

Allied Health Professions' Office of Queensland

## **PODIATRY LEARNER GUIDE**

**Assist with basic foot hygiene**

**April 2017**

## ***Podiatry Learner Guide: Assist with basic foot hygiene***

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*<https://www.health.qld.gov.au/ahwac/html/ahassist-modules/>*

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# INTRODUCTION

Welcome to Podiatry Learner Guide: Assist with basic foot hygiene

## Learner Guide Structure

This Learner Guide has been developed specifically for allied health assistants to provide the necessary knowledge and foster the skills required to assist a podiatrist in rehabilitation programs developed by Allied Health Professionals

This Learner Guide contains information and activities relating to key topics to enhance learning opportunities. The guide is broken up into three topic areas with sub-topics for each. These are as follows:

Organisational Practice:

- Roles and responsibilities
- Policy and procedures
- Organisational practice

Foot Care:

- Anatomy and Physiology of the Foot
- Foot Pathology
- Treatment

Service Delivery:

- Podiatry Interventions
- Client Care
- Monitoring Requirements

The Learner Guide has six sections:

1. Introduction
2. Learning Topics
3. Workplace Observation Checklist
4. References
5. Resources and Websites
6. Appendix

Each topic includes sub-topics which cover the essential knowledge from the unit of competency. You will be asked to complete the activities in each topic to support your learning. These activities address the essential skills from the unit of competency and will be part of your assessment.

Throughout the guide, you will be given the opportunity to work through a number of activities, which will reinforce your learning and help you improve your communication and organisation skills, manual handling skills and ability to apply therapeutic exercise practices. Take time to reflect during the module on how you may be able to apply your new knowledge and skills in your role as an allied health assistant.

## Learning requirements

It is important that you have an allied health workplace supervisor who has agreed to support in your study. Regular clinical supervision during the course of your study should also assist you to stay “on track”, provide opportunities for your supervisor to monitor your progress, provide encouragement, and to check that you understand the information in the learning materials. This will be particularly important if you are having any specific learning difficulties.

Activities and assessment tasks may require access to the internet. If you do not have internet access please talk with your supervisor about your options.

## Self-Completion Checklist

The Self Completion Checklist outlines the underpinning knowledge and skills contained in each of the topics for the unit of competency you will be assessed against. You will be asked to review the list and place a tick in the box if you feel you have covered this information in each section and if you feel ready to undertake further assessment. If you have any questions about this checklist, ask your supervisor.

## Recognition for Prior Learning

If you subsequently enrol in the Certificate IV in Allied Health Assistance you may be able to undertake recognition assessment for the study that you have done. To enable you to gain recognition for the learning you have undertaken in this Learner Guide, it will be necessary for you to complete the Assessment Guide associated with this unit of competency. The assessment activities in this Assessment Guide must be signed off by a **podiatrist**. Copies (Word version) of the Assessment Guide can be obtained by contacting the AHPOQ team via e-mail: [AH\\_CETU@health.qld.gov.au](mailto:AH_CETU@health.qld.gov.au)



### **Please Note**

Due to the varied environments in which allied health assistance is carried out, the terms ‘patient’ and ‘client’ are used interchangeably throughout this resource. Please use your organisation’s preferred term when performing your duties.

## Symbols

The following symbols are used throughout this Learner Guide.



**Important Points** – this will include information that is most relevant to you; statistics, specific information or examples applicable to the workplace.



**Activities** – these will require you to reflect on information and workplace requirements, talk with other learners, and participate in a role play or other simulated workplace task. You may use the space provided in the Learner Guide to write down a draft response. Record your final answer in the Assessment Guide.



**Further Information** – this will include information that may help you refer to other topics, complete activities, locate websites and resources or direct you to additional information located in the appendices.



**Case Studies** – these will include situations or problems for you to work through either on your own or as a group. They may be used as a framework for exploration of a particular topic.



**Research** – this refers to information that will assist you complete activities or assessment tasks, or additional research you may choose to undertake in your own time.

# LEARNING OUTCOMES

As an Allied Health Assistant assisting with basic foot hygiene you will be required to perform the following tasks.

1. Prepare for basic foot hygiene by:
  - Interpreting and responding to client Foot Care Plan and occasion of care requirements as prescribed by supervising Podiatrist
  - Determining client availability according to organisation protocols
  - Gathering necessary equipment (which may include files, clippers, scissors, forceps, gauze applicators, personal protective equipment, drill and burr/mandrel/Moore's disc, black's file, tissue nippers)
  - Undertaking steps to meet infection control requirements
  - Preparing for basic foot hygiene to comply with legislation, regulatory and organisation/practice requirements
  
2. Perform basic foot hygiene by:
  - Explaining to the client the purpose, rationale and requirements of the foot hygiene session
  - Determining the client's understanding of the purpose, rationale and requirements of each part of the foot hygiene session
  - Identifying any condition indicating the client is at high risk (which may include, diabetes, peripheral vascular disease, peripheral neuropathy, immunologically comprised, nail pathology and disease, dermatological disease etc.) that requires a Podiatrist's attention
  - Assisting client in and out of shoes, socks and hosiery where necessary
  - Correctly positioning the client prior to foot hygiene session
  - Implementing necessary infection control measures
  - Performing basic foot hygiene according to the directions of the Podiatrist and using appropriate infection control precautions, especially in relation to air-borne particles
  - Applying appropriate dressings to any skin breaks that might result from treatment
  - Providing feedback that reinforces the Podiatrist's advice
  - Identifying and managing client compliance issues.
  - Working with client to determine and plan any follow up requirements and dates
  - Seeking assistance when client presents with needs or signs outside limits of own authority
  - Reporting client difficulties to the supervising Podiatrist
  
3. Apply padding and cushioning as prescribed by the supervising Podiatrist by:

- Explaining to the client the purpose, rationale of the dressing, padding or cushioning
  - Determining the client's understanding of the purpose, rationale of the dressing, padding or cushioning
  - Correctly positioning the client
  - Implementing necessary infection control measures, including disposal of used padding and cushioning according to infection control protocols
  - Applying, padding and cushioning according to the directions of Podiatrist
  - Providing feedback that reinforces the Podiatrist's advice
  - Identifying and managing client compliance issues.
  - Working with client to determine and plan any follow up requirements and dates
  - Seeking assistance when client presents with needs or signs outside limits of own authority.
  - Reporting client difficulties to the supervising Podiatrist
4. Clean and store equipment by:
- Collecting, handling, managing and disposing of biological waste material according to organisation guidelines and infection control requirements
  - Preparing equipment for sterilisation according to manufacturer and organisation requirements/ensuring adequate supply of prepacked disposable instruments.
  - Storing equipment according to manufacturer's requirements and organisation protocols.
  - Reporting equipment faults to appropriate person and maintaining equipment in working order.
5. Document client information by:
- Documenting occasion of basic foot hygiene according to organisation requirements
  - Documenting referral to supervising Podiatrist as required
  - Using appropriate terminology to document symptomatic expression of identified problems
6. Comply with supervisory requirements by:
- Providing podiatry assistance according to the instruction of the treating Podiatrist
  - Providing client progress feedback to the treating Podiatrist
  - Reporting client difficulties and concerns to the treating Podiatrist
  - Implementing variations to the podiatry care according to the advice of the treating Podiatrist

## LEARNING TOPICS

The table below outlines the relationship between the topics presented in this Learner Guide and the Essential Knowledge required for completion of the unit of competency.

Topics	Essential Knowledge
1. Organisation Practices	<ul style="list-style-type: none"> <li>• Roles, responsibilities and limitations of self and other allied health team members and nursing, medical and other personnel</li> <li>• Supervisory and reporting protocols</li> <li>• Relevant organisation policies and procedures</li> <li>• OHS policy and procedures</li> <li>• Infection control protocols</li> <li>• Privacy and confidentiality requirements</li> <li>• Record keeping requirements</li> </ul>
2. Foot Care	<ul style="list-style-type: none"> <li>• Structure and functioning of the skin and integuments</li> <li>• Basic anatomy and physiology of the foot</li> <li>• Basic understanding of foot pathology</li> <li>• Pathology of nails</li> <li>• Disease processes relevant to the client group/s</li> <li>• Principles of foot hygiene</li> <li>• Standard precautions/additional precautions</li> <li>• Principles of aseptic technique</li> <li>• The function of medicaments:               <ul style="list-style-type: none"> <li>• emollients/moisturisers</li> <li>• astringents</li> <li>• antiseptics</li> </ul> </li> </ul>
3. Service Delivery	<ul style="list-style-type: none"> <li>• Conditions treated by a Podiatrist</li> <li>• Goals and limitations of podiatry intervention</li> <li>• Client care plans</li> <li>• Medical terminology</li> </ul>

# CONTENT

## 1. Organisational Practice

This topic covers information about:

- Roles and responsibilities
- Policy and procedures
- Organisational practice

Activities in this topic address the following essential skills:

- Communicate effectively with supervisors and co-workers
- Operate within OHS and infection control requirements
- Work under direct and indirect supervision
- Maintain accurate records
- Use effective observation skills

### 1.1 Roles and Responsibilities

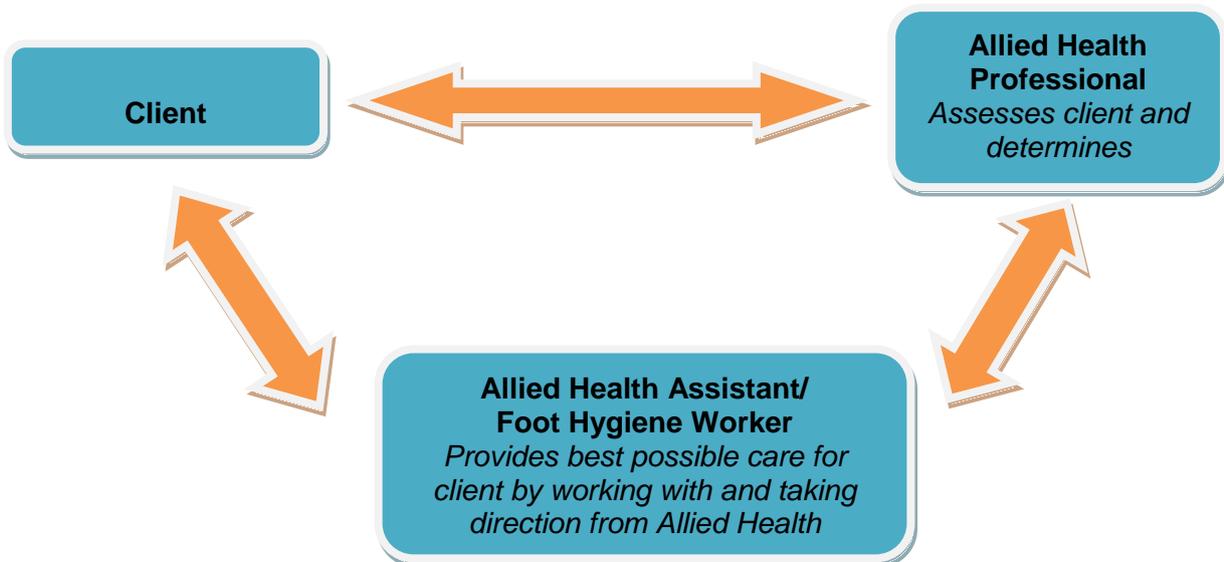
As an employee of Queensland Health, you are responsible for compliance with the Code of Conduct for the Queensland Public Service in your workplace.

Integrity and Impartiality	Demonstrate commitment to ethical standards; impartiality; and honest, fair and respectful interactions with all persons.
Promoting the Public Good	Manage public resources effectively, efficiently and economically; seeking to achieve excellence in service delivery to serve clients better.
Commitment to the system of Government	Uphold the system of government and the laws of the State, Commonwealth and local governments.
Accountability and transparency	Demonstrate commitment to exercising proper diligence, care and attention; achieving high standards of public administration; innovating and continually improving performance.

(State of Queensland, 2010)

Your workplace will have a specific Role Description for your position as Allied Health Assistant – whether your position is Podiatry specific or contains aspects of a foot hygiene role. It is important that you always work within the role boundaries outlined in this document. Performing in your delegated area of responsibility allows you to effectively and safely perform your role as a member of the health care team.

**Figure 1** Responsibility links between the Allied Health Professional and the Allied Health Assistant.



Many areas of health care are legislated to ensure that only those people with appropriate skills and knowledge are permitted to perform certain clinical tasks.



Further information and links:

Australian Health Practitioner Regulation Agency: <http://www.ahpra.gov.au/en.aspx>

Podiatry Board of Australia: <http://www.podiatryboard.gov.au>

NSW Nurses Association Guidelines on Provision of Basic Foot Care by Nurses:

<http://www.nswnma.asn.au/wp-content/uploads/2013/07/Guidelines-on-Provision-of-Basic-Foot-Care-by-Nurses.pdf>



### **Activity 1: Roles and Responsibilities of an Allied Health Assistant**

1. Obtain a copy of your role description. Ensure you understand each key responsibility listed. Give a brief explanation of the responsibility links between you and your supervising Allied Health Professional. For example, Pam is a Podiatry Allied Health Assistant. In her role she takes direction from the team of Podiatrists with whom she works.

