerations

Ringworm is the common name of a fungal infection of the skin. It is very common especially in children. Ringworm spreads easily from person to person by direct contact.

Clinical Picture

Ringworm usually presents as a "rash" or "itching". It can occur anywhere on the body, especially those parts of the body which are moist. It is seen frequently in the groin and on the scalp. The lesion or lesions usually have sharp raised border with flaking skin in the centre. Ringworm on the scalp causes the hairs to break off in patches. Ringworm does not cause loss of sensation as in leprosy. Leprosy should always be kept in mind when examining any skin lesion because it is so important that leprosy be detected and treated at the earliest possible stage.

Management

1. Scalp -Wash area well with soap and water daily and dry well
   -Whitfields ointment twice a day for at least six weeks
   OR -an ointment made with 1 part sulfur powder to 8 parts vaseline. Apply twice daily.

2. Body - Keep area clean by washing with soap and water daily, also keep the area dry (this is especially important for the groin area, underarms and under breasts).
   - Whitfields ointment twice a day for three weeks.
   OR - Sulfur ointment as above.
   - If area is very inflamed, saline soaks for 20 minutes two times a day for three days.

3. Referral - If the condition does not show signs of improving in 10 days, refer to a physician.

REVIEW QUESTIONS

1. Ringworm is a common skin infection caused by: (circle answer)

   a. worm

   b. fungus

   c. bacteria

2. How is ringworm spread from one person to another?

3. Describe the lesion of ringworm and the usual symptoms.

4. How would you manage ringworm which has infected the scalp?

   a.

   b.

TINEA PEDIS

"Athlete's Foot"

General Considerations

Tinea of the feet is very common in adults. It is possible that the fungus causing Tinea Pedis is present on the skin all of the time, but some individuals are more susceptible than others.

Clinical Picture

Tinea Pedia usually presents with itching, burning, stinging, fissuring of webs of the toes and vesicles also can be present. Secondary infection can occur when maceration occurs and bacteria invade.

Management

1. Daily washing of feet and making sure skin is completely dry before wearing socks and shoes.
2. Daily washing of socks.
3. Whitfield's ointment for three weeks applied twice daily;
   OR
   Sulfur ointment made with one part sulfer to 8 parts vaseline and applied twice daily;
   OR
   Lotion made with one part sulfur to twenty parts vinegar, applied twice daily and allowed to dry on the skin.
4. If secondary infection occurs, saline soaks for 20 minutes two times a day for 3 days.
5. Referral - if condition does not improve in 10 days or secondary infection occurs and does not improve with saline soaks, refer to a physician.

REVIEW QUESTIONS

1. Tinea pedis is a common skin infection caused by: (circle answer)

   a. bacteria
   b. virus
   c. fungus

2. Describe the usual symptoms of Tinea Pedis.

3. How would you manage Tinea Pedis?

   a.

   b.

   c.

TINEA VERSICOLOUR

General Considerations

Tinea versicolour is a fungal disease that is mostly found on the trunk. Most people come into the health centre complaining of lesions that are lighter than the rest of their skin. The disease is not very contagious, but is very persistent and relapses occur often.

Clinical Picture

There may be very mild itching. The lesions are hypo-pigmented, or fawn-coloured macules. Scales may be obtained by scraping the area with a finger nail.

Lesions may be very similar to the light copper hypo-pigmented lesion of early lepromatous leprosy.

Management

1. Daily application of Whitfield's ointment to all lesions;
   OR
   Lotion made with one part sulfur to twenty parts vinegar, applied daily and allowed to dry on the skin.
   OR
   Sulfur ointment made with one part sulfur to 8 parts vaseline and applied every day.

REVIEW QUESTIONS

1. Describe the usual symptoms of Tinea Versicolour.

2. How would you treat Tinea Versicolour?

ONYCHOMYCOSIS

General Considerations

Onychomycosis is caused by a fungal infection that causes infection of one or more finger nails or toe nails. The infection is very difficult to eradicate.

