

AFFORDABLE
KNOWLEDGE FOR
THOSE IN NEED OF SKIN
CARE

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Medical Advisor to the St Francis Leprosy
Guild for whom this booklet has been
prepared.

INTRODUCTION

- ABOUT 3 BILLION PEOPLE LIVING IN REMOTE AREAS OF 127 DEVELOPING COUNTRIES ARE DEPRIVED OF BASIC SKIN CARE. THERE ARE NO DERMATOLOGY SERVICES AND LITTLE WOUND CARE

AFFLICTIONS OF THE SKIN
ARE AMONG THE FIVE
COMMONEST CAUSES OF
PREVALENCE OF DISEASE
AND LOSS OF MANPOWER
IN RURAL AREAS.

INTRODUCTION continued

MUCH OF THE WORLD IS STILL RURAL,
MOST WOUNDS OCCUR AWAY FROM
ELITE CENTRES, MOST PEOPLE ARE
POOR, AND MANY ARE MOBILE WITH
LOSS OF THE SUPPORT OF FAMILY AND
COMMUNITY.

The General Health Services are overwhelmed by:-

- Common skin infections, bacterial, fungal and parasitic, sexually transmitted infections /HIV/AIDS.
- General wear and tear of the skin
- Tropical diseases: leprosy, leishmaniasis, onchocerciasis.
- Absent skin: pressure , leg & foot ulcers(leprosy, diabetes, Buruli and tropical)
- Eroded blisters: genetic, infective, autoimmune. drug induced
- Burns and trauma(road accidents and conflict)
- Skin swelling (oedema, from heart failure, dependency, inflammation, filariasis, podoconiosis, cancer and its treatment.)

Annual census from Rural District Health Facility Malawi.

Note that Impetigo fungal diseases and scabies dominate. These could be treated in a primary health care centre if Health Surveillance Workers were trained to diagnose and the Government's Essential Drug List included appropriate therapy and supply was guaranteed.

SKIN DISEASES TALLY SHEET				
HEALTH FACILITY	BALAKA			
MONTH	ANNUAL REPORT, 2006.			
CONDITION	CHILDREN		ADULTS	
	0-5Yrs	5-12Yrs	M	F
Impetigo	1288	209	47	80
Other bacterial infection	136	78	114	149
Varicella (chicken pox)	220	175	97	120
Herpes zoster	4	17	45	72
Warts	4	12	10	26
Molluscum contagiosum	2	3	3	6
Other viruses	7	6	4	1
T.capitis	72	71	7	6
T.pedis	3	4	23	27
T.corporis	67	51	63	97
P.versicolor	0	43	198	278
Other fungus	16	6	35	57
Kaposi sarcoma	0	0	16	7
Scabies	170	113	67	165
Other parasites	0	0	2	0
Insect bites	6	3	4	6
Acne vulgaris	0	3	33	36
Measles	0	2	0	0
Atopic dermatitis	79	24	22	60
Seb dermatitis	81	12	28	86
Contact Dermatitis	0	0	18	10
Vitiligo	1	1	7	10
Other types of eczema	107	35	56	137
Psoriasis	0	1	15	11
Urticaria	74	51	57	159
Prurigo / pruritis	696	66	68	168
Pellagra	1	4	14	67
Other photodermatoses	13	13	3	7
Miliaria	191	42	4	8
Pit rosea	20	30	24	26
Other skin conditions(unspecified)	23	24	40	62
Syphilis	0	0	5	6
Other VDS	0	0	0	0
Leprosy	0	6	14	14
Drug reactions	0	6	21	25
Albinism	3	5	11	4
Subsequent patients	365	124	297	525
Admitted	0	0	0	0
TOTAL	3643	1240	1602	2518
COMMENTS:				
COMPILED BY: A.H. MEMAYAKO DATE: 07/01/07.				