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2. Familiarise yourself with the websites listed on the previous page under 'Further Information and Links'. Make some notes in relation to your scope of practice from at least two of the sites in the space below.

Website 1:

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Website 2:

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## 1.2 Policies and Procedures

As a Foot Hygiene Worker, you will perform your duties according to a set of organisational policies and procedures. This set of documents must, by law, include policies on Occupational Health and Safety and Infection Control.

### Occupational Health and Safety

- Ensures safety of all employees, clients and anyone else entering the workplace
- Involves risk management, an integral part of all Queensland Health activities
- As part of the management of risks, you must take reasonable action to ensure that:
  - Accidents are prevented
  - People are protected from being hurt
  - Hazards are removed or controlled
  - Health is looked after and encouraged



The Queensland Health Occupational Health and Workplace Safety website provides comprehensive information relevant to this topic at the following link:

<http://qheps.health.qld.gov.au/safety/home.htm>



### Podiatry–Specific Example: Positioning the Client for Treatment

There are many factors that must be considered when you are positioning a client in order to perform foot skin and nail care. The physical capacity of the client will determine whether they are capable of sitting. Should sitting be a difficult or non-optional task for the client, treatment with the client lying face up is the alternative option. Below you will find information important to be aware of when considering this aspect of client care.

On the following pages are three [3] examples of positioning the client for treatment.

## Position 1: Client Lying



**Figure 2** Height adjustable practitioner stool (Briggate Medical Company, 2010)

Client Considerations	Practitioner Considerations
Should be lying face-up; ideally in a height adjustable bed	Ensure the bed is at a height such that no bending or prolonged uncomfortable positioning is required. This may involve raising the bed (if height adjustable) or sitting on an adjustable height stool (Figure 2) so that you are positioned at a functional height.

## Position 2: Client Sitting (Specific Podiatry Treatment Chair]



**Figure 3** Specific Podiatry Treatment Chair (Briggate Medical Company, 2010)

Client Considerations	Practitioner Considerations
<p>Assist with embarking and disembarking from chair, observing policies such as the 'No Lift' policy at all times.</p> <p>Ensure you instruct the client to sit towards the back of the chair when embarking. This will avoid destabilisation of the chair which may occur if the client sits too far towards the foot of the chair.</p> <p>Always advise the client of the way in which the chair is going to move prior to moving it.</p>	<p>Utilise the controls on the specialist Podiatry chair to position client</p> <p>Utilise adjustable height stool so that you can work at a height that reduces neck and back strain</p> <p>Avoid twisting, turning and leaning into awkward positions as this may result in injury</p>

#### Position 3: Client Sitting [Stand Chair]



**Figure 4** Client positioning in standard chair with footstool (Podiatry and Foot Protection Program, 2010)

Client Considerations	Practitioner Considerations
<p>Ideally the chair should have armrests for stability</p> <p>Use comfortable-height stool to rest the client's feet on</p>	<p>Where possible, utilise adjustable height stool so that you can work at a height that reduces neck and back strain</p> <p>Avoid twisting, turning and leaning into awkward positions as this may result in injury</p>



It is your responsibility to ensure you know the safety procedures and concerns for your industry and work in a safe manner in your organisation.



## Infection Control

Infection control involves maintaining a safe environment in the health care setting for staff, clients, and visitors. Infection Control in Australia is expected to comply with the current endorsed version of the Australia/New Zealand standards as well as industry specific guidelines.

These standards and guidelines may include:

- Australian Standards AS4815 and AS/NZS4187.
- National health and medical research council guidelines for infection control
- Industry codes of practice
- Local, state and federal government guidelines and standards
- Recommendations and operating manuals from manufacturers

Infection Control measures protect people in health care settings from contracting or passing on infection by:

Removing or controlling sources and reservoirs of organisms

Reducing the risk of transmission by promoting an environment where the risk of interaction between potentially infectious agents and susceptible people is minimised

Maximising host defences



Care workers should have a sound knowledge of the principles of infection control and be aware of their organisational infection control protocols.

Infection Control policies and procedures may relate to:

- Cleaning procedures and schedules
- Cleaning equipment
- Handling, storage and disposal of all types of waste
- Infection control risk management
- Infection control incident and hazard reporting

All staff employed in a health care service or facility are responsible for assisting in the control of infection by observing two levels of infection control practices – standard precautions and additional precautions.

Precaution	Explanation	Example
Standard	Basic work practices recommended for use with all clients to give the minimum level of protection for everyone (clients, staff and others)	Hand washing Immunisation of health care workers Routine environmental cleaning
Additional	Used in addition to standard practices with those clients who pose special infection risks	Infectious client is isolated, preventing transmission of the infectious agent to susceptible people in the health care setting  Appropriate signage to alert staff and visitors that they are entering an isolation area and personal protective equipment, e.g. a mask, is required

### Standard Precautions

Standard Precautions are work practices which achieve a basic level of infection control. Based on the idea that all blood and body fluids are potentially infectious, these precautions apply to the care and treatment of all clients regardless of their perceived infectious risk.

Standard Precautions should be implemented at all times as a minimum standard for infection control. These precautions include:

- Aseptic technique to reduce client exposure to microorganisms
- Hygiene practices such as hand washing
- Use of personal protective equipment
- Appropriate clinical layout and workflow
- Appropriate clinical work practices
- Protocols for waste disposal and sharps management
- Protocols for processing reusable instruments and equipment
- Appropriate practices for cleaning and maintenance of the Podiatric Clinic and equipment
- Immunisation of health care workers

(Podiatry Board of Australia, 2016; QLD Health 2016, *Diseases and Infection Prevention*).

## **Additional Precautions**

These precautions are used in addition to Standard Precautions when extra barriers are required to prevent or interrupt the transmission of specific diseases. The implementation of these strategies is intended to prevent the spread of infection to others from clients, known or suspected to be infected or colonised with infectious agents that would not be contained by standard precautions alone.

Where indicated, additional precautions your Podiatrist may ask you to observe may include:

- Isolation of the infectious client in a separate room or waiting area or alternatively placing them at the end of the treatment list
- Additional personal protective equipment, for example, masks, gloves and single use gowns
- Appropriate environmental cleaning regimes

(Podiatry Board of Australia, 2016;  
Queensland Health 2016, *Diseases and Infection Prevention*).

## **Principles of Aseptic Technique**

### **Aseptic Technique:**

- Reduces the number of infectious agents
- Prevents the transmission of infectious agents
- Renders and maintains objects and areas as free as possible from infectious agents
- May be categorised as 'clean' or 'sterile'

### **Clean Technique**

- Refers to practices that reduce the number of infectious agents
- Should be used for routine, non-invasive procedures, for example, cutting of toe nails, debridement of skin and dressing of ulcers
- Should include:
  - Personal hand washing (reduce numbers of infectious agents on the skin)
  - Personal protective equipment (e.g. gloves, to prevent transmission)
  - Cleaning procedures to prevent transmission
  - Reprocessing of instruments and equipment between uses

### **Sterile Technique**

- Practices which maintain objects and areas as free from microorganisms as possible
- Should be used for invasive procedures including surgery for ingrown toe nails

- Should include:
  - Maintenance of sterile operative field
  - Radius of operative area prepared by removal of unnecessary items and cleaning of procedural surfaces
  - Operative field covered with sterile drapes and containing only sterile instruments, dressings and medicaments

(Podiatry Board of Australia, 2016)

### Other Policies

Other policies may vary across organisations. Some examples may include, but are not limited to:

Policy	Description
Allied Health Assistant – Podiatry – Assessment and Care Planning	All consumers who are referred to the Allied Health Assistant – Podiatry service will undergo a comprehensive assessment by the Podiatrist prior to referral
Allied Health Assistant – Podiatry – Nail Clinic Eligibility and Referral	Referral to the nail clinic may be made by the Podiatrist after a podiatric assessment has been completed and they are satisfied that the consumer meets the criteria for referral





## 1.3 Organisational Practice

### Privacy and Confidentiality

Queensland Health has a longstanding commitment to ensuring the privacy and confidentiality of personal information collected. That commitment is supported by nine National Privacy Principles in the Information Privacy Act 2009 (Qld) (in relation to all personal information held) and strict confidentiality obligations found in Part 7 of the Health Services Act 1991 (Qld) (in relation to health information held) (Queensland Health, 2009).

Health workers are obligated not to disclose client information except when the information is required in the course of their professional duties. This information may include but is not limited to medical history, current treatment, and prognosis.

### Consent

Health care workers are legally required to obtain client consent prior to commencing contact. The exception to this is in the case of an emergency. Your supervising Allied Health Professional is responsible for obtaining initial client consent for treatments with which you will be assisting. In your regular contact with clients, you should routinely gain consent before assisting the client in any way.

Requirements for consent:

- Must be freely given
- Client must have legal capacity as determined by the individual's intellectual status and age – if less than 18 years of age, consent must be provided by a parent or legal guardian.
- Client is adequately informed of the nature of the procedure

### Record Keeping

Any intervention, treatment, advice, or occurrence of any kind (including indirect client contact) with or about a client must be documented within an acceptable time frame. Client record keeping must be performed in a manner consistent with your specific organisational policy and procedure. This will be in a format that is accepted and reproducible in the event of a medico-legal situation.



It is a legal requirement that all documentation is completed in black ink.

## Supervision

As a Foot Hygiene Worker, you will always work under the direction and supervision of the relevant supervising Health Professional. In most cases this will be a Podiatrist or Nurse.

Supervision, by nature, is flexible and may be conducted in a number of ways including face-to-face or through electronic communication media such as telephone, videoconference, or email.

A person under supervision does not require direct and continuous personal interaction with their supervisor. The provision of supervision will be determined by a number of factors including:

- The supervisee's familiarity with the task being supervised
- The progression of the client and the necessity to alter the treatment plan
- The need to support the development of non-clinical aspects including time management and communication skills
- Geographical factors where the supervisor and supervisee may not both be in the same place at the same time
- Organisational requirements

### Your Role in Supervision

Type	Description
Direct	You are given a task to complete. Your supervisor observes as you complete the task.
Indirect	You are given a task to complete. Your supervisor interacts with you periodically to evaluate your success with completing the task.
Delegation	You are given a task to complete and you are responsible for completing it.

On any given day, your duties may comprise a combination of these methods. As your skill and experience level increases, you may perform a greater number of tasks requiring indirect supervision or delegation (Podiatry Board of Australia, 2010).



### Case Study

Pam, an Allied Health Assistant (Podiatry), works with the multidisciplinary team in the High-Risk Foot Clinic. Sam, the supervising Podiatrist, asks Pam to remove a client's existing wound dressings, irrigating the wounds whilst doing so. While Pam is performing this task, Sam checks periodically that Pam is using the correct method of dressing removal (indirect supervision). Once the dressings have been removed and the wound has been debrided and evaluated, Sam then gives Pam step-by-step direction in the application of the new wound dressing (direct supervision). Once the new wound dressing has been applied and secured in place, Sam then asks Pam to complete the process by applying the appropriate bandaging, a task that Pam has done many times before (delegation). While Pam completes this task, Sam completes the documentation for this client.





#### Activity 4: Supervision continued

2. Provide an example from your current role where you have undergone direct supervision, indirect supervision, and delegation.

Direct Supervision	
Indirect Supervision	
Delegation	

## Key Points

Topic	Important Points	Completed
1.1 Roles and Responsibilities	Queensland Health Code of Conduct	
	Allied Health Assistant – Podiatry Role	
	Responsibility links with Allied Health Professional	
1.2 Policies and Procedures	Occupational Health and Safety	
	Infection Control	
	Organisation specific policies and procedures	
1.3 Organisational Practices	Privacy and Confidentiality	
	Consent	
	Record Keeping	
	Supervision	

My Points to Remember

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## 2. Foot Care

This topic covers information about:

- Anatomy and Physiology of the Foot
- Foot Pathology
- Treatment

Activities in this topic cover the following essential skills:

- Undertake activity analysis — breaking activities down into component parts
- Use effective observation skills
- Identify pathological nail and skin conditions
- Identify variations in podiatry conditions
- Select and implement basic foot assessment skills
- Safely and effectively use podiatry instruments
- Cut and file nails
- Safely use electrical equipment, including electric drill
- Undertake padding processes