Clinical Picture

The nails are lustreless, brittle, hypertrophic and break easily.

Management

1. Usually consists of Griseofulvin in large doses for 3 - 8 months.

2. Refer all cases to a physician for initiation of Griseofulvin therapy.

REVIEW QUESTIONS

1. What are the symptoms of onychomycosis?

2. How would you treat a fungal infection of the nails?

STUDENT GUIDE

SKIN PROBLEMS CAUSED BY BACTERIA

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Identify skin lesion.
2. Examine skin.
3. Obtain and record historical information.

II. Objectives

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Describe the clinical picture, management and prevention of impetigo, boils, abscesses, cellulitis and chronic ulcer.
2. Demonstrate the procedure used to clean and bandage lesions, apply hot soaks, incise boils or abscess
3. Use protocols to diagnose bacterial skin problems.

III. Evaluation

Upon completion of this module you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based upon module content. Acceptable performance, 80%.
2. Skill: See rating sheet for acceptable performance level.
   a. clean and bandage lesion
   b. apply hot soak
   c. incise boils
   d. use of protocols for diagnosis

IV. Activities you will be participating in to accomplish the objectives.

1. Trainees read module text and answer review questions on bacterial skin problems. Trainees write questions concerning bacterial skin problems for discussion group.
2. Instructor presents slides and conducts discussion.
3. Instructor demonstrates use of protocols in the diagnosis of bacterial skin problems. Trainees practice protocol use with case study examples.
4. Instructor demonstrates and discusses the following skills:

   a. cleaning and dressing lesions
   b. application of hot soaks
   c. incision of boils

IMPETIGO

General Considerations

Impetigo is a common, relatively minor disease seen especially among children. It is found worldwide. It is caused by an infection by staphylococci and by beta-haemolytic streptococci.

Clinical Picture

The problem begins with red macules on which vesicles form and rapidly spread on the skin. These become covered with loosely adherent yellow crusts on a red base. Pruritis and scratching are common. The lesions are frequently widespread. The face and arms are commonly affected but the site of most frequent occurrence in children is around the mouth. Because of the oozing, sticky fluid from eroded vesicles, the disease is highly contagious.

Management

Treatment should be initiated at the onset because of the danger of acute kidney disease (glomerulo nephritis) as a complication of the beta-haemolytic streptococci infection.

1. Cleanse with soap and water removing crusts three times a day.
2. Penicillin V tablets - 1 tab (250 mg) four times a day for seven days.
3. An antibiotic cream or ointment may be applied (neomycin, chloramphenical, tetracycline).

Prevention

1. Good body hygiene.
2. Avoid direct contact with persons with impetigo.

REVIEW QUESTIONS

1. The early stage of impetigo is characterized by the presence of several small vesicles on the skin. Describe the progression of the lesion if no treatment is begun.

2. What instructions should you give a mother about the care of her child's lesions of impetigo?

BOILS

(FURUNCLES)

General Consideration

Boils are infections of hair follicles by staphylococcus aureus. They are not highly contagious.

Clinical Picture

A red, itching nodule develops into a larger hard, cone shaped projection surrounded by an inflamed area which is very painful. After a few days the lesion develops a yellow "head" and is soft (fluctuant) with pus inside. Several together are called Carbuncles.

Complications

Repeated occurrence of boils is a strong indication that the boils are a complication of some underlying condition such as scabies, diabetes, or malnutrition.

Management

1. When the boil is soft (fluctuant) and has a yellow head, it should be lanced with a sharp, sterile blade. Gently express the pus, cleanse and dress.
2. Cleanse with soap and water and dress the wound daily.
3. Recurrent boils on the face and carbuncles should all be treated with a course of Penicillin V - 1 tab (250 mg) four times a day for seven days.
4. Patient with recurrent boils should be examined for scabies, diabetes and/or malnutrition.