The Work Force for Skin Care

- **Dermatologists, Family Practitioners**
- **Other branches of Medicine in Hospital Practice**
- **Nurses, Medical Assistants, Clinical Officers, Barefoot Doctors**
- **Government Managers, Lawyers**
- **Self-help, Patients Associations, Extended family, Child to Child, Charities,**
- **Pharmacists, the Pharmaceutical and Cosmetic Industry**

Poverty Alleviation

- **1) The provision of low cost, sustainable, locally available therapy.**
- **2) Education of women about health using an integrated curriculum**
- **3) Reduction of ineffective remedies and cosmetics especially those which are costly.**
- **4) Greater attention to allied health professionals working with practitioners of Traditional Medicine**
- **4) Increasing the attractiveness of health services**
- **5) Incentives for entering public health**

INTRODUCTION continued

- Whether it is the newborn, the dying elderly or a traumatic life event, there will be someone looking at the skin, touching it and caring for it.
- There are **wrong** ways and **correct** ways of doing this.

INTRODUCTION continued

An affordable one day course of management of a failing skin.

- It selects treatment that is of low cost and which is helpful for all skin ailments. It omits the complexities of specific named skin diseases. It aims to encourage self effectiveness, discourage the use of ineffective remedies and cosmetics, and to maximize the use of low priced therapies provided by government health services.

THE LANGUAGE OF

SKIN FUNCTION AND

SKIN FAILURE

- The skin is the largest and most visible organ of the body and like other organs of the body(heart,lungs or liver) it has functions which can be helped to work well but which can fail and need repair.

THE FUNCTIONS OF THE SKIN:

- 1) IT IS A BARRIER
- 2) IT REGULATES BODY TEMPERATURE
- 3) IT SENSES THE ENVIRONMENT
- 4) COMMUNICATION: DISPLAY OR PRIVACY

THE FUNCTIONS OF THE SKIN AND **SKIN FAILURE**

1

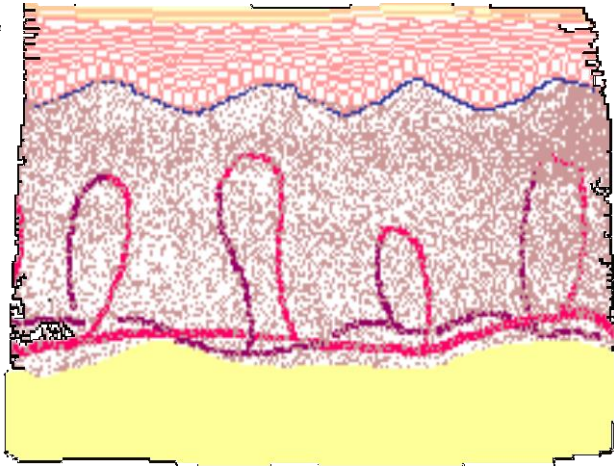
IT IS A BARRIER

- Whenever it is penetrated, it switches into the repair and remove mode . (The epidermis makes and distributes chemicals to stimulate blood supply and to activate recognition and elimination of harmful foreign invaders. This is known as inflammation.
- It is also immuno-surveillance.
- In its extreme form it is **‘Wound Healing’**
- to infections, irritants and allergens,

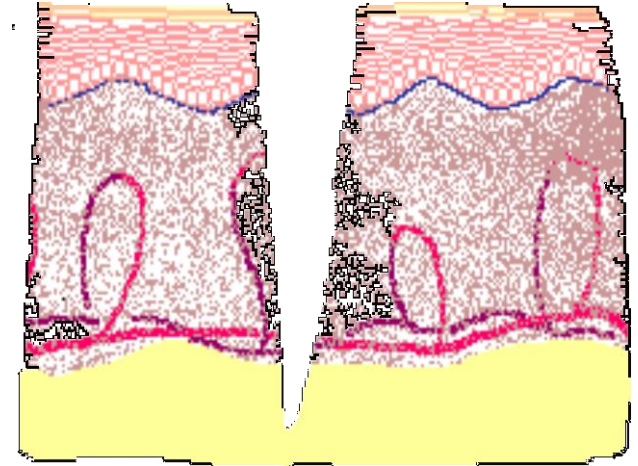
Wound Healing

- **Wounds heal in stages. A clean incised wound with the edges brought together heals at an optimal rate.**
- **Wounds begin with bleeding (Stage 1)**
- **Wound inflammation(Stage 2) recruits healing agents, removes harmful agents during approximately 72 hours and raises the skin temperature.**
- **Wounds organize new tissue for repair(Stage3) during 2-24 days.**
- **Wounds remodel tissue as near as possible to normal , including barrier function, (Stage4) 10 days up to one year.**