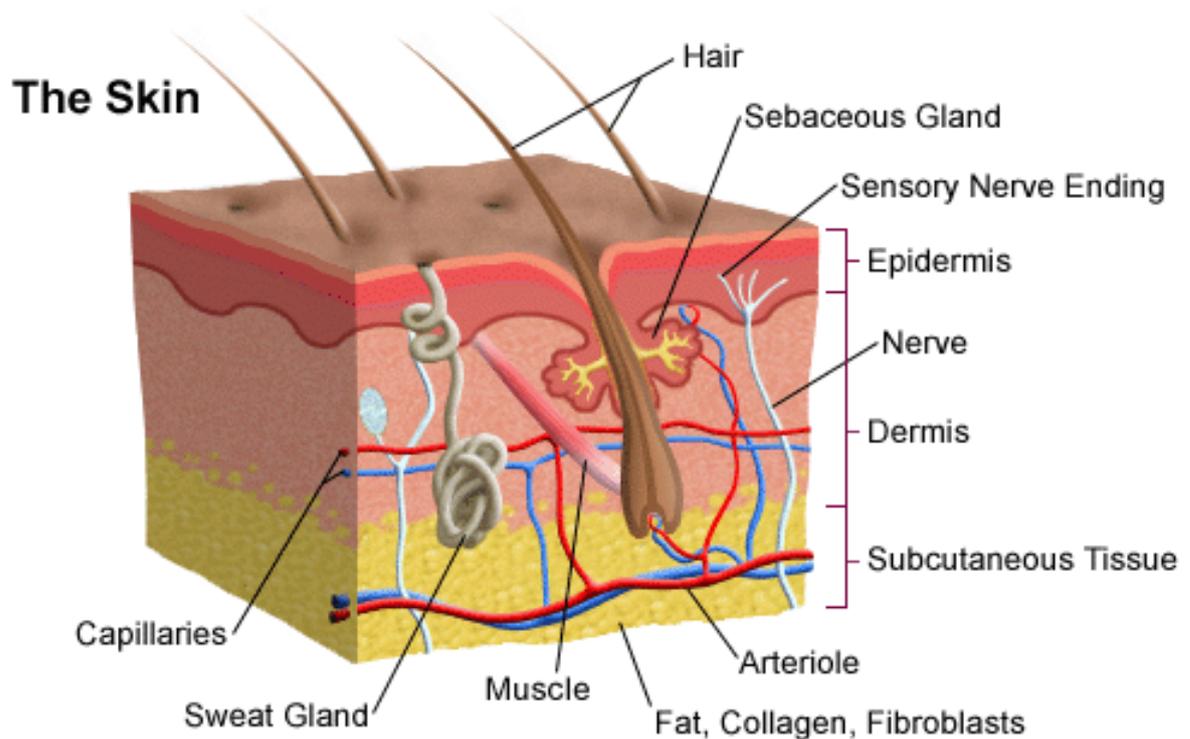
Apply wound dressing for iatrogenic wound

- Apply medicaments:
  - Emollients/moisturisers
  - Astringents
  - Antiseptics

### 2.1 Anatomy and Physiology of the Foot

The Skin

The skin, the body's largest organ, is a membrane that encloses the body. The skin is composed of two layers, the epidermis, and the dermis. These layers are joined by the dermo-epidermal junction.



**Figure 5 Anatomy of the Skin (Stanford Medicine, 2010)**

**Epidermis:**

- generally 0.06-0.15mm thick
- 'top' coat of the skin
- forms the 'intact' barrier between the body and its environment
- contains five layers of cells including keratinocytes (protein cells) and melanocytes (provide UV light protection)

**Dermis:**

- usually approximately 2-4mm thick
- makes up the bulk of the skin
- most of the appendages occur in this layer-
  - Arteries
  - Veins
  - Capillaries and Lymph vessels
  - Nerves
  - Hair Follicles
  - Sweat glands
  - Sebaceous glands

**Function of Skin**

- Prevents dehydration
- Protects against outside agents, for example, bacteria
- Regulates body temperature
- Produces Vitamin D
- Protects against damage from UV radiation
- Processes and send information via nerves



### Activity 5: Age-Related Changes to Skin

1. Compare the skin characteristics on the lower legs of three people, one from each of the age brackets listed below. Comment on your observations considering factors such as texture (thick/thin), dryness, presence of hair, presence of lesions (sores).

0-12 years	
30-45 years	
70-85 years	

2. Make some notes to discuss with your supervisor about possible aged-related changes to skin based on your observations.

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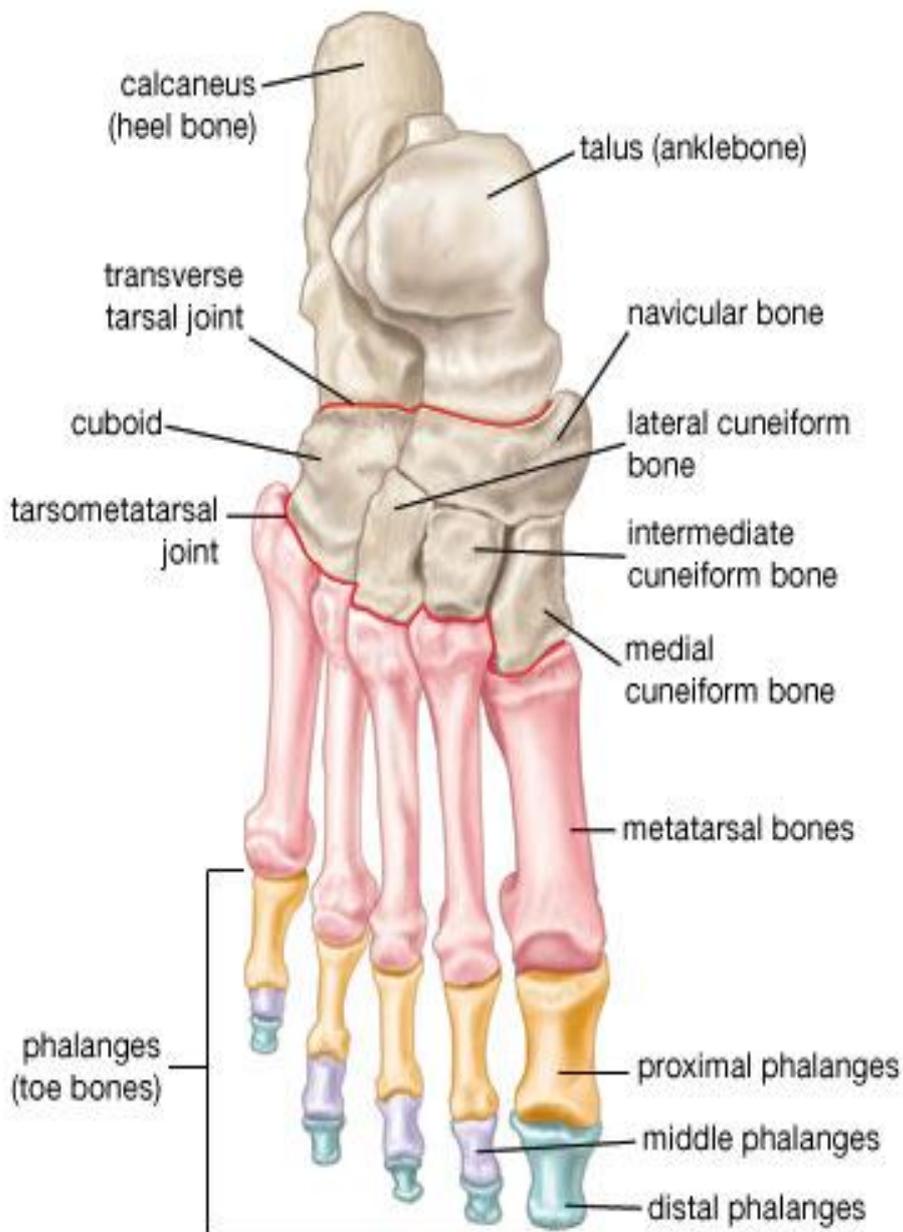
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## The Foot

Each foot has:

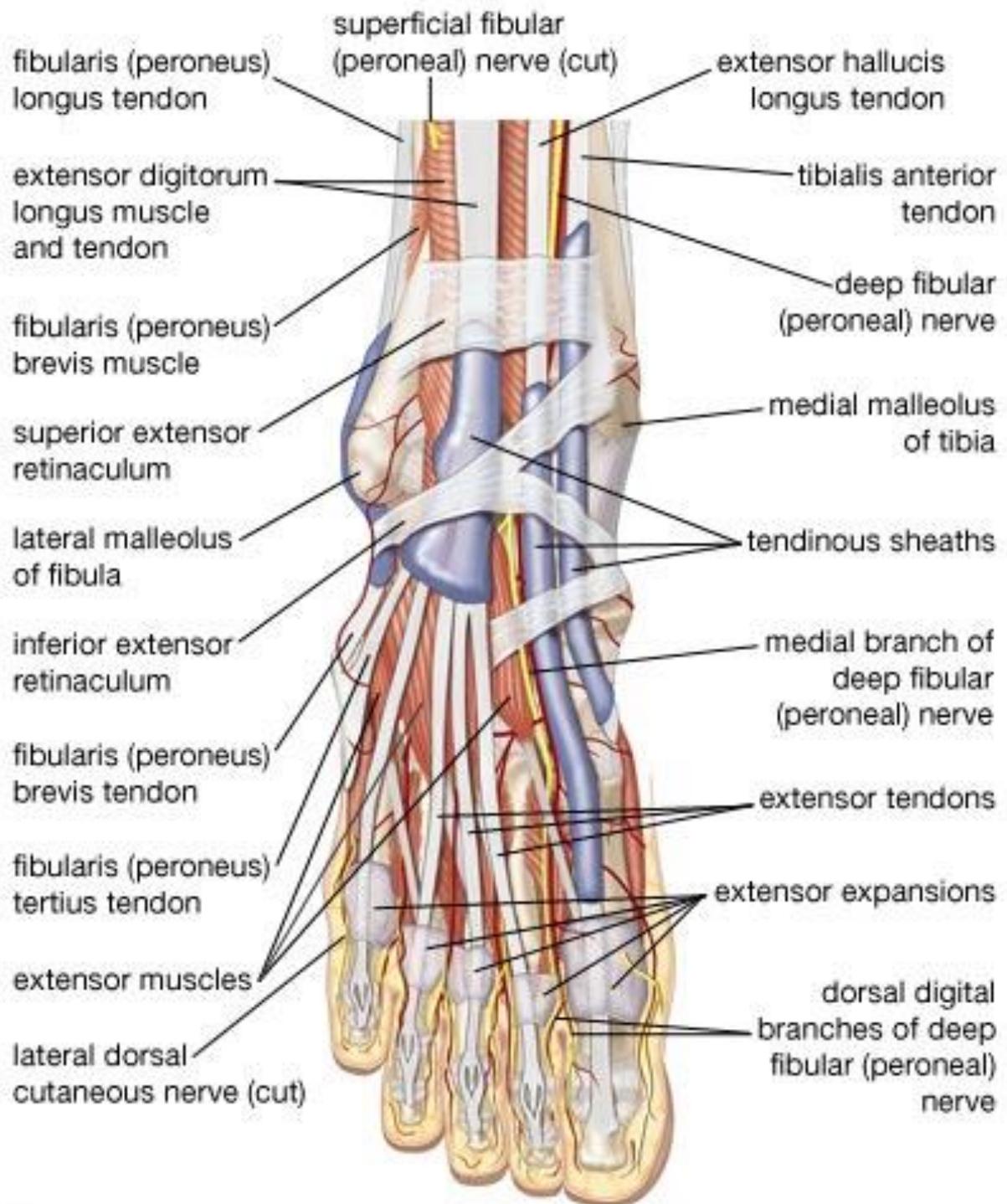
- 26 bones
- 38 joints
- 28 muscles
- Blood Vessels
- Nerves
- 150,000 skin cells
- 50,000 Sweat glands



© 2007 Encyclopædia Britannica, Inc.

**Figure 6** Bones of the Foot (Encyclopaedia Britannica, 2010)

## Muscles of the Foot



© 2007 Encyclopædia Britannica, Inc.

Figure 7 Muscles of the Foot (Encyclopaedia Britannica, 2010)

## Vascular

The body requires adequate blood flow to all areas to maintain good health and function. Oxygenated blood, which has passed through the lungs, leaves the heart through the aorta (the body's largest artery) and is then pumped throughout the body, returning to the heart via the vena cava (the body's largest vein).