Prevention

1. Avoid direct contact with persons with boils.
2. Regular bathing with soap and water.

REVIEW QUESTIONS

1. What is the indication for incising a boil?

2. What is the indication for putting a patient with boils on a course of penicillin?

3. What underlying conditions could be suspected if a patient has recurrent boils?

   1)

   2)

   3)

CELLULITIS

General Considerations

Cellulitis refers to a bacterial infection (strep or staph) of the dermis and subcutaneous tissues. It spreads rapidly along the lymphatic vessels. It is not highly contagious but can be spread by direct contact with others.

Clinical Picture

The problem usually begins with some small lesion on the skin (a cut or a sore). Then the skin around the lesion quickly becomes red, hot, raised and tender. Red lines may be seen along lymphatic vessels, as well as associated enlarged regional nodes. There is usually no collection of pus. An incision is not useful.

Complications

The infection may spread to a wide area causing the patient to be very ill. In these cases, refer to health centre or hospital after starting on Penicillin.

Management

1. Rest and immobilization of the part and the patient.
2. Penicillin V - 2 tabs (500 mg) four times a day for 10 days, or Erythromycin 250 mg four times daily for 10 days.
3. Hot soaks using clean cloth in heated water for 20 minutes four times a day.
4. If the area is very large (larger than your hand) or is on the head, then start the patient on an antibiotic as directed in No.2 and refer to health centre or hospital.

REVIEW QUESTIONS

1. If a patient came to see you with a problem you called cellulitis, what would the appearance of the infected area be?

2. Check each of the following management procedures that you would perform if a patient had cellulitis.

   ____ a. Start Penicillin therapy.

   ____ b. Hot soaks four times a day.

   ____ c. Refer to hospital.

   ____ d. Incise the infected area.

CHRONIC ULCER

General Considerations

This problem is due to an infection by one of several different bacteria. It is much more frequently seen in men than in women. It is rarely seen in young children.

Clinical Picture

The problem begins with a small cut or insect bite on the lower part of the leg or on the foot. This spreads over several days to weeks to cover a rounded area several centimetres in width. The edges are firm and raised. The centre is soft irregular tissue covered with blood and pus. The ulcer is usually superficial (not deep) but can include tissues down to the bone. Many become "chronic" and last for several months to years if not properly cared for.

Management

1. Saline soaks for 20 minutes three times a day for two weeks.
2. Penicillin V tablets for two weeks - 1 tab (250 mg) four times a day.
3. For ulcers present for more than one month:
   After the two-week treatment above, use petroleum jelly (vaseline) covered with gauze and an elastic wrap. Change dressing every 10 days until healed.
4. If ulcer is not healing well within two months, refer to health centre or hospital.

Prevention

1. Thoroughly wash with soap and water any scratch, wound, or insect bite.
2. A good nutritious diet.

REVIEW QUESTIONS

1. Chronic ulcers are rarely seen in:

   a. men
   b. women
   c. young children

2. A chronic ulcer usually begins with a small cut or insect bite. Describe the development of this to an ulcer.

3. What additional treatment be given for an ulcer lasting one month or more?

STUDENT GUIDE

DRUG REACTIONS, ECZEMA AND CONTACT DERMATITIS

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Identify skin lesions
2. Examine skin
3. Obtain and record historical information

II. Objectives

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Describe the clinical picture, management and prevention of drug reactions, eczema, and contact dermatitis.
2. Use protocols to diagnose skin problems caused by allergic reaction.

III. Evaluation

Upon completion of this module you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based upon module content. Acceptable performance, 80%.
2. Skill: See rating sheet for acceptable performance level.
   a. Use of protocols for diagnosis.

IV. Activities you will be participating in to accomplish the objectives.

1. Trainees read module text and answer review questions on drug reactions, eczema, contact dermatitis. Write questions concerning allergic reactions for discussion group.
2. Instructor presents slides and conducts discussion group.
3. Instructor demonstrates the use of protocols in the diagnosis of allergic reactions.
4. Trainees practice use of protocols in diagnosis of case study problems.