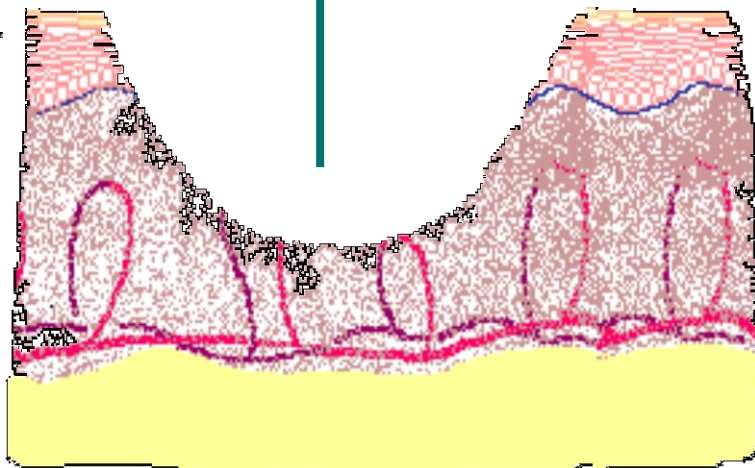
Types of wound



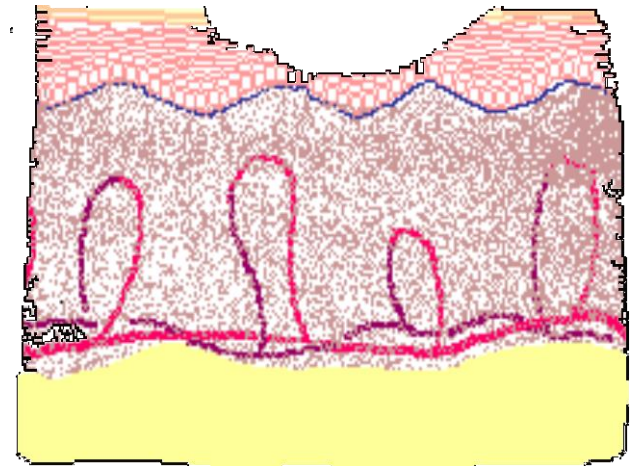
Normal skin



Incision wound



Partial thickness wound



Superficial wound

FUNCTIONS OF THE SKIN AND

SKIN FAILURE

(WOUND HEALING)

CAUSES OF OEDEMA

- HEART FAILURE
- NEPHROSIS
- INFLAMMATION
- VENOUS HYPERTENSION
- LYMPHATIC IMPAIRMENT: CANCER AND ITS THERAPY
- : FILARIASIS
- : IMMOBILITY AND DEPENDENCY
- OTHER : NON-CANCER RELATED, CONGENITAL, TRAUMATIC.

Wound healing ulcers, swelling and Foot care

The foot ulcer from Leprosy is an ancient problem of the skin and the foot ulcer due to diabetes is an emerging epidemic.

- Lymphoedema due to irritants in the soil in the shoeless(Podoconiosis) or due to Lymphatic Filariasis are both ancient disorders. Cancer and its therapy by surgical removal of lymph glands or radiotherapy as a cause is an emerging epidemic.**
- Leg ulcers due to scurvy were once common, leg ulcers due to venous hypertension are an emerging epidemic.**
- The tropical ulcer is ancient while the Buruli ulcer is emerging.**
- The elderly or malnourished or the HIV/AIDS population have a high prevalence of ischaemic ulceration due to vascular or pressure induced ischaemia.**
- Road accidents and landmine injuries are an emerging epidemic.**

THE FUNCTIONS OF THE SKIN AND

SKIN FAILURE

2

It regulates body temperature

- by sweating and by increasing or decreasing the blood flowing through the skin to maintain optimal body temperature for all functions including wound healing.(inflammation also brings the skin,which is usually cool, up to body temperature) It is helped by the use of clothing. and control of adipose(FAT) tissue, the body's natural insulation system.
- Sweat spread by body grease and trapped by hair evaporates and cools .In some skin conditions such as leprosy there is loss of this function.

