

**NATIONAL GUIDELINE
ON FOOT HEALTH AT
PRIMARY LEVEL**

INTRO- DUCTION

Foot problems pose a special challenge to the primary health-care professional. In an era when life expectancy is rising steadily, the need to identify and treat foot problems becomes part of everyday practice. What may be a common foot problem or minor trauma to the middle-aged adult, becomes a debilitating and sometimes crippling disorder in the older person. The ability of an individual to remain ambulatory, may be the only dividing line between institutionalisation and remaining an active member of a community and society.

The foot is not only a mirror of health, but it can enhance and provide a partial means to protect some of the social needs of a person in years to come. Pain-free mobility is a major factor in the general well-being of an older person where foot problems are frequently associated with immobility. A normal foot of a person is one that is asymptomatic and non-contributory to any mental, systemic or local disorder. It has been estimated that 70% of the population over 65 years of age suffers from some kind of foot problem.

According to a survey done during 1990 and 1991, foot pathology was found to be one of the seven most prominent health conditions in older persons in South Africa.

South Africa has limited funds for health care with which to meet ever-increasing demands. Our ability to provide home-based care for all is limited, therefore it is essential that older persons are enabled to walk for as long as possible. The importance of maintaining the ability of older persons to reach their local health services cannot

• be stressed **enough**. Many of the older persons
• live in isolated areas with a limited infrastructure
• and depend on their feet as a means of trans-
• port.

• Studies have shown poor detection of foot prob-
• lems by general practitioners. The reasons are
• that:

- ■ Older persons are often reluctant to report foot problems believing them to be part of normal ageing or untreatable or because of non-availability of services, or not important enough.
- ■ Most health professionals' training does not sufficiently emphasise the importance of foot health.

MANAGEMENT OBJECTIVES

- ■ To facilitate activities for the training of personnel to identify and manage basic foot abnormalities and to prevent complications.
- ■ To increase accessibility of health care for people with foot problems.

SCOPE OF THE GUIDELINE

• **Target population:**

• ***For health education and health promotion***

- ■ All children of school-going age, mothers (especially mothers of children aged 0 - 4 years), caregivers of older persons, teachers, general public, e.g. sportsmen/women and employer/employee organisations, older persons.
- ■ Persons with muscular disease.
- ■ The population in rural and peri-urban areas

as these people tend to walk barefooted. This may cause injury to the foot which predisposes to chronic foot ulcers, especially among high-risk groups, e.g. patients with diabetes and patients with peripheral vascular diseases.

For training

- All categories of professional health workers and other categories of caregivers and professionals.

Many foot problems can be prevented by providing foot-care information and management from childhood, e.g. screening at birth, 6 weeks, 10 weeks, 14 weeks, 9 months and 18 months of age. Education to facilitate non-damaging self-care is necessary at all ages. Through the education system the basis of foot-care education is to establish simple and achievable hygiene habits as well as a healthy diet and physical activity to control body mass. This must be supplemented by detailed foot-health information/education and access to care, relating to specific diseases or conditions, i.e. arthritis, diabetes, obesity and vascular diseases.

General principles for foot-care (refer Annexure A)

High-risk patients:

- Loss of protective sensations. Patient unable to feel pinprick in one or more places on toes and feet.
- Absent ankle and knee reflexes.
- Persons with diabetes and hypertension.
- Absent pedal pulses.

PREVENTION OF FOOT PATHOLOGY

**MANAGEMENT
OF FOOT
PROBLEMS/
PATHOLOGY**

- ■ Foot deformities or callus formation are present.
- ■ History of foot ulceration or amputation.
- ■ Persons using anticoagulants.
- These patients should be referred to the next level for specialist attention.

● **Early detection of foot pathology**

● Early detection will include screening, assessment and referral of the person. For early detection of foot pathology at primary level, the Foot Pathology Screening Form is useful. This will facilitate the identification of persons who are at risk or who present with chronic diseases, vascular insufficiency or neurological conditions (refer Annexure B).