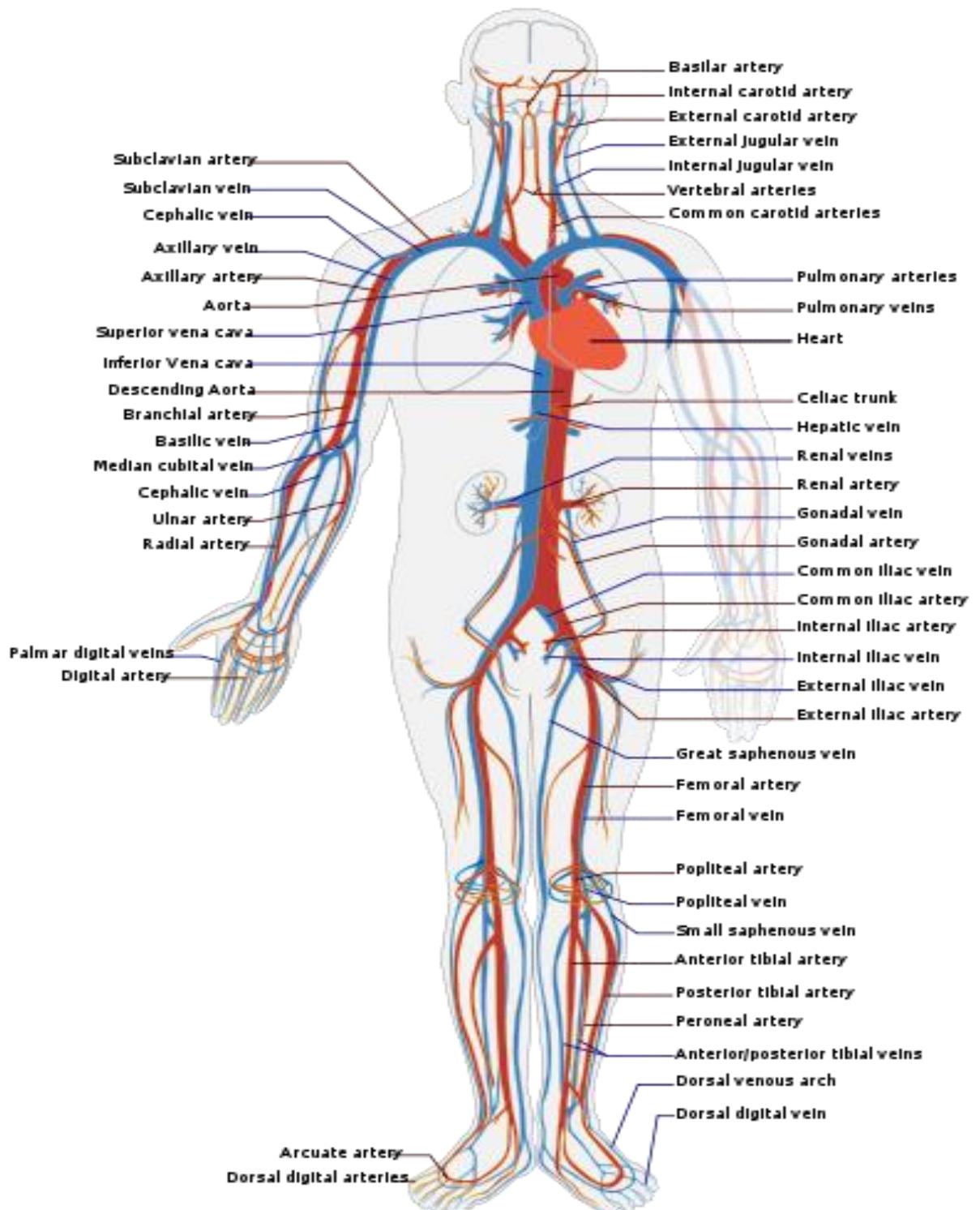


Figure 8 Human body vascular supply (Wikimedia, 2010)

The feet are supplied with blood by two main arteries:

- Dorsalis pedis (top of the foot; shown below in red)
- Posterior tibial (bottom of the foot; shown below in orange)

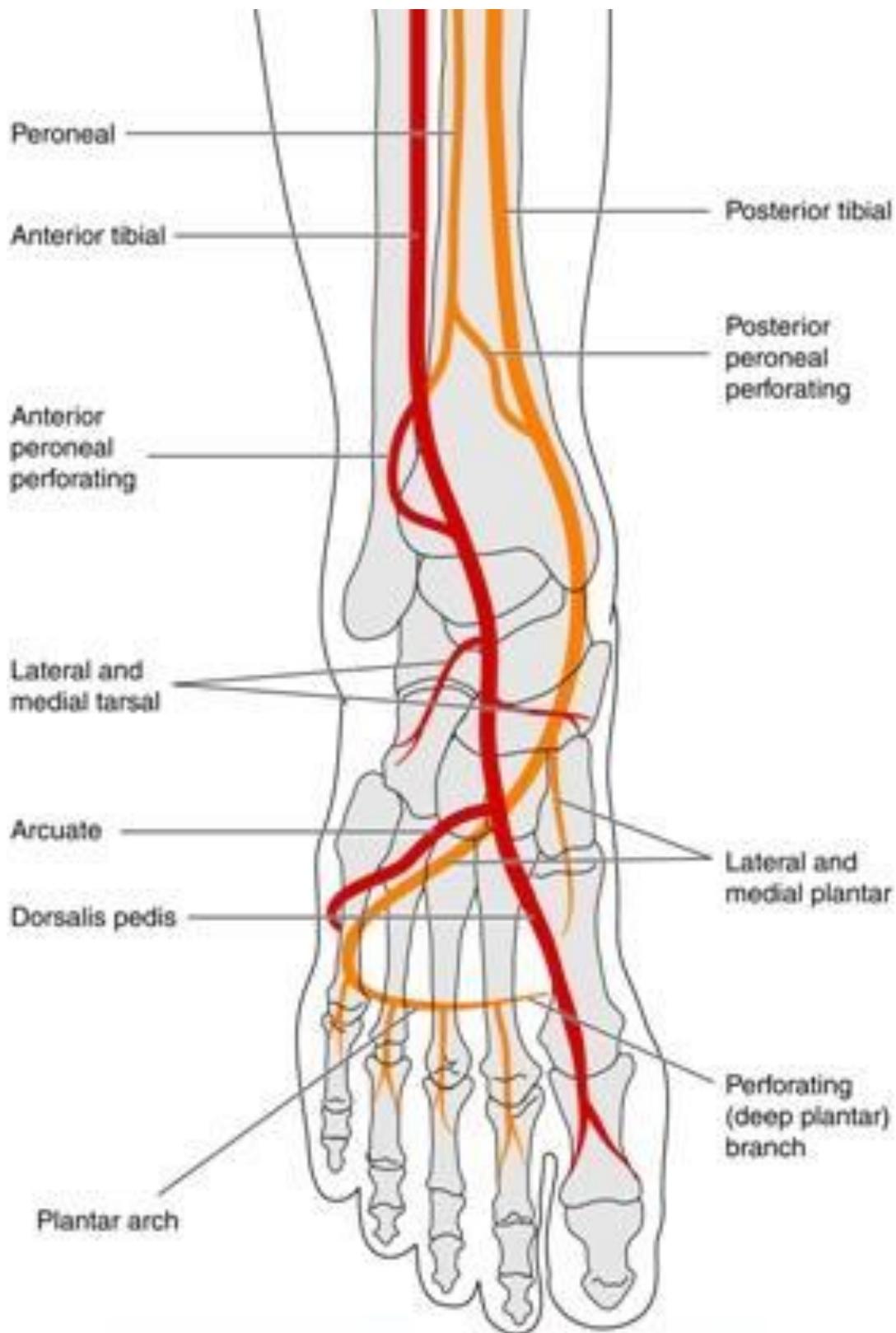


Figure 9 Blood Supply of the Foot (joint-pain-expert.net, 2010)

## Neurological

The body's nervous system can be divided into the Central Nervous System (CNS) and the Peripheral Nervous System (PNS). The CNS contains all structures lying within the central axis of the body – the brain and spinal cord. The PNS comprises the nerves that are located outside the brain and spinal cord.

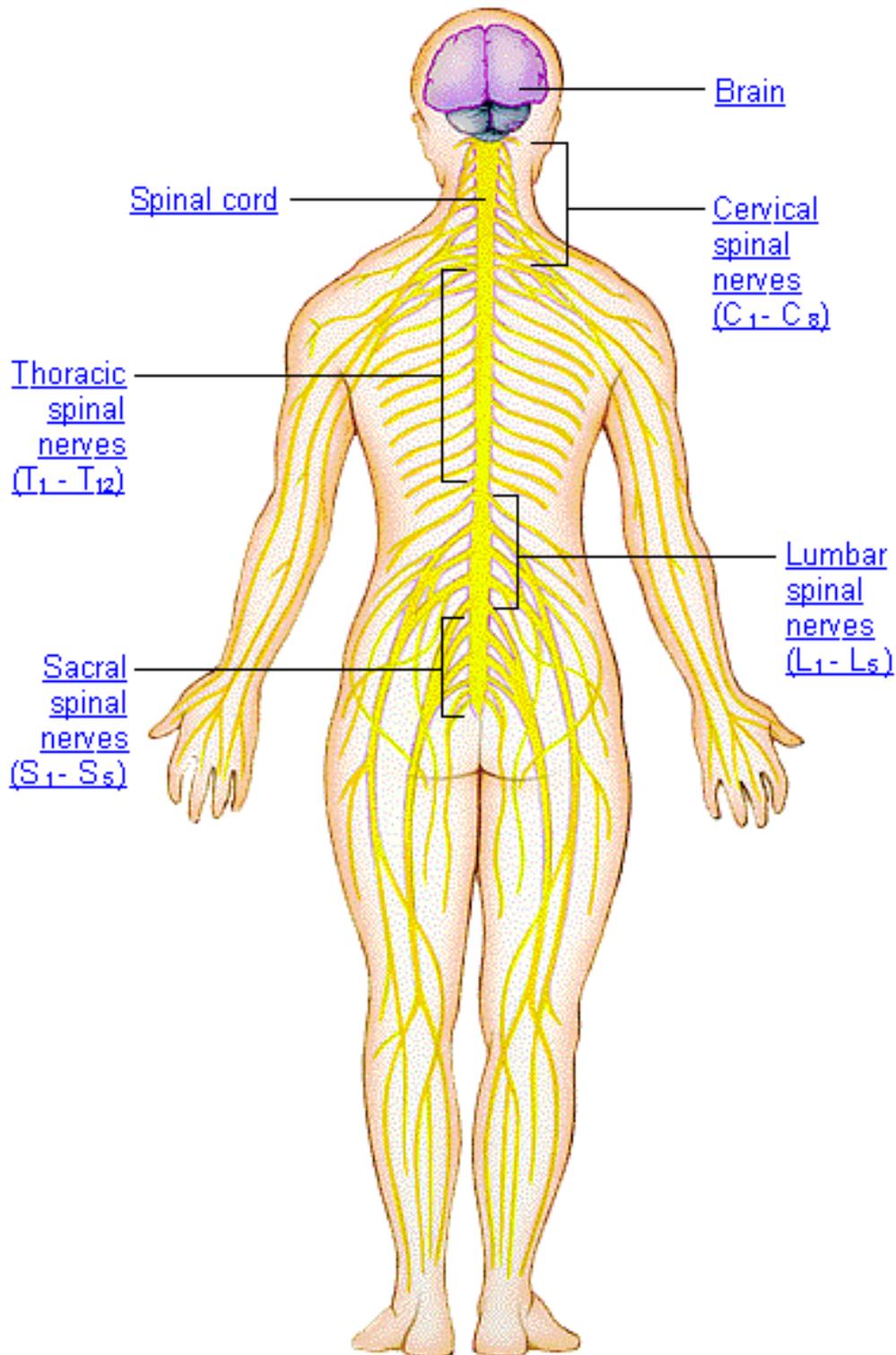


Figure 10 Human body neurological supply (Improve-Education.org, 2010)

Peripheral nerve function provides information to the brain about the external environment. Afferent nerves carry nerve impulses from receptors or sense organs towards the central nervous system and provide information about changes in touch, pressure, temperature, pain, and bodily position (also known as proprioception). Efferent nerves carry nerve impulses away from the central nervous system to effectors such as muscles or glands and provide information such as sweat glands (McLeod-Roberts: 107, 1995).



As an Allied Health Assistant, it is not necessary for you to memorise the names of all the bones, muscles, and blood vessels listed above. Your supervising Podiatrist will let you know which medical terminology you will need to know to perform your role.



### Activity 6: Relevant Medical Terminology

1. Discuss this topic with your Podiatry supervisor. Make a list below of the terminology that your supervisor recommends you be aware of.

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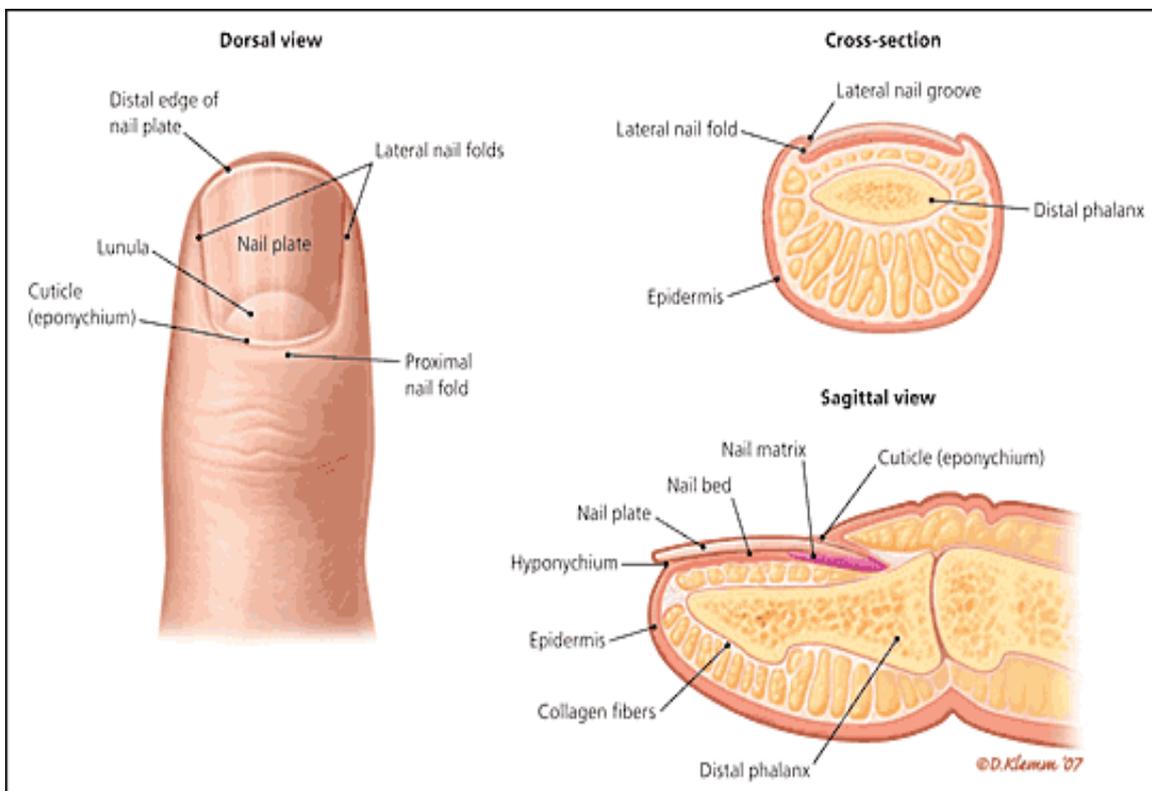
Match the terms below with their correct definitions.