DRUG REACTIONS

General Considerations

About 500 of the 1,000 commonly used drugs frequently produce skin eruptions. Any age or sex may be affected. Food flavourings and food preservatives also cause skin reactions. Any drug is capable of producing eruptions. Skin reactions are most commonly caused by Penicillin, barbiturates and salicylates.

Clinical Picture

The person has recently taken a drug or is now taking a drug. Occasionally, people develop a reaction to a drug after taking it for a long time. Once the individual develops a reaction, even a small subsequent dose will produce the reaction. The greater the number of drugs the patient is taking, the greater the risk of developing a drug reaction

The rash is often patchy, red and raised and sudden in onset. Itching is usually present. In some cases marked swelling of the skin is present.

Management

1. Stop the drug.
2. Increase fluid intake to speed up the excretion of the drug.
3. An antihistamine is given until the skin reaction recedes. Promethazine (Phenergan) tablets three times a day:
   3 to 5 years - 1/4 tab (6.25 mg)
   6 to 11 years - ½ tab (12.5 mg)
   12 to Adult - 1 tab (25 mg)
4. If patient is having difficulty breathing following an injection (especially Penicillin) give epinephrine(adrenal 1:1000 subcutaneous 0.5 ml immediately.
   See management of anaphylaxis under Emergencies.

REVIEW QUESTIONS

1. What is the drug most commonly associated with skin reaction?

2. What is the first management step when a drug reaction is suspected?

3. Antihistamine relieves the symptoms of drug reaction. Describe these symptoms.

ECZEMA

General Considerations

Eczema is a chronic periodic allergic skin problem which tends to run in families. Other family members may have eczema or they may have asthma. Sometimes, people have both. Eczema is not contagious. The problem usually begins in early childhood. Sometimes it appears in infancy. Eggs, cow's milk, citrus fruits commonly cause increased symptoms.

Clinical Picture

In early infancy, the lesions appear first on the cheeks and forehead and then spread to the rest of the body in the same pattern as in older patients. In patients above six months of age, the lesions are concentrated around the neck, behind the knees, and behind the elbows (flexure surfaces).

The important characteristics of the rash are:

1. Located at the flexure surfaces of elbows and knees.
2. Severe itching (pruritis) and scratching.
3. Rash varies in appearance from red and papular to scaling, vesicular and oozing. In chronic stages, the skin becomes rough, thick and dry.
4. The rash comes and goes over many years.

Complications

Severe reactions to smallpox vaccinations, chickenpox, herpes simplex, staph or strep infections can occur.

Management

General:

1. Avoid contact with irritating foods.
2. Avoid irritating the skin.
3. Keep skin from drying with use of oils after daily bath.
4. Avoid contact with those who have chickenpox, herpes simplex, and any other skin infections.

Specific:

1. Severe oozing lesions and infected areas - use saline soaks for 20 minutes three times a day (one teaspoon salt in 500 cc clean water).

2. Less severe vesicular lesions - use 1% hydrocortisone ointment. Caution. Use only small amounts to avoid too much absorption.

3. Chronic (dry) stage. Bathe daily. Do not completely dry the skin. Apply light coating of mineral oil to skin to hold water in the skin.

4. Avoid irritants; solvents, cleansers, paints, sprays, dust, woolen underclothing.

REVIEW QUESTIONS

1. In the list below, check the descriptions which apply to eczema.

____ a. non-familial ____ d. familial

____ b. contagious ____ e. non-contagious

____ c. childhood beginnings ____ f. adolescent beginnings

2. Because the skin of a person with eczema is damaged, he is vulnerable to severe reactions to problems which affect the skin. List four (4) such problems.

1)

2)

3)

4)

3. What is accomplished by putting a light coating of mineral oil on the skin?

CONTACT DERMATITIS

General Considerations

This is a common inflammation of the skin due to contact with something to which the skin is allergic. Repeated contact will cause a reaction wherever the skin is touched. Common causes are various chemicals, cosmetics, metals, insecticides, shoes, plants, deodorants and dyes.