● **Diagnosis of foot pathology**

● According to the information obtained in Annexure B, a preliminary diagnosis and intervention plan should be made by an appropriately trained health professional.

● **1. Screening of foot problems**

● Annual screening to determine 'at risk' status. This should entail the completion of a standardised form (refer Annexure B) and foot health status should be recorded on the patient-carried card.

● **1.1 Prevention of foot problems**

● Do simple exercises daily or every second day (refer Annexure D).

All 'at risk persons' should remove their socks and shoes at every visit for an assessment. Newly diagnosed persons or new patients with diabetes presenting at a clinic should have their feet examined during their first clinic visit. If foot pathology is present, feet should be examined at least 4 times per year by specially trained persons, e.g. podiatrists.

Manage contributory chronic diseases, e.g. diabetes, hypertension, arthritis, neurological problems and vascular problems.

1.2 Treatment and referral

Early treatment of foot complaints to prevent the more severe complications of foot pathology is important.

Persons identified with foot pathology should be referred to the next level of health care (refer Annexure C).

Persons at 'risk' should be referred for specialist assessment at least once a year.

2. Education/Training

- Raise awareness of foot health.
- Inform public of the facilities for foot care.
- Improve the knowledge and skills of health-care professionals regarding foot health.

• **ANNEXURE A**



• **GENERAL PRINCIPLES FOR**
• **THE PREVENTION OF FOOT**
• **PATHOLOGY AND FOOT CARE**

- ■ Keep diabetes and hypertension under control.
- ■ Wash the feet daily, use lukewarm water and soft soap.
- ■ Dry feet gently, especially between the toes.
- ■ Wear clean cotton/wool socks or stockings every day.
- ■ Inspect or ask somebody to inspect the feet once a week, checking for redness, blisters, moist skin, cracks between the toes, cuts, scratches or damaged nails.
- ■ Cut the toenails straight across and not too short. Never cut down the corners of the toenails as this may cause ingrowing toenails. If the toenails cannot be cut, file them downwards.
- ■ Sharp instruments must never be used to dig around toenails.
- ■ Never cut corns or calluses or use corn plasters or other home remedies. These preparations are acidic and often cause ulcers. Consult a health-care professional. Corns and calluses are an indication of a problem.
- ■ Avoid anything which restricts the blood flow to the feet. Never wear garters or socks with tight elastic tops.
- ■ Stop smoking as this adversely affects circulation.
- ■ During cold weather, always remove all heating mechanisms **BEFORE** getting into bed.
- ■ Remember to test the temperature of bath water with the elbow before getting in. If un-

able to do so, let someone else test it. Do **NOT** test water with the feet.

- Persons with diabetes should never walk barefoot.
 - Proper comfortable footwear is very important. It is bad for the feet and posture to wear slippers all day.
 - Never wear tight or ill-fitting shoes.
 - Report every injury that does not respond to simple self-care measures.
 - Have the feet professionally examined at least once a year at the nearest clinic or hospital.
 - Look into shoes or feel inside them before putting them on.
 - To avoid unnecessary foot irritation, do not wear worn-out shoes or worn-out socks or stockings if possible.
 - In general, shoes should suit the activity and follow the natural outline of the foot, fitting the widest part of the foot.
 - Good shoes that fit well should:
 - be the right length and width
 - allow enough room for toes
 - have a smooth lining without seams
 - be flexible so that they can bend
 - have a heel no higher than 4cm.
 - Slip-ons are not recommended.
-
- New shoes should be comfortable straight-away; there should be no need to 'break them in'.
 - If special insoles are needed, take them with when buying shoes.
 - The more one walks, the more the feet swell; allow for this when buying shoes.
 - Do not put on wet shoes.
 - Shoes should be aired every day.

REMEMBER!

• **ANNEXURE B**
 •
 • **FOOT PATHOLOGY SCREENING**
 • **FORM**
 •

Name:..... Patient no:.....
 Address:.....
 Clinic:..... Phone number:.....

Date of assessment:.....
 Age/Date of birth:..... Sex:..... Height:..... Weight:.....
 Marital status:.....
 Residence circumstances and situation (e.g. living alone, stairs, etc.):

 Current medication:.....