Term		Definition
Aorta		Nerves located outside the brain and spinal cord
Vena Cava		Main artery supplying the bottom of the foot
Peripheral Nervous System		Carries oxygenated blood from the heart out to the body
Central Nervous System		The body's largest vein
Dorsalis pedis		The brain and the spinal cord
Posterior tibial artery		Main artery supplying the top of the foot

## The Nails

The nail complex consists of:

Nail plate	Composed of keratin
Nail bed	Attaches beneath the nail plate to stop harmful organisms from entering the nail
Nail matrix	A layer of cells under the skin at the base of the nail which produce the nail plate
Proximal nail fold	Covers the matrix
Eponychium/'cuticle'	Distal section of the proximal nail fold Stops harmful organisms from entering the nail matrix
Lunula	The white part (moon) at the base of the nail
Hyponychium	Skin located beneath the distal nail plate at the junction between the free edge and the skin of the toe Forms a seal to protect the nail bed



**Figure 11 Anatomy of the Nail (American Academy of Family Physicians, 2010)**

### **Function and Growth:**

- The function of the nail is to protect the top of the digits.
- Nails grow in response to pressure. Increased pressure leads to increased nail growth so that nails on the dominant side of the body will grow at a faster rate.
- The average toenail takes 8-12 months to grow from the cuticle to the distal edge of the nail plate.



### Activity 7: Age-Related Changes to Toe Nails

1. Compare the toe nail characteristics of three people, one from each of the age brackets listed below. Comment on your observations considering factors such as colour (e.g. pink, black, brown), shape (e.g. wide, narrow, curved) and texture (e.g. smooth, brittle, crumbly). Include diagrams to illustrate if necessary.

0-12 years	
30-45 years	
70-85 years	

## 2.2 Foot Pathology

### Disease Processes with Foot Pathologies Relevant to the Lower Limb

Certain systemic disorders or diseases may have a direct impact on the feet and lower limbs. As a result, clients with these disorders may be identified as 'high risk' from a Podiatric perspective.

As an Allied Health Assistant (Podiatry) or Foot Hygiene Worker, it is important that you have some awareness and understanding of these conditions and the related precautions that may need to be taken when interacting with clients who may have these conditions.

- Vascular disorders – arterial, venous, other
- Neurological disorders
- Bone and Joint disorders
- Endocrine e.g. Diabetes mellitus

### Vascular Disorders – Arterial

Condition	Characteristics	Typical Lower Limb Clinical Picture
Occlusive Arterial Disease	<p>Partial or complete blockage of one or more arteries</p> <p>May occur in coronary, femoral or popliteal arteries, resulting in ischaemia (inadequate blood supply to a local area)</p> <p>Blockage may be due to arteriosclerosis (hardening and thickening of the walls of the arteries) or atherosclerosis (progressive thickening and hardening of the walls of medium-sized and large arteries as a result of fat deposits on their inner lining)</p> <p>Early identification may be addressed by a vascular surgeon through coronary bypass 'stenting' or 'ballooning'</p> <p>Prognosis may improve with improvements in diet and exercise</p>	Ulceration and/or gangrene of the lower extremities may occur as a result of severe blockages
Raynauds Disease	Condition where blood vessels of fingers and toes become	Bluish coloured, painful, cold digits

	hypersensitive to temperature variations and emotional stimuli	Slow healing rates
Cerebrovascular Accident (CVA, Stroke)  (Note: see also Neurological Disorders)	Brain haemorrhage or aneurysm causing oxygen deficiency which damages brain tissue  Results in deficiencies in bodily functions	Poor healing rates as vascular supply to affected side is impaired due to muscle weakness

### Vascular Disorders – Venous

Condition	Characteristics	Typical Lower Limb Clinical Picture
Varicose Veins	Reduced venous drainage occurs due to weakness in vein walls and vein valve incompetence	Prominent tortuous (twisted) veins  Possible cyanosis or haemosiderosis
Deep Vein Thrombosis	Blockage in one (or more) of the deep veins of the body, commonly the iliac or femoral veins  May be potentially life threatening – treated with bed rest and blood thinning medication	Symptoms include pain, swelling, redness and skin discoloration
Varicose Dermatitis	May occur in association with chronic varicose veins  Itchy skin eruption	Brownish skin discoloration if long standing  Often leads to varicose ulceration with poor healing

### Other Vascular Disorders

Condition	Characteristics	Typical Lower Limb Clinical Picture
Anaemia	Iron deficient condition which results in reduced oxygen carrying capacity of blood	Generalised weakness, poor health and poor healing rates
Heart Disease	Diseased/damaged heart results in weak pumping ability  May be congenital (e.g. heart valve defect) or acquired (e.g.	Impaired healing times due to impaired lower limb circulation

	through infection such as myocarditis) May involve angina	
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(De Maria & POD in Health Training, 2010)



## Neurological Disorders

Condition	Characteristics	Typical Lower Limb Clinical Picture
Cerebrovascular Accident (CVA, Stroke)	Brain haemorrhage causing oxygen deficiency which damages brain tissue  Nerve supply to affected side is impaired	Loss of movement on one side of the body  Muscle weakness, impaired balance and reduced sensation  Speech often affected
Multiple Sclerosis	Autoimmune disease – immune system attacks central nervous system  Progressive condition of varying severity	Tremors, stiffness, muscle weakness and rigidity
Charcot-Marie-Tooth Disease	Hereditary disorder  Chronic degeneration of peripheral nerve roots resulting in muscle weakness and atrophy	Acquired foot deformities, weakness, balance problems and peripheral neuropathy
Neuropathy	Broad term to describe loss of sensation, balance, muscle strength  Multiple causes – Diabetes, alcoholism, substance abuse, spinal injury, CVA, Vitamin B deficiency in childhood, other conditions, e.g. Paraplegia, Quadriplegia, Cerebral Palsy, Complex Regional Pain Syndrome  Risk of lower limb injury is high due to reduced input from nerves	Foot pathology including ulceration as a result of lack of protective sensation  Balance problems

## Bone and Joint Disorders

Condition	Characteristics	Typical Lower Limb Clinical Picture
Osteoarthritis	<p>Also known as degenerative joint disease</p> <p>Inflammation, breakdown and eventual loss of cartilage in joints</p>	<p>Common in feet, especially with age and history of injury</p> <p>Joints become enlarged and motion is usually restricted</p>
Rheumatoid Arthritis	<p>Auto-immune disorder</p> <p>Immune system attacks the joints causing inflammation and pain</p>	<p>Many joints may be affected although commonly seen in the hands and feet</p> <p>Effects may also occur in the lungs, kidneys, eyes, skin and nervous system</p> <p>Reduced blood supply to feet and legs</p> <p>Peripheral neuropathy</p> <p>Ulceration especially in the feet</p>
Seronegative Arthritis	<p>Systemic arthritic conditions other than rheumatoid arthritis</p> <p>Psoriatic arthritis, ankylosing spondylitis, reactive arthritis</p>	<p>All conditions cause joint pain and inflammation</p>
Gout	<p>Accumulation of uric acid crystals in joints</p> <p>Results from disorder in metabolism</p> <p>Well managed by dietary changes and medication</p>	<p>Most commonly seen in 1st metatarsophalangeal joint of the foot</p> <p>Joint is intensely painful and inflamed</p>
Osteoporosis	<p>Decreased bone density resulting in structural weakness, which makes bones prone to fracture</p>	<p>Prominent in females and the elderly</p>

## Endocrine Disorders

Condition	Characteristics	Typical Lower Limb Clinical Picture
Diabetes Mellitus	<p>Group of diseases characterised by high blood glucose levels (BGLs)</p> <p>Inadequate ability to produce and/or use insulin in the metabolism of glucose</p> <p>Classified as type 1 (absence of insulin production by the pancreas) or type 2 (insulin resistance)</p> <p>Common characteristics: fluctuating blood glucose levels (BGLs - hyper/hypoglycaemia), excessive thirst/urination, sugar cravings, sudden changes in weight (at diagnosis), nausea (in some cases)</p> <p>BGLs may be controlled by modified diet, exercise, oral medication or injectable insulin</p> <p>If BGLs are not maintained at the regulated level (4-8mmol/l; HbA1c less than 7%), complications may result.</p> <p>With good control of BGLs and diligent attention to foot care, lower limb and foot complications may be minimised</p>	<p>Eyes</p> <p>Damage to retinas and cataract development may result in impaired vision</p> <p>Impaired vision reduces ability to detect injury to feet as well as perform foot care including safe toe nail cutting</p> <p>Blood Vessels</p> <p>Poorly controlled BGLs may accelerate hardening of artery walls resulting in a reduction in circulation to the lower limbs</p> <p>Reduced circulation results in reduced healing times and hence increased risk of infection</p> <p>Reduced circulation also affects skin and tissue health making resilience to pressure and friction poor</p> <p>Nervous System</p> <p>Poorly controlled BGLs may cause nerve damage resulting in loss of sensation or neuropathy especially in the feet</p> <p>Kidneys</p> <p>Often results in kidney failure (especially in Type 1 population) which requires dialysis +/- renal transplantation</p>

(De Maria & POD in Health Training 2010:21-25; Edmonds & Wall 2006: 244, 246)





## **Range of Foot Conditions**

As Podiatrists are lower limb practitioners, it is not uncommon to see a range of conditions involving structures from the hip right through to the toes.

Examples of conditions that may present:

- Plantar fasciitis
- Medial tibial stress syndrome (shin splints)
- Tibialis posterior tendon pathologies
- Hallux abductovalgus
- Patellofemoral pain syndrome
- Recurrent ankle inversion sprains
- Sinus tarsi syndrome
- Tarsal coalition
- Achilles tendinitis
- Metatarsalgia
- Bursitis
- Neuroma
- Tarsal tunnel syndrome
- Stress fractures of bones of the feet
- Pes planus
- Leg length discrepancy



### Activity 10: Other Foot Pathologies

Discuss the list of conditions on the previous page with your Podiatry supervisor. Choose three conditions from the list. Research these conditions and write a brief explanation about each one. Be sure to include signs and symptoms, how they are assessed and possible treatment options.

Condition 1:

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Condition 2:

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## Activity 10: Other Foot Pathologies

Condition 3:

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## Pathology of the Skin

Disorders of the skin may result for a number of reasons. Consequently, numerous skin conditions may exist in the lower limbs.

### Common Skin Conditions of the Lower Limbs

Condition	Description	Appearance
Fissures	In response to poor water retention in skin tissue, skin becomes hard and external pressure causes cracking or fissuring	 <p>(Podiatry and Foot Protection Program, 2010)</p>
Maceration	Water content in skin is too high resulting in loss of tensile strength  May be associated with hyperhidrosis (overly sweaty feet which perspire excessively) and/or bromidrosis (a condition caused by the presence of bacteria which results in perspiration with unpleasant odour)  (DeMaria et al 2010: 13)	 <p>(Wikivisual, 2010)</p>
Hyperkeratosis	Commonly known as callus  Yellowish plaque of hard skin  Often due to increased abnormal pressure  May be painful and cause alterations in gait  May be a precursor to ulceration in the at-risk foot  (Luck, Munro, Roberts, Springett, Thomson, O'Donnell 2006:35)	 <p>(Podiatry and Foot Protection Program, 2010)</p>

Condition	Description	Appearance
Tinea pedis	<p>Caused by dermatophytes</p> <p>Itching blister-type skin lumps which break open</p> <p>Moisture is usually a factor</p> <p>(DeMaria et al 2010: 19)</p>	 <p>(DermIS, 2010)</p>
Psoriasis	<p>Chronic inflammatory skin condition</p> <p>Most commonly distinct, itchy patches of thick, scaly, red skin</p> <p>Prominent on elbows, knees, scalp and feet (including toe nails)</p> <p>(Luck et al 2006: 37)</p>	 <p>(DermIS, 2010)</p>
Verrucae	<p>Known as Plantar warts</p> <p>Caused by the Human Papilloma Virus (HPV)</p> <p>Often don't cause the client any concern</p> <p>Will disappear once the body's immune system recognises the virus</p> <p>(Luck et al 2006: 31)</p>	 <p>(DermIS, 2010)</p>
Ulcers	<p>Occur where the body's ability to heal damaged skin is impaired</p> <p>May be of varying size and depth</p> <p>Infection is often a concern</p> <p>(Luck et al 2006: 25)</p>	 <p>(Podiatry and Foot Protection Program, 2010)</p>



### **Activity 11: Pathologies of the Skin**

Choose two skin conditions of the previous pages. Research possible treatment options and record them below. Discuss your findings with your Podiatry supervisor and add any further relevant information.