THE FUNCTIONS OF THE SKIN AND

SKIN FAILURE

3

Sensing the environment

- by touching is especially good in the skin of some animals, such as the whiskers of the cat, and it is enhanced in the blind. Sensory loss is a feature of nerve injury to nerves in the skin and in the spine, and brain. It is lost in unconsciousness or impairment of awareness as well as in the neuropathy of leprosy or diabetes.
- Disturbances of this function underlie both itch and pain.

THE FUNCTIONS OF THE SKIN AND **SKIN FAILURE**

4

COMMUNICATION AND DISPLAY

“The Look Good Feel Good Factor”, “Love at First Sight” or “Colour Prejudice”. It is a form of communication that requires the balance of Privacy versus Display, with which every mother presents her child for viewing ,and on which every courtship depends ,and of which leprosy is the prototype.

THE FUNCTIONS OF THE SKIN AND

SKIN FAILURE

Communication and Display

STIGMA

- Skin failure includes the unwelcomeness of the disfigured of which leprosy and elephantiasis or the severely burned are well recognized prototypes. They are feared and suppressed throughout the animal kingdom. and on stage or screen one leg one eye or a scarred face are used even to depict the “baddies”.

THE FUNCTIONS OF THE SKIN AND **SKIN FAILURE**

STIGMA, COMMUNICATION FAILURE, **BEING UNWELCOME**

- **Fear and lack of understanding of disease , disability and death, lead people to taunt the disfigured, assault them , or run away and hide from them.**
- **Beliefs surrounding the illness are powerful factors.**

MANAGING SKIN

FUNCTION 1

- **RESTORING BARRIER FUNCTION**

Control of scratching and other traumas.

Harmful invaders through entry points are managed by washing and oiling/emollients

- Full range movement includes keeping the skin moving.
- Off-loading
- Maintaining nutrition

MANAGING SKIN FUNCTION 1

BARRIER FUNCTION

WASHING

- Testing the temperature of water with the elbow is a more reliable test of too cool or too hot than even the normal hand. Tissues that cannot respond to heating by vasodilatation are more likely to be damaged by even warm water. Patients affected by Diabetes or Leprosy (and all those who do not flush after inducing blanching by finger pressure) are notably vulnerable.

MANAGING SKIN FUNCTION 1

BARRIER FUNCTION

WASHING

- **Washing hands requires water free of bacteria at body temperature (cooled after boiling is best but patients with neuropathy need to be aware of the risks of scalding.) Plastic bottles filled with rain water and exposed to the sun for 12 hrs will become pasteurized. There are several technologies for filtering water**
- **Cold water, so often recommended, delays healing of wounds.. Exposing a wound to the air may allow so much evaporation and cooling that return to body temperature is delayed for several hours and many wound healing processes slow down to ineffective rates. Wound dressing should not take too long**

MANAGING SKIN FUNCTION 1

BARRIER FUNCTION

WASHING

- How much and what soap?: Water poured from a container with a spout onto hands using soap is effective when enough is poured to remove the soap on the hands. Less water, and more effective cleansing, may be used in this way than dipping in a bowl.
- Wet wrapping is one way to moisturize the skin. A thoroughly damp cloth placed over the skin is covered by a lesser damp cloth.

MANAGING SKIN FUNCTION 1

BARRIER FUNCTION

WASHING WITH SALT WATER

In order to avoid depleting the fats contributing to the barrier layer of the skin by washing, use of the ancient prescription of a teaspoon of common salt in a pint of water is helpful. Like seawater*, soaking with salt water does not remove so readily the fats that make up the barrier in the surface layers of the skin.

*** Seawater has even more salt than this.**

MANAGING SKIN FUNCTION

BARRIER FUNCTION

SOAPING

- Advantages include acidification of the skin which discourages bacteria, and it prolongs the washing process through the need to wash off the soap. Washing techniques should make water run from the hands to the elbow rather than from the elbow to the hands . This prevents clean hands being contaminated by bacteria from the arms
- Alcohol wipes are now distributed in many hospitals because they kill bacteria on the surface of the skin. Some Muslim communities have objections to alcohol use.
- There are numerous traditional plant antibacterial soaps.