Medical history:

Hypertension:..... Diabetes:..... Arthritis:.....
 Circulation:..... Overweight:..... Eyesight:.....
 Ambulatory/Bedridden:..... Other:.....

Surgical history:

Major operations:.....
 Foot surgery:..... Amputation: Type:.....
 Reason:.....

Foot complaints:

Swelling:..... Pain:..... Stiffness:

Corns:..... Calluses:..... Painful toenails:.....

Bunions:..... Cold feet:..... Infections:.....

Discolouration:..... Burning:..... Tingling:.....

Other:.....

Hammer-toes:..... Numbness:.....

Main complaints regarding the feet: knee, ankle, and toe joint mobility:.....

Functional limitations: how far can the person walk:.....

Dermatologic evaluation:

Hyperkeratosis (calluses):..... Corns:..... Fissures:.....
Ulceration:..... History of ulceration:..... Infection:.....

Nails: Thickened:..... Discoloured:.....
Other:.....
Sores, new or recently healed:..... Fungal infection:.....
Plantar Wart:..... Blister:.....
Other:.....

Foot shape/function evaluation:

Limited joint range of motion:.....
Gait & ambulation aid: Cane/Walker/Wheelchair:.....
Posture: Symmetrical:..... Asymmetrical:.....
Limb: Absent:..... Present:.....
Flat feet:..... High instep:.....
Bunion:.....
Hammer-toes:..... Bony outgrowth:..... General foot deformity:.....
Other:.....

Signs of Peripheral Vascular Disease:

Coldness:..... Discolouration:..... Pallor:.....
Blue toe syndrome:..... Varicose veins:..... Shiny appearance of skin:.....
Loss of hair on feet & toes:..... Rest pain:..... Oedema:.....
*Intermittent claudication:..... Other:.....
Pulses for both feet should be recorded:
(L) Dorsalis Pedis pulse:..... (L) Posterior Tibial pulse:.....
(R) Dorsalis Pedis pulse:..... (R) Posterior Tibial pulse:.....

Neurological evaluation:

*Ankle jerk absent:..... Vibration:.....
Pin prick sensation absent:..... * Paraesthesia:.....
*Babinski's reflex: Positive:..... Negative:.....

General observations:

History of previous foot treatment:.....
Able to reach feet:..... Able to remove shoes and socks easily:.....
Level of hygiene satisfactory:.....
Type of stockings/socks: Nylon:..... Cotton:..... None:..... Other:.....

Footwear worn: Shoe:..... Slipper:..... None:..... Other:.....
Shoe function: Adequate:..... Inadequate:.....
Overall impression:.....

Comments and recommendation:

.....
.....

Referral to:

.....

Signature of assessor:

.....

*Claudication: Lameness - Intermittent claudication. Limping, accompanied by cramping pain/tightness in the legs when walking, which disappears with rest. Occurs most frequently in the calf, especially common in persons over 60 years of age.