Condition 1:

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Condition 2:

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## Pathology of the Nails

Nails are often the first visible site of disease and changes in nail appearance can demonstrate underlying disease. In the event of serious illness or trauma, nail growth may slow or stop until improvements in health occur. There are a wide range of nail pathologies, the most common of which are listed below.

### Common Nail Disorders

Condition	Description	Appearance
Onychocryptosis	<p>'Ingrown toenail'</p> <p>A spike or serrated edge of the nail pierces the adjacent skin</p> <p>Causes acute inflammation and often infection</p> <p>Most common in the hallux</p> <p>(Johnson 2006: 77)</p>	 <p>(EPodiatry.com, 2010)</p>
Onychauxis	<p>Abnormal thickening of nail increasing from the nail base to the free edge</p> <p>Occurs due to nail matrix damage, from numerous causes e.g. single trauma from heavy blow or repeated trauma from ill fitting footwear</p> <p>(Johnson 2006: 80)</p>	 <p>(Achilles Foot Health Centre, 2010)</p>
Onychogryphosis	<p>'Ram's horn nail'</p> <p>Abnormal nail thickening and gross deformity which develops a curved or ram's horn shape</p> <p>Often related to poor foot care practices (lack of nail cutting)</p>	 <p>(Podiatry and Foot Protection Program, 2010)</p>
Onychomycosis	<p>Fungal infection of the nail bed and nail plate</p> <p>Cause is often difficult to isolate</p>	

however poor foot hygiene is frequently an issue

Treatment may be with antifungal agents which are applied to the nails or with GP prescribed medication

Treatment must also include precautions to reduce the possible spread of the infection via towels, socks and footwear

(Johnson 2006: 86)



(DermIS, 2010)



## 2.3 Treatment

Podiatrists, Allied Health Assistants, Foot Hygiene Workers, and other health workers involved in client care may undertake basic client foot examinations in order to:

- Identify active foot problems
- Identify the 'high risk' foot
- Aid in the prevention of foot ulcerations, gangrene and amputation
- Assist in the maintenance of mobility, independence and a healthy, active lifestyle



Appendix B provides an example of a Basic Foot Screening Checklist.

### The Basic Foot Examination

1. Ask the Client about:

Neuropathic Symptoms	Intermittent Claudication	Previous Foot Ulcer/ Amputation
Numbness Tingling Burning Shooting pain Deep bone ache Feeling of 'Creeping ants' May be worse at night or with unstable blood glucose levels (if diabetic)	'Sharp, cramping-like' muscle pain with exercise or walking a certain distance	Greater risk of further problems – 60% chance of further ulceration

2. Look at both feet for:

Infection	Ulceration	Corns and Callus
Redness, warmth, discharge, swelling, pain Usually accompanied by elevated blood glucose levels (if diabetic) May spread rapidly – signs	Non-healing wounds Look especially at pressure areas, for example, tips of toes, ball of the foot, heels May be present beneath	May indicate presence of ulcers, especially in the neuropathic foot Result of abnormal pressure on feet Early treatment and

Infection	Ulceration	Corns and Callus
visible across the foot or up the leg	callus and corns	pressure relief prevents ulceration
Skin Breaks	Nail Disorders	Deformity
Possible area of entry for bacteria and therefore infection Check between toes and around heels especially Note skin which is excessively dry or moist	Thickness Discoloration Infection General condition	Previous amputations Bony deformities Irregular foot shape

3. Check Foot Pulses – Dorsalis Pedis and Posterior Tibial arteries.

To obtain a quick gauge of the blood supply status in the foot, the pulses of these arteries may be felt in the following manner utilising the 2nd and 3rd finger tips (avoid using the thumb as it has its own pulse):

- Dorsalis pedis artery

Located on the top of the foot, usually in-line with the 2nd toe, back towards the ankle.



**Figure 12** Dorsalis pedis pulse (Podiatry and Foot Protection Program, 2010)

- **Posterior tibial artery**

Located on the inside ankle, approximately half way between the ankle bone and the back of the heel.



**Figure 13** Posterior tibial pulse (Podiatry and Foot Protection Program, 2010)

Both pulses may be graded between 0 and 3 plus (+++):

- 0 = absent
- + = faint
- ++ = within normal limits
- +++ = bounding



Absent or bounding pulses may be considered risk factors for complications such as peripheral vascular disease and may require further investigation as determined by the Podiatrist.

#### 4. Test for Neuropathy - Assessment of Nerve function

Nerve function status may be assessed in a number of ways. One method of testing evaluates the pain receptors and assesses for the presence of 'protective sensation' or the ability to feel painful things in contact with the feet.

## Testing instrument

10 gram Semmes Weinstein monofilament



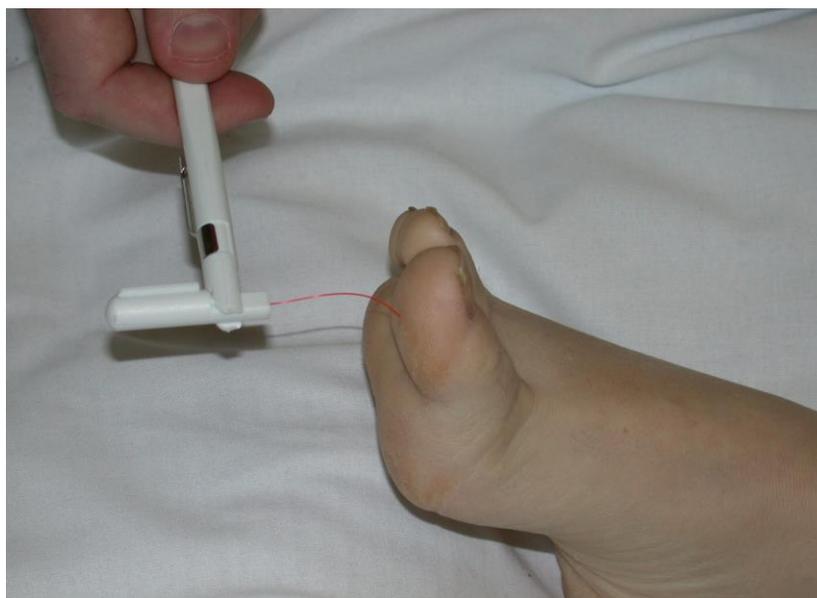
**Figure 14** Semmes Weinstein monofilament (Briggate Medical Company, 2010)

## Testing technique

Apply the monofilament perpendicular to the skin surface with sufficient force to cause the filament to bend and then release

The approach, skin contact and removal of the monofilament should be approximately 1.5 seconds duration

Do not allow the monofilament to slide across the skin or make repetitive contact at the test site



**Figure 15** Monofilament testing (Podiatry and Foot Protection Program, 2010)

## Test site

The test may be conducted at a number of sites but should always include the base of the 1st and 5th toes on the plantar surface of the foot.



Figure 16 Monofilament testing sites (Podiatry and Foot Protection Program, 2010)

## Testing Procedure

- Test first at a site with normal sensation – away from the feet (for example, the hands) so that the client is aware of what they should be able to feel
- Use the concept of ‘forced choice’ as you press the monofilament to the skin on one of the two occasions as you say ‘first time’ or ‘second time’. This prevents the client from being able to give the answer he or she may believe that you would like to hear.
- Ask the client to identify on which occasion they felt the monofilament
- Randomise the sequence of application of the monofilament during the examination

## Test Outcome

A client who is unable to feel the 10 grams of pressure at any site is then considered at ‘high risk’ of lower limb complications due to the potential for unknown injury



5.07 Monofilaments have a certain usefulness in testing for the presence of protective sensation. After 100 uses, it is important to ensure a 24 hour rest period before recommencing use (Booth & Young, 2000). In addition, Yong et al (2000) found that filament force is permanently reduced after 500 uses.

## 5. Assess Footwear

Style	Condition	Fit
Needs to suit activity for which it is worn Best to have a fastening mechanism such as laces, Velcro or buckles Should ideally be leather (not synthetic)	Does the footwear protect the feet? Is it worn, full of holes and falling apart?	The shoe must fit the foot 3 ways – length/width/depth If the shoes do not fit well, they should not be worn Poor fitting footwear can cause problems such as blisters, which may ulcerate, especially in the person with sensory loss

## 6. Assess Education Need

Does the client understand the existing and potential effects of their health conditions on their foot health?

Can the client identify appropriate foot care practices?

Are the client's feet adequately cared for?

## 7. Assess Self Care Capacity

Does the client have impaired vision?

Can the client reach his or her own feet for safe self-care?

Are there other factors influencing the client's ability to safely care for their own feet?



### **Activity 13: Conduct a Basic Foot Examination**

Under the direction of your Podiatry supervisor and using the Basic Foot Examination instructions, use the Basic Foot Screening Checklist in Appendix B to conduct and record a Basic Foot Examination on a client. Attach a copy of your completed checklist to this page.

## Provision of Foot Care

Your provision of foot care to clients requires that you use a range of specialist equipment. Each of these items of equipment has a particular function and it is important that your supervising Podiatrist adequately demonstrates the function of each item to you before you use it. It is essential that you always observe appropriate Workplace Health and Safety guidelines when using this equipment.

### Instruments

- Nail clippers (single or double action)
- Diamond Dust nail file/Foot file (20x2.5cm)
- Electric Podiatry drill

<p><b>Figure 17</b>      <b>Double Action Nail Clippers</b> (Briggate Medical Company, 2010)</p>	 A pair of double-action nail clippers, featuring a large, curved handle and a smaller, curved handle. The clippers are made of polished metal and have a sharp, pointed tip. A smaller, detailed view of the cutting edge is shown to the right.
<p><b>Figure 18</b>      <b>Single Action Nail Clippers</b> (Briggate Medical Company, 2010)</p>	 A pair of single-action nail clippers, featuring a large, curved handle and a smaller, curved handle. The clippers are made of polished metal and have a sharp, pointed tip. A smaller, detailed view of the cutting edge is shown to the right.
<p><b>Figure 19</b>      <b>Diamond Dust Nail File/Foot Dresser</b> (Briggate Medical Company, 2010)</p>	 A long, rectangular, light-colored diamond dust nail file or foot dresser. It has a smooth, slightly textured surface and a rounded end.

**Figure 20 Podiatry Drill**  
(Briggate Medical Company, 2010)



### Toenail Care

1. Observe Standard Precautions as per organisational Infection Control guidelines (and Additional Precautions if necessary)
2. Ensure you and the client are positioned comfortably and safely (refer to Section 1.2)
3. Hold clippers in one hand with the flat edge away from you
4. Hold the toe at the distal joint between your thumb and middle finger



**Figure 21 Hand and nail clipper positioning (Podiatry and Foot Protection Program, 2010)**

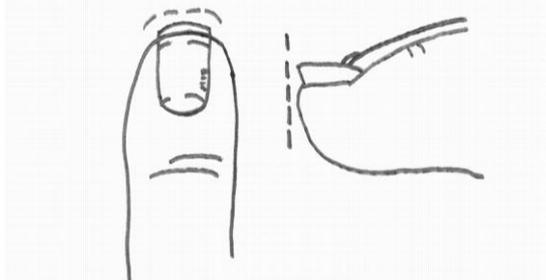
5. Place clippers with  $\frac{1}{4}$  (smaller toes) or  $\frac{1}{2}$  (big toe) of width of nail in clippers
6. Place index finger over clipper blades - this will prevent any nail going astray
7. Close clippers, then repeat process until you have the entire nail cut



**Figure 22 Nail clipper positioning (Podiatry and Foot Protection Program, 2010)**

8. Repeat the process until you have all nails cut
9. Use the file to smooth off any rough or sharp areas especially at the corners of the nails. File in one direction, away from the client's body. Alternatively, a Podiatry drill may be utilised to file the client's nails.

Follow the curve of the nail      File even with the end of the toe



**Figure 23 Correct nail filing technique (Podiatry and Foot Protection Program, 2010)**

Do not file into corners      Do not file shorter than end of toe



**Figure 24 Incorrect nail filing cutting technique (Podiatry and Foot Protection Program, 2010)**



**Important points:**

Avoid trying to cut the entire nail in one cut as this will cause significant discomfort to the client.

Nails should always be cut straight across and the edges filed

Cut nails in line with the white line – this will ensure that nails are not cut too short

Avoid probing or cutting down the edges of the nails – this will cause ingrown toenails

Sometimes it is necessary to cut down the side of a nail, for example, with an ingrown nail. This should only be performed by a Podiatrist (refer to Section 2.2)



**Figure 25** Correct nail cutting length (Podiatry and Foot Protection Program, 2010)



### Activity 14: Nail Care

1. Familiarise yourself with the nail care equipment available for use in your work setting. Make a list of this equipment below.

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2. Observe a nail cutting demonstration conducted by your Podiatry supervisor. Note any important points or observations below including the safety aspects of the demonstration such as during the use of the Podiatry drill.

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3. Under the direction of your Podiatry supervisor, provide nail care for a client. Once you have completed the task, reflect on this, and record your reflections below. You may find the following prompts useful: Which aspects were easy/more difficult? What did you need to be reminded to do? What would you perhaps do differently next time?