MANAGING SKIN FUNCTION

BARRIER FUNCTION

OILING

- **Emollients such as lanolin, cocoanut oil or mustard oil, spread, retain and reduce water loss as a droplet. To some extent sebum(the skin's natural grease) acts as a spreading of water agent to prevent droplet loss when sweating and to facilitate evaporation and hence cooling. Excess droplets of sweat are retained by the hair of the scalp and eyebrows.**
- **NB:in leprosy both sweat, sebum and eyebrows are reduced.**

MANAGING SKIN FUNCTION

BARRIER FUNCTION.

URINE FOR WASHING DURING WATER SHORTAGES

- Urine(of the cow or camel) must be used when fresh. Bacterial contamination can release irritant ammonia after only a few hours. This can be reduced by acidifying with lemon juice or vinegar (Teaspoonful to a pint of urine.)
- Mixed with honey and Neem extracts it has bacteria free activity.
- Urea, a constituent of urine, is good for the barrier function of skin. It encourages uptake of moisture by dry scaly skin and is added(up to 5%)in many commercial moisturizers and higher (10-40%) concentrations descale (keratolytic)
- It is traditionally used for dissolving medicinal herbs.

MANAGING SKIN FUNCTION

IMMOBILIZATION VERSUS MOBILITY

- Immobilization is necessary only when there is an acute episode of injury(bleeding) and /or a sudden onset of increased inflammation (recognized by an increase in swelling ,pain ,redness or local heat).
- In the neuropathic ulcer these signs will only be recognized by those patients and carers who have been taught to look for them as requiring urgent attention.
- The same is so for an acute infection such as cellulitis or an injury such as a snake bite. Rest with elevation localizes the injury and prevents systemic spread of the products of injury.

MANAGING SKIN FUNCTION

IMMOBILIZATION VERSUS MOBILITY

- **As with sports injuries early (perhaps a day later) low amplitude movement and elevation hastens recovery and reduces swelling. After an early resting period ,it is helpful to encourage gentle movement of injured parts as well as full movement of uninjured parts of the body. Most animals do this by licking a wound, gradually increasing its frequency and intensity.**
- **Mobilization of numb skin cannot be guided by the degree of pain and a period of rest may have to be followed by gently increasing the range of movement, adding weight bearing in a graded programme**

MANAGING SKIN FUNCTION

IMMOBILIZATION VERSUS MOBILITY

KEEP MOVING!

Many who have wounds or swollen legs adopt an immobile posture with their limbs dependent which cause the veins to overfill and fail in their function of returning blood to the heart. In villages or institutions with persons affected by leprosy, leg ulcers are common in those who spend all day just sitting. These are not so much due to leprosy but to the affect of immobility on the venous system of the leg. Figure 1

Immobility causes swelling and ulceration of the leg



MANAGING SKIN FUNCTION

“KEEP WALKING”

- **Walking is good for the lymphatic and venous system, provided it is not a shuffle and there is ankle movement by raising up on ones toes. The foot is designed with layers of pressure dispersing fat cells and both elastic and stretch resisting fibres are distributed to strengthen the foot.**
- **(In a deformed foot, or one with diminished blood supply, these are less protective and in persons whose gait is defective the stresses are unevenly distributed)**

MANAGING SKIN FUNCTION

ELEVATION AND MOVEMENT

ENHANCED BY SUPPORT

BANDAGING

Elevation and ankle movements are the most effective means of controlling venous disease .But in the dependent position compression of the veins by bandages when there is underlying muscle movement against an inelastic sleeve are desirable. The more layers of bandage applied the more compression is provided. Three layers are probably optimal; the deepest dresses the wound, the outer bandage keeps everything in place. All add stiffness to the supporting sleeve.

- Dressings, bandages and movement should be a collaboration to reinforce the effectiveness of each.

MANAGING SKIN FUNCTION

FOOTWEAR AND KEEP MOVING

- . One of the roles of the patient and carer is to study the most effective footwear and aids to improve the gait. Pressure relief of the site of incipient or actual ulceration requires a knowledgeable team that includes the shoe maker the patient and the carer.
- Trainers and canvas shoes are available cheaply in most towns world wide. They are often suitable footwear.
- A damaged foot should walk less. It needs more protection
In a hot climate, sweating and fungal infections are less of a problem if holes are made above the sole of the shoe at the instep to aerate when walking.
- Offloading prevents ulcers(“bed sores”,diabetic or leprosy foot ulcers).