Clinical Picture

The process begins with a well-defined area of erythema (redness) that becomes oedematous with vesicles. Itching is almost always present and severe. Pustules may develop in more severe cases. Contact dermatitis may sometimes be confused with eczema or fungal infections. The absence of a history of allergies, a history of contact with something in the affected area and the appearance usually help make the diagnosis.

Management

1. Remove the irritating substance.
2. Cool compresses using salt water for 20 minutes three times a day (1 teaspoon salt in 500 cc clean water).
3. When the area is not oozing, apply light layer of 1% hydrocortisone morning and evening.

Prevention

Avoid contact with irritating substance.

REVIEW QUESTIONS

1. Contact dermatitis results when the skin is touched by something to which it is allergic. List four (4) common substances which cause this problem.

   1) 3)

   2) 4)

2. Explain the skin changes that occur as contact dermatitis develops.

3. What information will help you decide that a patient has contact dermatitis and <u>NOT</u> eczema or a fungal infection?

STUDENT GUIDE

VIRAL INFECTIONS

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Identify skin lesions
2. Examine skin
3. Obtain and record historical information

II. Objectives

Using the information and experiences provided by the instructor and module text, you will be able to:

1. Describe the clinical picture, management and prevention of herpes simplex and warts.
2. Demonstrate the procedure for cutting and scraping warts.

III. Evaluation

Upon completion of this module you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based upon module content. Acceptable performance, 80%.
2. Skill: See rating sheet for acceptable performance level.
   a. cut and scrape warts.
   b. use of protocols for diagnosis.

IV. Activities you will be participating in to accomplish the objectives.

1. Trainees read module text and answer review questions on herpes simplex. Write questions concerning these problems for discussion group.
2. Instructor presents slides and conducts discussion.
3. Instructor demonstrates procedure for cutting and scraping warts.

HERPES SIMPLEX
(Cold Sore or Fever Sore)

General Considerations

Though there are six viruses in the herpes virus group, the "cold sore" infection is caused by the herpes simplex virus. It is transmitted by direct contact with someone with a herpes infection.

Clinical Picture

The lesions consist of erythema with vesicles and/or pustules around the mouth. The lesions usually come and go over a period of years. The first episode usually occurs in childhood and is the worst. Episodes usually develop when the patient has a "cold" or some other illness. The perilabial area and the genitalia are the most common sites of occurrence.

Management

Detect and eliminate the "trigger" factor which initiates the attack. The lesions usually disappear by themselves after a period of time, but secondary infections should be prevented by keeping the area clean.

1. Wash with soap and water daily.

2. If there is pus, give Penicillin V: 1 tablet (250 mg) four times a day for seven days.

REVIEW QUESTIONS

1. Describe the lesion of herpes simplex virus.

2. The treatment of herpes simplex virus is not effective, but it is important to prevent secondary infections. How is this accomplished?

WARTS

General Considerations

Warts are small nodular lesions usually on the hand and soles of the feet. Some types of warts are found in the genital area. They are caused by an infection of wart virus. They are most often seen in children and young adults. Transmission is by direct contact.

Clin al Picture

The common sites for warts are the hands, feet, and the anogenital area. Warts vary greatly in shape, size and appearance. Flat, moist, shiny warts in the anogenital area are late manifestations of secondary syphilis and are highly infectious. The medical term for these is Condylomata lata. The other common type of wart in the genital area is the Condylomata acuminata and although these are not syphilitic lesions and will not infect the blood, direct contact is to be avoided because the warts can be transmitted.

Management

1. Warts often disappear spontaneously without any treatment.
2. Anogenital warts are best treated by painting them weekly with 25% podophyllin in tincture of benzoin, but strict precautions should be taken to protect the surrounding normal tissue from damage by the destructive action of the podophyllin. Until you have had supervised practice, it is best to refer any patient with genital warts to a doctor.

Prevention

Avoid direct contact.

