

Chapter 1

The Need for a Multiprofessional Approach in Wound Care

1.1 | Introduction

Many different terms are used to describe collaborative working between health care professionals such as “interprofessional collaboration”, “multidisciplinary/interdisciplinary team working” and “multiprofessional collaboration” (Xyrichis and Lowton, 2007).

The optimum treatment of lower extremity wounds depends on a multiprofessional collaborative approach that allows the related or underlying aetiology of the wound to be addressed, thus promoting wound healing and a positive outcome (Zgonis and Roukis, 2005). Standardized care provided by a specialist team has many advantages: a higher degree of continuity in treatment, increased patient satisfaction, greater potential for education and training and improved possibilities for basic and clinical research in healing and care (Gottrup, 2004). The concept of a multiprofessional approach is not new; Edmonds *et al.* (1986) reported the benefits of establishing a specialized multiprofessional clinic for patients with diabetic foot ulcers. Over three years, detailed analysis revealed a high rate of ulcer healing and a reduction in the number of major amputations which were attributed to the team approach. The team included podiatrists, orthotists, nurses, physicians and surgeons. A large number of published studies that evaluate the effect of a multiprofessional approach focus on diabetic foot ulcers; Boulton *et al.* (2005) reviewed the economic burden of diabetic foot ulcers and found that one

Parisian clinic reported a 33% reduction in hospital in-patient stay after the establishment of a multiprofessional approach.

Gottrup (2004) undertook an evaluation of clinical outcomes within a dedicated multidisciplinary wound care centre. Findings demonstrated improved rates of healing in patients with leg ulcers and a decreased necessity for major amputations. Similarly Meltzer *et al.* (2002) investigated clinical outcomes for diabetic foot ulcers managed by a specialist multiprofessional team and found the amputation rate was significantly decreased; furthermore, the amputations that were required were at a significantly more distal level.

Studies have also demonstrated the benefits of a multiprofessional approach in reducing surgical site infections. Webb *et al.* (2006) developed a multiprofessional approach, using a computerized process for pre-operative prophylactic antibiotic administration. Findings indicated that a team approach allowed timely administration of appropriate antibiotic therapy which resulted in a significant reduction in the incidence of surgical site infections.

Hensen *et al.* (2005) developed and implemented a clinical pathway for ambulatory treatment of chronic wounds utilized by a multiprofessional team, with a primary focus on quality and coordination of care. After one year an evaluation demonstrated the benefits of the implemented pathway in improving clinical care and outcomes. However, the multiprofessional team consisted of physicians and nurses with no involvement of other professional groups.

It is apparent that unified care is an effective approach for patients with complex wounds. However, within published literature and clinical guidelines there is often little information regarding which professions should be involved in the care of chronic lower extremity wounds. This chapter will discuss the need for multiprofessional learning, consider barriers to multiprofessional learning and working, and explore the contribution of a number of professions in the care of a patient with a lower extremity wound in order to promote a greater understanding of professional roles, highlight the benefits of a team approach to wound care and the need for a collaborative approach to optimize patient care.

1.2 | The Need for Multiprofessional Learning

Wound care is an area that is truly multiprofessional in nature and as such it is important that medics, nurses and allied health professionals have in-depth training and education into the subject area to allow a holistic approach to patient care, both during initial training and post-registration. Multiprofessional (interprofessional) education has long been advocated as a key method for tackling problems with collaboration (World Health Organization (WHO), 1988). It can provide both novice and expert practitioners with shared experiences and knowledge about the work of other health care professions and, according to Van der Horst *et al.* (1995), can enhance team working skills.

More recently, the National Institute for Clinical Excellence (NICE), in relation to wound care, stated that:

An interdisciplinary approach to the training and education of health care professionals should be adopted (NICE, 2001, page 4).

The Department of Health (DH) (2000) presented their NHS workforce strategy calling for education and training to be “genuinely multiprofessional” promoting:

- Teamwork
- Partnership and collaboration between professions, between agencies and with patients
- Skill mix and flexible working between professions
- Opportunities to switch training pathways to expedite career progression
- New types of workers

1.3 | Multiprofessional Wound Care

Multiprofessional team working is essential to develop an integrated team approach to achieve optimum wound care. Xyrichis and Lowton (2007) explored factors that facilitate interprofessional team working in primary and community care settings. Findings suggest regular team meetings, shared team premises, greater occupational diversity and positive interprofessional relations, enhanced information transaction, facilitated communication and increased personal familiarity.

A number of professions play vital roles in the holistic care of a patient with a lower limb wound, some of which will be explored within this chapter. Figure 1.1 summarizes some of the key, generic, members of the multiprofessional team involved in lower extremity wound care.

1.4 | Barriers to Collaborative Working

The multidisciplinary team approach is the ideal in wound care. However, there are often barriers that prevent this ideal being met. Xyrichis and Lowton (2007) identified several barriers to multiprofessional working in primary and community care including:

- Separate bases or buildings. This can result in team members feeling less integrated within the team which can limit team function and effectiveness.
- Team size. Large teams may have lower levels of participation than smaller teams.
- Lack of understanding as to who leads the multiprofessional team can cause frustration to team members and poor decision making.
- Lack of organizational support has been attributed to feelings of concern and disappointment which can impact negatively on team working.