**FOOTWEAR PROTECTS THE BARRIER
FUNCTION OF THE SKIN OF THE FOOT.**
Without shoes the skin cracks and pressure
injury is common



WHO's Operational *Guidelines* *Global* *Strategy for further Reducing Burden* *and sustaining Leprosy Control* *Activities(2006-2010)*

- “Most people do not require specially made footwear-the right shoes found in the market can be just as effective, Sports shoes or running shoes are often very appropriate; alternatively ,sandals or shoes with a firm under-sole and a soft in sole may be used.”
- Shoes should be neither loose nor tight. Persons with neuropathy cannot sense tightness When removed to visit places of worship beware of burning from sun exposed floors.

MANAGING SKIN FUNCTION

- **WOUND HEALING :ULCER MANAGEMENT**
- **A bright red surface should be kept moist and covered,**
- **A yellow surface benefits from washing. A black surface impedes healing and should be removed surgically, or by repeated dressings and some herbals such as green paw paw, some species of maggots (from the green bottle fly; effective and safe removers of dead tissue.)**

Ulcers of the foot from the Oxford

Diabetic Clinic

- Note that not only are the toes ulcerated but the skin is scaly and probably trying to repair the skin surface. Such a skin needs washing and emollients. Restoring the barrier function in this way reduces the demands of the whole skin for oxygen and the needs for oxygen of the ulcer are more likely to be met.
- The skin also requires that the whole person should be healthy. Treat diabetes, anaemia malnutrition, infections and any other illness.



9:29
7. 4. 2000



10:16
16. 3. 2000



9:34
4. 9. 2001



15:16
19. 1. 2000



7. 8. 2001



9:59
7. 4. 2000



11:14
24. 3. 2000



15. 5. 2001

MANAGING SKIN FUNCTION

ODOUR

- **Odour is often due to bacterial breakdown of necrotic tissue. Treatment includes removal of necrotic tissue and applying antibacterial agents. Charcoal absorbs odour and can be used in dressing or for scrubbing utensils.**
- **Companions are best met in the open air and not in an enclosed room.**
- **Perfumes(rose water) are helpful or sweet smelling essential oils to which may be added herbals such as teatree oil or lemon myrtle**

MANAGING SKIN FUNCTION

LYMPHOEDEMA

- **1) Stimulate central (Chest and Abdomen)lymphatic emptying by a) deep breathing,and b) by pressing knees against abdomen while lying on back.c) Movement and massage of skin and subcutaneous tissue.**
- **2) Reduce the load on the lymphatics by a)using elevation for emptying veins, and b) by ankle movements**
- **3)Reducing entry points through the skin for irritants and infections, by washing ,drying and emollients**

MANAGING SKIN FUNCTION

Nutrition and Cooking

- **All people should grow their minimal nutritional requirements**
- **Healing (Repair) the skin requires adequate nutrition**
- **Cooking should be safe**
- **Teach water conservation such as placing rain water in a plastic bottle on the roof in the sun.**
- **DO NOT ADD POISON TO THE SKIN>STOP SMOKING!!**

MANAGING SKIN FUNCTION

Nutrition

- **The skin needs food .Deficiency is common, especially of protein, iron and vitamins A, B, C and D. As illustrated below, even slum dwellings can grow vegetables and school children can be trained to care for the soil, enriching it with manure, straw and encouraging worms.**





One of the most powerful tools for change- the children



PREPARATION OF HERBAL MEDICINES FOR PRIMARY HEALTH CARE WITH TRIBAL WOMEN

MANAGING SKIN FUNCTION

BODY TEMPERATURE :SURVIVING

COLD 2

- **Lowering of body temperature is a common terminal event. Too often the value of a blanket is underestimated. Too often also it is not realized that the earth is cold and the destitute need to lie on some form of insulation. Even a large garbage bag filled with abandoned plastic bags can be lain on to provide some insulation. Wind is a potent cooler and any covering preventing draught will reduce cooling. The Flexed position conserves heat.**

Cold and shivering, dehydrated and malnourished, a mother exiled from her home because of leprosy. Her first need is a blanket.