Activity continues on the following page



## Padding Processes

Padding helps with resolving foot problems by correcting, deflecting, and/or cushioning. Padding may be used in a short-term capacity or as a trial with a view to more permanent arrangements such as orthoses or pressure-relieving insoles.

There are a range of types of temporary padding materials, the majority of which are adhesive-backed so they may be attached either to the foot or into the shoe. Temporary padding may come in the form of wool felt (known as semi-compressed felt) of differing thicknesses or in polyurethane foam form (O'Donnell, Lorimer, Skinner, Forster & Ahmad 2006:451).



**Figure 26**      **Semi-compressed felt**  
(Briggate Medical Company, 2010)

**Figure 27**      **Polyurethane foam**  
(Briggate Medical Company, 2010)

Temporary padding is cut into shape using sharp scissors. The shape and positioning of the padding depends on the site of the problem and the intended goal of the padding. Figure 28 shows temporary semi-compressed felt padding applied to a foot to reduce pressure at the 1st and 5th plantar metatarsal areas.



**Figure 28** Temporary padding (Podiatry and Foot Protection Program, 2010)

**Padding Application Process:**

1. It is important to first ensure that the client has no allergies to adhesive tapes. This can be done by either the supervising Podiatrist or by you.
2. The supervising Podiatrist should then identify with you the approximate position and the purpose of the required padding.
3. Estimate the size of the padding required and cut the material to the appropriate shape
4. Bevel the edges of the pad at a 45° angle on all edges
5. Apply the padding in the prescribed location
6. Stick hypoallergenic tape over the padding to ensure that it remains in place
7. Advise the client about any potential reactions to the padding materials, for example, itching. Should this happen, the client should gently remove the padding immediately, wash the area with warm, soapy water and seek medical advice.

**Wound Dressings for Wounds Occurring in the Course of Treatment**

During the course of your treatment, you may, from time to time, cause minor disruption to the top layers of the skin. This will require a dressing plan until the site heals.

### Applying Wound Dressings:

1. Ensure blood flow at the site stops by applying firm pressure to the site with a piece of sterile gauze.
2. Flush the site with sterile saline or sterile water.
3. Apply an antiseptic.
4. Cover the wound with a sterile dry dressing.
5. Instruct the client in the care of the wound.
6. Document the procedure and the instructions given.





## **Medicaments**

Your supervising Podiatrist will advise you when and if medicaments are to be applied by you, and will instruct you in their use.

## **Emollients/Moisturisers**

- Used for dry skin
- Provides an oily layer on the surface of the skin to retain moisture
- Most effective when applied directly after washing the skin as at this time, the skin will have a high moisture content which can be retained (O'Donnell et al 2006:453)
- Some emollients contain active ingredients such as urea. These ingredients are intended to address the dryness more effectively and efficiently
- When applying emollient to a client's feet, ensure that the emollient is not applied between the toes as this may cause maceration (softening and whitening of skin that is kept constantly wet)
- Take care following emollient application, ensuring that the client does not slip when standing up

## **Astringents**

- Utilised to improve skin integrity
- Assist with the prevention of problems such as fissuring and blistering which have the potential to lead to bacterial or fungal infection
- An example of astringent use would be the application of an alcohol based preparation such as methylated spirits between the toes to prevent maceration

## **Antiseptics**

- Destroy microorganisms to prevent infection
- Podiatrists have access to a range of antiseptics which may be applied to the skin and nails for short term results. Examples include povidone, iodine and tea tree oil.



### Activity 16: Medicaments

In the table below, list below the various medicaments and their uses which are available in your workplace. Outline how they are applied.

Emollients/Moisturisers	
Astringents	
Antiseptics	

## Key Points

Topic	Important Points	Completed
2.1 Anatomy and Physiology of the Foot	<ul style="list-style-type: none"> <li>• The Skin</li> <li>• Anatomy</li> <li>• Function</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Foot</li> <li>• Anatomy</li> <li>• Physiology – Vascular</li> <li>• Physiology – Neurological</li> </ul>	
	<ul style="list-style-type: none"> <li>• The Nails</li> <li>• Structure</li> <li>• Function</li> <li>• Growth</li> </ul>	
2.2 Foot Pathology	<ul style="list-style-type: none"> <li>• Disease Processes with Foot Pathologies relevant to the Lower Limb</li> <li>• Vascular disorders – Arterial</li> <li>• Vascular disorders – Venous</li> <li>• Other vascular disorders</li> <li>• Neurological disorders</li> <li>• Skeletal disorders</li> <li>• Diabetes</li> </ul>	
	<ul style="list-style-type: none"> <li>• Foot Pathology</li> </ul>	
	<ul style="list-style-type: none"> <li>• Pathology of Skin</li> </ul>	
2.3 Treatment	<ul style="list-style-type: none"> <li>• Principles of Foot Hygiene</li> <li>• The Basic Foot Examination</li> <li>• Provision of Foot Care</li> </ul>	
	<ul style="list-style-type: none"> <li>• Standard Precautions</li> </ul>	
	<ul style="list-style-type: none"> <li>• Additional Precautions</li> </ul>	
	<ul style="list-style-type: none"> <li>• Principles of Aseptic Technique</li> </ul>	
	<ul style="list-style-type: none"> <li>• Functions of Medicaments</li> </ul>	

## My Points to Remember

A large, empty rectangular box with a thin black border, intended for the learner to write their key points to remember.

### 3. Service Delivery

This topic covers information about:

- Podiatry Interventions
- Client Care
- Monitoring Requirements

Activities in this topic cover the following essential skills:

- Identify situations and conditions requiring referral to a Podiatrist
- Use effective observation skills
- Maintain accurate records
- Communicate effectively with clients
- Work effectively with non-compliant clients
- Apply time management, personal organisation skills and establish priorities

### 3.1 Podiatry Interventions

Certain bodily disorders or diseases may have a direct impact on the feet and lower limbs. As a result, clients with these disorders may be identified as 'high risk' from a Podiatric perspective. Foot Hygiene Workers and Allied Health Assistants are not expected to perform foot skin and nail care on these clients, although low risk interaction, such as fabrication of padding, may occur from time to time in the course of assisting the treating Podiatrist.

It is important, however, that you have some awareness and understanding of these conditions and the related precautions that may need to be taken when interacting with clients who may have these conditions. This will enable you to identify previously low-risk clients whose medical status has changed between visits.

There is no expectation that you would need to diagnose certain conditions, rather that you are aware of them and can act on your observations should this be necessary.



Should you identify a change in a client's situation, it is imperative that you record your concerns in the client's chart as well as reporting them to the Podiatrist or other health care professional involved in the client's care. Prompt and effective action is imperative to prevent possible further or irreversible deterioration in a client's condition (DeMaria & Pod in Training 2009:62).

## 3.2 Client Care

Effective communication with clients is the cornerstone of successful treatment outcomes. Bates, (1995, in Burrow 2006:2) suggests that this communication may take numerous forms:

- Facilitation – actions, postures or words which communicate your interest in the client
- Reflection – a word or phrase that the client used is repeated back to them
- Clarification – requesting that the client gives more meaning to what they said
- Empathy – recognise the feelings of the client through your words or actions
- Interpretation/Paraphrasing – put into your own words what you have deduced or interpreted from what the client has said. This ensures no misunderstanding.

Successful communication with clients goes hand-in-hand with effective observation skills. Your observations will assist you to build a broader picture based on the information the client has verbally given you. Whilst you will be looking for relevant signs and symptoms, it is also important to pay close attention to body language as well as other factors such as the client's state of mind, appearance, and general awareness.

Throughout your time as an Allied Health Assistant or Foot Hygiene Worker, you will occasionally encounter a client who chooses not to engage with the treatment plan offered to them. In these situations, the following points may be useful:

- Ensure you provide education to the client that is relevant to them personally; for example, if they don't enjoy reading, avoid giving written information to them
- Try wherever possible to see the situation through the eyes of the client. This may give you some perspective regarding their choices
- Explain the need for the client to engage in their own health care
- Document all occurrences regarding the client in the client's health chart

In order to perform your role to the best of your ability, it is important that you are able to manage time well, are personally organised and are able to establish priorities. Be aware of the need to adhere to the time constraints of appointment lengths, ensuring that you effectively cover all required aspects of the client's care in an efficient and organised manner.

### 3.3 Monitoring Requirements

#### Case Records

Set out, in accessible form, the progress of the management of the case

Should be completed immediately after treatment has been completed

Detail all that has occurred in each treatment

Format should be adequate for full reporting

If well maintained, provide value in the context of allegations of malpractice

Should be stored in a safe and secure place

(O'Donnell et al 2006: 452)



#### Documentation Points to remember:

If handwritten, must be in black ink and legible

Should include date and time

Should be brief yet factual including all aspects of the treatment episode

Should indicate that consent was obtained from the participant (or their legal guardian if less than 18 years of age or intellectually impaired)

Correct mistakes by putting one line through the error and adding your initials next to it. Avoid trying to remove the mistake completely.

Abbreviations should only be used if they are part of an accepted and published norm

Guidelines for allied health assistants documenting in health records has been developed by Queensland Health. This may be viewed at the following link:

<https://www.health.qld.gov.au/ahwac/docs/aha/ahadocguide.pdf>

(Queensland Health, 2016)







## Key Points

Topic	Important Points	Completed
3.1 Podiatry Interventions	Identify situations and conditions requiring referral to Podiatrist	
3.2 Client Care	Communicate effectively with clients	
	Use effective observation skills	
	Work effectively with non-compliant clients	
	Apply time management, personal organisation skills and establish priorities	
3.3 Monitoring Requirements	Case Records	

### My Points to Remember

## SELF-COMPLETION CHECKLIST

Congratulations you have completed the topics for Podiatry Learner Guide: Assist with basic foot hygiene.

Please review the following list of knowledge and skills for the unit of competency you have just completed. Indicate by ticking the box if you believe that you have covered this information and that you are ready to undertake assessment.

### Assist with basic foot hygiene

Essential Knowledge	Covered in topic
Roles, responsibilities and limitations of self and other allied health team members and nursing, medical and other personnel	<input type="checkbox"/> Yes
Relevant organisation policies and procedures	<input type="checkbox"/> Yes
OHS policy and procedures	<input type="checkbox"/> Yes
Infection control protocols	<input type="checkbox"/> Yes
Standard precautions	<input type="checkbox"/> Yes
Privacy and confidentiality requirements	<input type="checkbox"/> Yes
Supervisory and reporting protocols	<input type="checkbox"/> Yes
Record keeping requirements	<input type="checkbox"/> Yes
Structure and functioning of the skin and integuments	<input type="checkbox"/> Yes
Basic anatomy and physiology of the foot and basic understanding of foot pathology	<input type="checkbox"/> Yes
Pathology of nails	<input type="checkbox"/> Yes
Conditions treated by a Podiatrist	<input type="checkbox"/> Yes
Principles of foot hygiene	<input type="checkbox"/> Yes
Principles of aseptic technique	<input type="checkbox"/> Yes

Essential Knowledge	Covered in topic
The function of medicaments: <ul style="list-style-type: none"> <li>• Emollients/moisturisers</li> <li>• Astringents</li> <li>• Antiseptics</li> </ul>	<input type="checkbox"/> Yes
Disease processes relevant to the client group/s	<input type="checkbox"/> Yes
Client care plans, goals and limitations of podiatry intervention	<input type="checkbox"/> Yes
Medical terminology	<input type="checkbox"/> Yes

## WORKPLACE OBSERVATION CHECKLIST

Assessor to date and sign (draft only, please record in the Assessment Guide).