REVIEW QUESTIONS

1. What is an indication for the treatment of warts?

2. How are warts transmitted?

STUDENT GUIDE

PARASITIC INFECTION

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Identify skin lesions
2. Examine skin
3. Obtain and record historical information

II. Objectives

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Describe the clinical picture, management and prevention of scabies and lice.
2. Demonstrate the procedure for treating scabies and lice.

III. Evaluation

Upon completion of this module you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based upon module content. Acceptable performance, 80%.
2. Skill: See rating sheet for acceptable performance level.
   a. Use of protocol for diagnosis.

IV. Activities you will be participating in to accomplish the objectives.

1. Trainees read module text and answer review questions on scabies and lice. Write questions concerning these problems for discussion group.
2. Instructor presents slides and conducts discussion.
3. Instructor demonstrates the use of protocols in the diagnosis of case study problems.
4. Trainees practice use of protocols in diagnosis of case study problems.

SCABIES
(The Itch)

General Considerations

Scabies is a very common skin problem caused by the scabies mite. The symptoms result from the female mite digging into the skin and laying her eggs. Transmission is by close direct contact. If one member of a family is infected, the whole family should be treated.

Clinical Picture

This skin problem is associated with severe itching, especially at night. Thread-like "burrows" or runs (about 3 mm long red lines) are characteristic of the condition. Itching and burrows are concentrated on sides of fingers, on heels, ankles and wrists and around the waist and groin. The face and scalp are practically never affected except in infants.

Skin nodules are not seen in scabies, but severe scratch marks with secondary infection are often seen.

Management

1. Bathe thoroughly.
2. Immediately after bathing, apply benzyl benzoate lotion to involved skin. Apply the lotion again the next day. Do not bathe again until the following day.
3. Thoroughly wash all clothes and bedding.
4. Treat secondary infections by washing the area with clean water and soap three times a day and soak with saline water for 20 minutes, for two days before above treatment.

Prevention

1. Regular bathing and clothes washing.

REVIEW QUESTIONS

1. What procedures would you advise for a family if you discovered one member with scabies?

2. On what areas of the body do you usually find the scabies mite?

LICE

General Considerations

Lice are small parasites which infest the skin. Three different types of lice infest three different areas of the body, head lice, body lice and pubic lice. Lice are usually seen where sanitary conditions are poor and people are living in very crowded conditions.

Clinical Picture

Itching and scratching occur in the affected areas. White nits (eggs) about 1 mm in length are seen attached to the hairs near the roots in the affected area. Lice, 1 to 4 mm in length can be found on the skin, on the head, and in the pubic area. Body lice and nits are best seen by looking inside the clothing along the seams.

Management

1. Benzyl benzoate lotion is effective. The patient should bathe, apply the medicine to all hairy portions of the body, then not bathe again until two days later. Repeat in one week if needed.

2. Clothing should be boiled.

3. Nits and lice must be picked out of eyelashes and eyebrows if they are affected.

4. All family members should be examined and treated if affected.

Prevention

1. Good personal hygiene and avoidance of shared combs and brushes.

REVIEW QUESTIONS

1. When a person has lice, the other family members should be examined also. Explain why.

2. What is the management for lice?

STUDENT GUIDE

INSECT BITES AND STINGS

I. Entry Level Knowledge and Skill

Before starting this unit you should be able to:

1. Identify skin lesions
2. Examine skin
3. Obtain and record historical information

II. Objectives

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Describe the clinical picture, and management of insect bites and stings.

III. Evaluation

Upon completion of this module you will be rated on your attainment of the above objectives.

1. Knowledge: Written test based upon module content. Acceptable performance, 80%.
2. Skill: See rating sheet for acceptable performance level.

IV. Activities you will be participating in to accomplish the objectives.

1. Trainees read module text and answer review questions on insect bites and stings. Write questions concerning management of insect bites and stings for discussion group.
2. Instructor conducts discussion group.

BEE, WASP, and HORNET STINGS

General Considerations

In Southern Africa there are more deaths from bee stings than from snake bites, spider bites, and scorpion stings all together. After bee sting, there may be an allergic reaction and death within an hour, or the death may be due to the toxic effects of the bee sting venom.