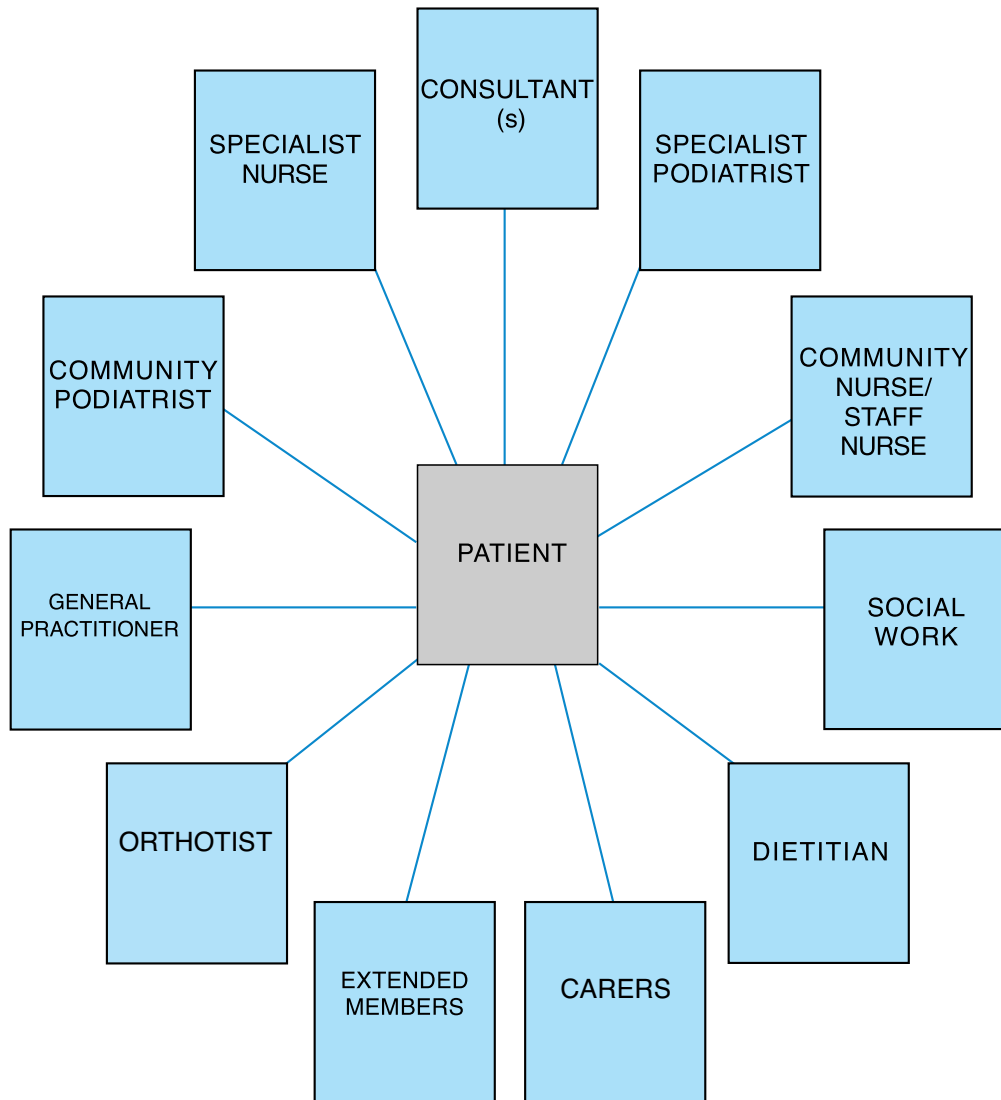


Figure 1.1

The lower extremity wound care multiprofessional team

- Lack of time. As a result, regular team meetings may not be feasible.
- Poor communication. A change to regimes without discussion could prove detrimental to patient care.
- Misunderstanding of each other's roles and professional stereotyping can promote professional conflict and personality differences among team members.
- Professional identity. Some professionals may be fearful that other professions are involved in their role and area of expertise.

Identification of potential barriers to effective team working can instigate change to overcome such barriers and enhance and maintain teamwork, which can improve quality of wound care provision.

1.5 | Case Scenario

The case details a multiprofessional team approach to the care of an amputee with chronic foot ulceration. It is recognized that this case can not address all professions involved in lower extremity wound care, so while the care of a person living with diabetic foot ulceration is exemplified, the multiprofessional team approach and individual professional roles for other lower extremity wounds will differ.

Case Scenario 1

Peter is a 58-year-old gentleman who has a history of chronic foot ulceration due to the chronic complications of diabetes mellitus. Peter was diagnosed with type 2 diabetes 12 years ago. He also has hypertension and dyslipidaemia and suffered a myocardial infarction three years ago. Peter underwent a below-knee amputation of the right limb two years ago and is fitted with a prosthetic limb. He has had a great toe amputation and a partial amputation of the fourth and fifth metatarsals in the last year. He currently has a large planar ulcer on his left foot (see Figure 1.2). His remaining foot has significantly altered in shape, resulting in high pressure during gait; this corresponds with the site of ulceration. The wound has developed recurrent episodes of infection and Peter's blood glucose control is poor.