Essential Skills and Knowledge The learner demonstrates the following skills and knowledge	1 <sup>st</sup> observation date & initial	2 <sup>nd</sup> observation date & initial	Comments	*FER
Undertake activity analysis — breaking activities down into component parts				
Cut and file nails				
Safely use electrical equipment, including electric drill				
Select and implement basic foot assessment skills				
Identify pathological nail and skin conditions				
Identify variations in podiatry conditions				
Identify situations and conditions requiring referral to a Podiatrist				
Undertake padding processes				
Apply wound dressing for iatrogenic wound				
Use effective observation skills				
Work under direct and indirect supervision				
Communicate effectively with clients, supervisors, and co-workers				
Work effectively with non-compliant clients				

Operate within OHS and infection control requirements				
Apply time management, personal organisation skills and establishing priorities				
Maintain accurate records				
Understanding structure and functioning of the skin and integuments				
Apply knowledge of basic anatomy and physiology of the foot and basic understanding of foot pathology				
Apply the principles of foot hygiene, aseptic technique and standard precautions				
Apply medicaments: emollients astringents moisturisers antiseptics				
Follow relevant organisation policies and procedures including OHS and infection control protocols				
Demonstrate knowledge of disease processes relevant to the client group/s				
Demonstrate knowledge of client care plans, goals and limitations of podiatry intervention				
Use medical terminology				
Demonstrate knowledge of roles, responsibilities and				

limitations of self and other allied health team members and nursing, medical and other personnel				
Follow privacy and confidentiality requirements				
Comply with supervisory and reporting protocols				

\*FER – Further Evidence Required

# Appendices

## Appendix A: Example of Basic Foot Screening Checklist



National Association of Diabetes Centres

Australasian Podiatry Council



### Basic Foot Screening Checklist

<b>1. Ask the patient</b>	neuropathic symptoms	Y	N	
	intermittent claudication		Y	N
	previous foot ulcer	Y	N	
	amputation	Y	N	
specify SITE _____		DATE ____ / ____ / ____		

<b>2. Look at both feet</b>	infection	Y	N
	ulceration	Y	N
	calluses or corns	Y	N
	skin breaks	Y	N
	nail disorders	Y	N
	foot deformity	Y	N

		LEFT		RIGHT	
<b>3. Check foot pulses</b>	Dorsalis pedis	Y	N	Y	N
	Posterior tibial	Y	N	Y	N
		LEFT		RIGHT	
<b>4. Test for neuropathy</b>	Monofilament	Y	N	Y	N
	<i>detected at sites marked - o</i>				



<b>5. Assess footwear</b>	<b>style</b>	Good	Poor
	<b>condition</b>	Good	Poor
	<b>fit</b>	Good	Poor

<b>6. Assess education need</b>	<i>Does the patient understand the effects of diabetes on foot health?</i>	Y	N
	<i>Can the patient identify appropriate foot care practices?</i>	Y	N
	<i>Are the patient's feet adequately cared for?</i>	Y	N

<b>7. Assess self care capacity</b>	<i>Does the patient have impaired vision?</i>	Y	N
	<i>Can the patient reach own feet for safe self care?</i>	Y	N
	<i>Are there other factors influencing ability to safely care for own feet?</i>	Y	N

**All people with diabetes need to have their feet screened with these 7 simple steps every 12 months or more often if problems are identified**

National Diabetes Foot Screening Project  
January 2004



## GLOSSARY

Word	Definition
Aneurysm	Localised dilation of the wall of a blood vessel; usually caused by atherosclerosis and hypertension, common in the lower limbs especially the popliteal arteries of the older population.
Arteriosclerosis	Narrowing of the arterial diameter due to thickening of arterial wall coupled with loss of elasticity
Atherosclerosis	Accumulation of fats on internal arterial wall
Atrophy	A wasting or reduction in size or physiological activity of a part of the body due to disease or other influences
Bromhidrosis	Odour caused by bacterial decomposition of perspiration on the skin
Congenital	Present at birth
Cyanosis	Bluish discoloration of the skin and mucous membranes caused by an excess of deoxygenated blood
Dermatophyte	Fungus that causes parasitic skin disease in humans
Embolus	A foreign object, a quantity of air/gas, a section of tissue/tumour or a portion of a thrombus that circulates in the blood stream until it becomes lodged in a vessel.
Endocrine	A system of glands which secrete particular hormones into the bloodstream to regulate bodily functions
Fasciculation	Involuntary twitching
Gaiter area	Area immediately proximal to the ankles
Haemosiderosis	Increased deposition of iron in tissues. Usually presents as brown discoloration of the skin of the anterior lower legs
Hyperglycaemia	A greater than normal amount of glucose in the blood
Hyperhidrosis	Excessive perspiration
Hypertrophy	Increase in size of an organ due to increase in size of the cells
Hypoglycaemia	A state of low blood glucose levels
Iatrogenic	Inadvertent adverse effects or complications caused by or resulting from medical treatment or advice
Intermittent claudications	Cramp-like pains in the calf muscles caused by poor circulation of blood to the leg muscles, often occurs after a certain period of walking especially uphill or up steps
Medial	Situated or oriented toward the midline of the body
Necrosis	Localised tissue death that occurs in groups of cells in response to disease or injury
Sebaceous	Oily, refers to the oil-secreting glands of the skin.

(Anderson 1994; Edmonds & Wall 2006)

## REFERENCES

Achilles Foot Health Centre 2010, *Onychauxis*, Dr SA Schumacher Podiatric Corporation, Surrey, British Columbia, viewed 16 December 2016, <http://www.footdoc.ca/Website%20Nail%20Conditions%20%28A%20Glossary%29.htm>

American Academy of Family Physicians 2010, *Anatomy of the Nail*, American Academy of Family Physicians, Leawood, Kansas, viewed 16 December 2016, <http://www.aafp.org/afp/2008/0201/afp20080201p339-f1.gif>

Anderson, KN, Anderson, LE & Glanze, WD (eds) 1994, *Mosby's Medical, Nursing and Allied Health Dictionary*, 4<sup>th</sup> edn, Mosby-Year Book, Inc, Missouri. Booth, J & Young, MJ 2000, *Differences in the performance of commercially available 10g monofilaments*, *Diabetes Care*, vol. 23, no. 7, viewed 16 December 2016, <http://care.diabetesjournals.org/content/23/7/984>

Briggate Medical Company 2010, *Bambach Saddle Seat – without Backrest*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016, <http://www.briggatemedical.com/home.php?cat=1035>

Briggate Medical Company 2010, *Berchtold Callisto Podiatry Chair*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016, <http://www.briggatemedical.com/home.php?cat=1025>

Briggate Medical Company 2010, *Berchtold Podo-S44 Water Spray Podiatry Drill*, Briggate Medical Company, Braeside, Victoria, viewed 1 November 2016, <http://www.briggatemedical.com/search.php?mode=search&page=5>

Briggate Medical Company 2010, *Diamond dust foot dresser*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016, <http://www.briggatemedical.com/product.php?productid=3591&cat=1172&page=1>

Briggate Medical Company 2010, *Dovo Contour-14 Clippers*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016, <http://www.briggatemedical.com/product.php?productid=3104&cat=1152&page=1>

Briggate Medical Company 2010, *Hapla Adhesive Swanfoam*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016, <http://www.briggatemedical.com/product.php?productid=105&page=1>

Briggate Medical Company 2010, *Hapla Newtype Adhesive Felt*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016,  
<http://www.briggatemedical.com/product.php?productid=100&page=1>

Briggate Medical Company 2010, *Heavy Duty Height Adjustable Legrest*, Briggate Medical Company, Braeside, Victoria, viewed 16 December 2016,  
<http://www.briggatemedical.com/product.php?productid=2146>

Briggate Medical Company 2010, *Westminster DA15 Clippers*, Briggate Medical Company, Braeside, Victoria, viewed 18 June 2010,  
<http://www.briggatemedical.com/product.php?productid=573&cat=1150&page=1>

Burrow, JG 1995, *Examination and diagnosis in clinical management*, quoted in Lorimer, DL, French, G, O'Donnell, M, Burrow, JG & Wall, B, 2006, *Neale's Disorders of the Foot*, 7<sup>th</sup> edn, Churchill Livingstone Elsevier, Sydney.

De Maria, A & Pod in Health Training 2009, *Enable Learning Guide: CHCICS306A Provide basic foot skin and nail care*, Enable Learning Guides Publishing Unit, Adelaide.

Dermatology Information System 2010, *Onychomycosis*, Dermatology Image Atlas, Heidelberg, Germany, viewed 16 December 2016,  
<http://www.dermis.net/dermisroot/en/15535/image.htm>

Dermatology Information System 2010, *Psoriasis*, Dermatology Image Atlas, Heidelberg, Germany, viewed 16 December 2016,  
<http://www.dermis.net/dermisroot/en/31804/image.htm>

Dermatology Information System 2010, *Tinea*, Dermatology Image Atlas, Heidelberg, Germany viewed 16 December 2016,  
<https://www.medicine.uiowa.edu/dermatology/tinea-pedis>

Dermatology Information System 2010, *Verrucae*, Dermatology Image Atlas, Heidelberg, Germany, viewed 16 December 2016,  
<http://www.dermis.net/dermisroot/en/14020/image.htm>

Diabetes Australia 2012, *Diabetes Management in General Practice*, viewed 9 November 2016,  
[http://www.diabetesqld.org.au/media/98723/diabetes\\_management.pdf](http://www.diabetesqld.org.au/media/98723/diabetes_management.pdf)

Edmonds, ME & Wall, B 2006, *Metabolic Diseases*, quoted in Lorimer, DL, French, G, O'Donnell, M, Burrow, JG & Wall, B, 2006, *Neale's Disorders of the Foot*, 7<sup>th</sup> edn, Churchill Livingstone Elsevier, Sydney.

Encyclopaedia Britannica 2010, *Bones of the Foot*, Encyclopedia Britannica Inc, Chicago, Illinois, viewed 6 December 2016, <http://media-2.web.britannica.com/eb-media/07/99107-004-B9666996.jpg>

Encyclopaedia Britannica 2010, *Muscles of the Foot*, Encyclopedia Britannica Inc, Chicago, Illinois, viewed 16 December 2016, <http://media-2.web.britannica.com/eb-media/95/99195-004-5BE9E1EB.jpg>

ePodiatry 2010, *Onychocryptosis*, viewed 16 December 2016, <http://www.epodiatry.com/images/cp-infectedingrownweb.gif>

Improve-education.org 2010, *Human Body Neurological Supply*, viewed 16 December 2016, <http://www.improve-education.org/sitebuildercontent/sitebuilderpictures/nerves.gif>

Johnson, M 2006, *The Human Nail and its Disorders*, quoted in, Lorimer DL, French, G, O'Donnell, M, Burrow, JG & Wall, B 2006, *Neale's Disorders of the Foot*, 7<sup>th</sup> edn, Churchill Livingstone Elsevier, Sydney.

Joint-pain-expert.net 2010, *Blood Supply of the Foot*, viewed 16 December 2016, [http://www.joint-pain-expert.net/images/foot\\_blood\\_supply.jpg](http://www.joint-pain-expert.net/images/foot_blood_supply.jpg)

Luck, T, Munro, C, Roberts, D, Springett, K, Thomson, J & O'Donnell, M 2006, *Dermatological Conditions of the Foot and Leg*, quoted in Lorimer, DL, French, G, O'Donnell, M, Burrow, JG & Wall, B 2006, *Neale's Disorders of the Foot*, 7<sup>th</sup> edn, Churchill Livingstone Elsevier, Sydney.

McLeod-Roberts, J 1995, *Neurological Assessment*, quoted in, Merriman, L & Tollafield, D 1995, *Assessment of the Lower Limb*, Churchill Livingstone, Singapore.

O'Donnell, M, Lorimer, DL, Skinner, C, Forster, MSK & Ahmad, A 2006, *Clinical therapeutics*, quoted in Lorimer, DL, French, G, O'Donnell, M, Burrow, JG & Wall, B 2006, *Neale's Disorders of the Foot*, 7<sup>th</sup> edn, Churchill Livingstone Elsevier, Sydney.

Podiatry and Foot Protection Program 2010, *Educational Photograph Collection*, Queensland Health – Central Queensland Health Service District, Rockhampton, Queensland.

Podiatry Board of Australia 2010, *Podiatric Guidelines for Podiatrists working with Podiatric Assistants in Podiatry practice*, Podiatry Board of Australia, Braddon, ACT, viewed 16 December 2016,  
<http://www.podiatryboard.gov.au/documents/default.aspx?record=WD10%2f1259&dbid=AP&chksum=QR5ZY%2bcWtYRYjuntzrUpCw%3d%3d>

Podiatry Board of Australia 2016, *Revised Guidelines for Infection Prevention and Control*. AHPRA, October 2016, <http://www.podiatryboard.gov.au/News/2016-03-10-revised-guidelines.aspx>

Queensland Health 2016, *Guidelines for allied health assistants documenting in health records*, Queensland Health Electronic Publishing Service, Allied Health Profession's Office of Queensland, Brisbane, Queensland, viewed 7 November 2016,  
<https://www.health.qld.gov.au/ahwac/docs/aha/ahadocguide.pdf>

Public Service Commission, Queensland Health 2010, *Code of Conduct For the Queensland Public Service State of Queensland*, Brisbane viewed 9 November 2016,  
<https://www.qld.gov.au/gov/code-conduct-queensland-public-service>

Queensland Health 2016, *Diseases and Infection Prevention*, viewed 1 November 2016, <https://www.health.qld.gov.au/chrisp>

The State of Queensland, The Office of the Queensland Parliamentary Counsel 2010, *Health Services Act 1991*, Queensland Government, viewed 16 December 2016,  
[https://www.legislation.qld.gov.au/LEGISLTN/REPEALED/H/HealthServA91\\_05C\\_051128.pdf](https://www.legislation.qld.gov.au/LEGISLTN/REPEALED/H/HealthServA91_05C_051128.pdf)

Wikimedia 2010, *Circulatory System*, viewed 16 December 2016,  
[http://upload.wikimedia.org/wikipedia/commons/thumb/5/54/Circulatory\\_System\\_en\\_edited.svg/423px-Circulatory\\_System\\_en\\_edited.svg.png](http://upload.wikimedia.org/wikipedia/commons/thumb/5/54/Circulatory_System_en_edited.svg/423px-Circulatory_System_en_edited.svg.png)

Wikivisual 2010, *Intertrigo*, Wikipedia, San Francisco California, viewed 1 November 2016,  
<https://en.wikipedia.org/wiki/Intertrigo>

Yong, R, Karas, TJ & Petrov, O 2000, *The Durability of the Semmes-Weinstein 5.07 Monofilament*, *Journal of Foot and Ankle Surgery*, vol. 39, no. 1, viewed 16 December 2016, <http://www.ncbi.nlm.nih.gov/pubmed/10658948>