Management

Treatment is simple if no allergic reaction occurs. Remove the stinger by scraping it out with a blade. Do not try to grasp it with your fingers to pull it out as this would squeeze the pouch of venom that remains on the stinger and would thus inject more venom.

Apply dilute household ammonia or a thin paste of bicarbonate of soda or surgical spirits. This can be done for wasp or hornet stings as well. For management of anaphylaxis (severe allergic reaction) see Trauma and Emergency Module.

REVIEW QUESTIONS

1. Why is using a pair of tweezers not a good way of removing a stinger imbedded in the flesh?

2. Name three applications that would help neutralise the venom and reduce the reaction.

SCORPION STINGS

General Considerations

Scorpion stings are more common than snake bite. The venom is stored in the hooked tail. The sting is extremely painful and the numbness and pain may last for weeks or months. The systemic poisoning is not usually very severe and in Southern Africa is not usually fatal though the species of other countries commonly cause paralysis and death. Scorpion venom is actually more potent than snake venom but our local scorpions have small venom glands and so the poisonous dose is not usually a fatal one.

Scorpion stings cause excruciating pain, extreme local oedema and discolouration, cramps and even convulsions. If the poisoning is severe, the signs are restlessness, excitement, drooling, fever, convulsions and respiratory distress with cyanosis.

Management

1. Rest the part and apply cold pack or ice if possible. This eases the pain and slows absorption of venom.
2. Have the patient lie down.
3. Give aspirin for pain every four hours as needed.

0 - 2 years	1/4 tablet (60 mg.)
3 - 4 years	½ tablet (150 mg.)
5 - 11 years	1 tablet (300 mg.)
12 - Adult	2 tablets (600 mg.)

4. Observe for ananaphylaxis and treat as in Trauma and Emergency Module.
5. Refer if symptoms persist.

REVIEW QUESTIONS

1. List the signs and symptoms of scorpion sting.

2. What is the first step in management after a scorpion sting?

3. What can be done to relieve pain?

4. What must be avoided? Why?

SPIDER BITES

General Considerations

The female Button Spider commonly found in wheat fields is probably responsible for most of our poisonous spider bites.

Clinical Picture

The victim has a very painful bite wound with very small bite marks. Though the victim will be sweating there is not usually swelling. There is a rapid onset of cramps in the limbs, chest, and abdomen. The person has a tight feeling in the chest, is very anxious and has a feeling that he/she is about to die. There is nausea, vomiting, and drooling of saliva. The victim may become unconscious or even suffer heart or respiratory failure and die.

Management

1. Have patient lie down.
2. Give reassurance.
3. For management of anaphylaxis see Trauma and Emergency Module.

REVIEW QUESTIONS

1. Describe the signs and symptoms of a person who was suddenly wakened from sleep with what would make you suspect spider bite.

2. Why should a pressure bandage be applied above the bite?

3. Why is reassurance important in case of any venomous bite?

MODULE PHASE

SKILL EVALUATION

Before you are advanced to the rotation phase of training, a staff member will evaluate your mastery of the physical examination procedures and discriminations which have been identified in the modules.

You will have the opportunity to be rated on your performance of these skills at any time during the module phase that you feel prepared.

To help you prepare, the module contains a list of the skills to be evaluated. You are advised to do the following:

1. Work at perfecting your techniques of examination by practicing with another student.
2. During the clinical practice time provided, each week, practice the skills applicable to the subject being taught.
3. Have a fellow student observe and evaluate your performance.
4. When you feel you are ready, ask a trainer to observe and rate your performance.
5. If your performance is unacceptable, the trainer will give you specific comments on how to improve.
6. Practice again until you are ready for evaluation, and arrange to be rated.
7. If after two attempts you are unable to perform a skill at an acceptable level, arrange for a meeting with members of the training staff, who will help you obtain the experiences necessary for improving your performance.