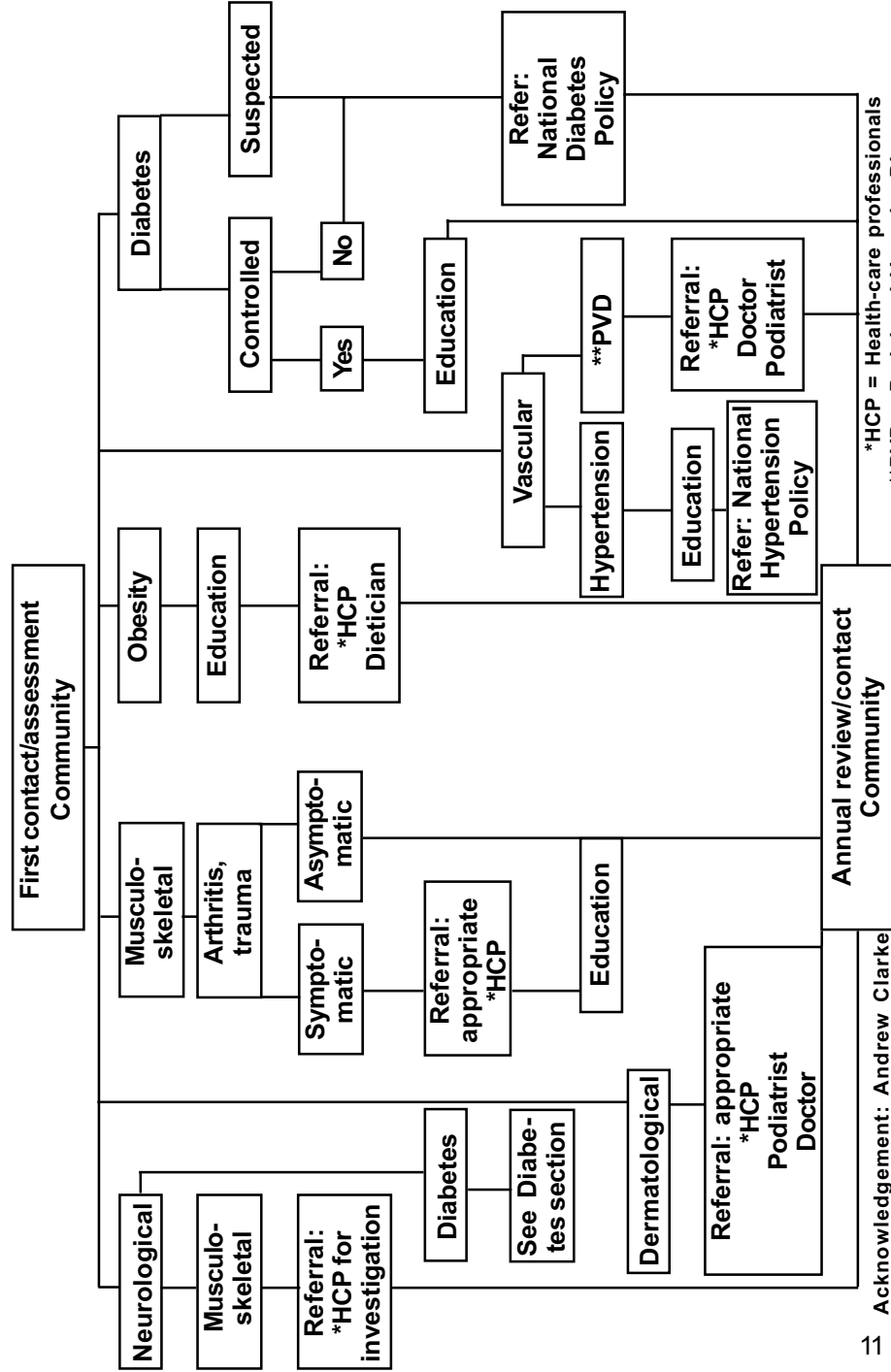
*Ankle jerk: Contraction of calf muscle on tapping the Achilles tendon.

*Paraesthesia: Disorder of sensation, e.g. a feeling of tingling or of 'pins and needles'.

*Babinski's reflex: A test for organic disease of the spinal cord. On stroking the sole of the foot with a hard object, the big toe bends upwards instead of downwards.



Algorithm for the management of foot pathology



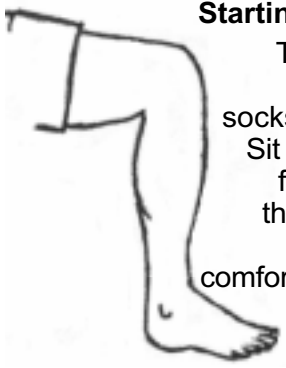
11 Acknowledgement: Andrew Clarke
 *HCP = Health-care professionals
 **PVD = Peripheral Vascular Disease

ANNEXURE D



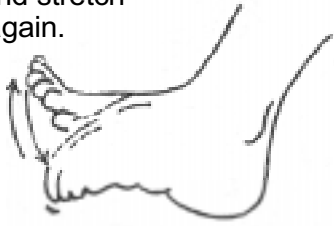
FOOT EXERCISES

The following exercises will improve the blood circulation to the feet and help to manage and also prevent foot problems. Do the exercises at least twice a week.




Starting position:
Take off your shoes and socks/stockings. Sit upright on a firm chair so that your bare feet rest comfortably on the floor. Don't lean back.

Exercise 1 (x10)
Bend the toes of both feet with the heels remaining on the floor and stretch them again.



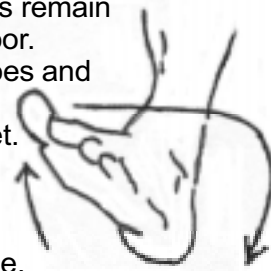
Exercise 2 (x10)

- Lift the toes and the front part of the feet as far as possible with the heels remaining on the floor.
- Lift the heels with the toes remaining on the floor.




Exercise 3 (x10 for each foot and then together)

- The heels remain on the floor.
- Lift the toes and front part of the feet.
- Turn out and return to the middle.



Exercise 4 (x10 for each foot and then together)

- The toes remain on the floor.
- Lift the heels.
- Turn heels out and return to the middle.



These exercises were developed by the World Health Organisation for their Type 2 Education Programme, and have been adapted for use in South Africa.

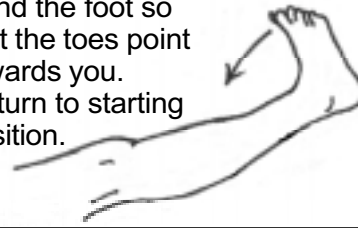
Exercise 5 (x10 per leg)

- Lift the knee.
- Stretch the leg.
- Stretch the foot (toes pointing away from you).
- Put foot down on the floor and repeat with the other leg.



Exercise 6 (x10 per leg)

- Stretch the leg with the heel on the floor.
- Lift the extended leg.
- Bend the foot so that the toes point towards you.
- Return to starting position.



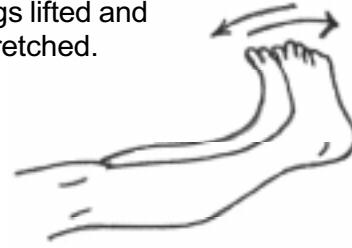
Exercise 7 (x10)

- The same as Exercise 6, but with both legs lifted at the same time.



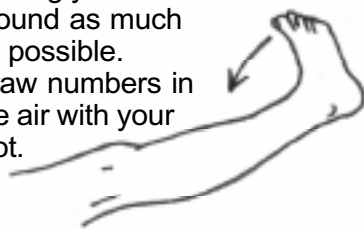
Exercise 8 (x10 together)

- Stretch and bend the feet and ankles with both legs lifted and stretched.



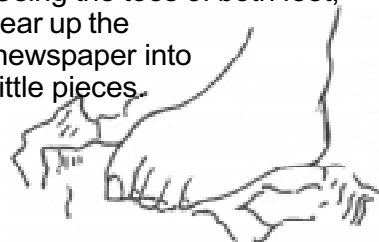
Exercise 9 (x10 per leg)

- Lift and stretch out the leg.
- Make circles with your foot making your ankle twist around as much as possible.
- Draw numbers in the air with your foot.



Exercise 10 (once)

- Put a page of newspaper on the floor and crumple it up with your feet, making it into a tight ball.
- Now, again using only your feet, undo the ball and spread out the page once again.
- Using the toes of both feet, tear up the newspaper into little pieces.



• **Acknowledgements:**

• The Department of Health wishes to thank all the
• people who were involved in the development of
• the guideline on foot health.

• Special thanks to the following stakeholders:

- - Department of Health: national and provin-
• cial offices.
- - Universities and tertiary institutions.
- - The Diabetic Association of South Africa.
- - Andrew Clarke and other individual
• podiatrists.

• ISBN 0-621-29459-4
• Published by the Government Communication and
• Information System (GCIS) on behalf of the Department
• of Health.
• Printed for the Government Printing Works by Formeset
• Cape Printers, Eppindust
• March 2000