Figure 1.2
Planar ulceration on Peter's foot

Peter lives alone, having recently been moved to a warden-assisted bungalow in a small village. He feels isolated and has no family locally. Peter retired early on medical grounds. He previously enjoyed walking but he has lost confidence since his amputation and does not like going out alone.

Peter is at high risk of further amputation. It is therefore essential he receives integrated health and social care to prevent a further below-knee amputation.



Using the information provided within the chapter consider the following questions:

- 1. Why is a multiprofessional approach needed?**
- 2. Which members of the multiprofessional team need to be involved?**
- 3. How can successful collaboration improve Peter's care?**
- 4. Are there any potential barriers to collaborative care in Peter's case?**

The information provided within the chapter should enable you to answer the four questions posed above. The answers will be considered towards the end of the chapter.

1.6 | Multiprofessional Wound Care

In order to achieve optimum patient outcomes in wound care a multiprofessional approach is required with all team members working together in partnership. To improve working relations it is important that practitioners involved in wound care recognize that roles and responsibilities can overlap and cross professional boundaries. Many areas of wound care, such as patient-centred care, psychosocial support and structured education, require a shared responsibility from the team while other areas, such as wound debridement are only undertaken by a small number of professions in the wound care team.

To ensure referral to the most appropriate member of the multiprofessional team it is imperative to gain an appreciation of the role of each of the professions involved in lower extremity wound care, some of which are outlined in this chapter. It should be stressed that the roles outlined are specific to the case and may differ in individual clinical care settings. Local policy makers may develop their own protocols and with the advent of an extended scope of practice, professions such as nursing and podiatry are increasingly more autonomous.

1.6.1 | The Need for a Patient-Centred Approach

Previous studies have investigated patient perception to the care they receive (Callaghan and Williams, 1994; Ribu and Wahl, 2004). Findings suggest that patients prefer a person-centred approach with practitioners showing an interest in the patient, making them feel valued as an individual and keeping them well informed while ensuring consistency and continuity of care. The wound care multiprofessional team therefore has a shared responsibility to adopt a patient-centred approach to treatment ensuring continuity of care, regardless of the wound aetiology. It should be recognized that the patient plays a crucial role in the success of any management plan. The multiprofessional team must therefore liaise with each other and with the patient when implementing care plans in order to ensure that they attempt to encompass best practice while also meeting the needs of the patient.

In Peter's case all members of the wound care multiprofessional team should appreciate that Peter must remain at the centre of the care plan designed to heal his complex wound.



It is important in Peter's case to establish his treatment goals. Peter was a keen walker prior to his amputation. He has since lost confidence and is reluctant to leave the house alone. All members of the team should ensure that any care plan addresses Peter's feelings and needs. Peter's primary goal, in terms of mobility, is to be able to walk to the local shop on his own.

1.6.2 | Psychosocial Support

Psychosocial issues in wound care management are critical considerations when developing and implementing care plans, but they are frequently overlooked (Snyder, 2006). Increasingly, findings of qualitative studies that investigate health-related quality of life of those living with chronic wounds are being published in medical literature.

Published studies have investigated the impact of venous leg ulceration on health-related quality of life. Findings suggest that venous leg ulceration significantly reduces quality of life in the elderly, in patients who experience pain associated with venous leg ulceration, those who experience loss of sleep, itching, nonhealing and feelings of disappointment with treatment (Hareendran *et al.*, 2005; Snyder, 2006).

Similarly, the impact of pressure ulcers on health-related quality of life has been explored. Hopkins *et al.* (2006) published patients' stories of living with a pressure ulcer in patients over the age of 65, with a grade 3 or 4 pressure ulcer with a minimum duration of one month. Common themes

that emerged were feelings of a restricted life, restricted activities affecting themselves and their families, and endless pain which was exacerbated by pressure-relieving devices and dressing changes. These findings are supported by Spilsbury *et al.* (2007) who found pressure ulcers and their treatment affected peoples' lives emotionally, mentally, physically and socially. Specific aspects affecting quality of life were identified as pain, wound parameters such as appearance, smell and fluid leakage, and feelings of dependency on others for treatment. Yet it was perceived that the pain, discomfort and stress associated with living with a pressure ulcer was not acknowledged by nursing staff.

A large multicentre study compared health-related quality of life in patients with diabetic foot ulcers, with a nonulcerated diabetes group and the general population (Ribu *et al.*, 2007). Patients with diabetic foot ulcers reported significantly poorer health-related quality of life than those with diabetes without foot ulceration and the general population. Individuals living with diabetic foot ulceration reported role limitation, reduced physical functioning and emotional effects.

Although Peter lives in a warden-assisted bungalow he has stated that he feels isolated. When planning Peter's care the multiprofessional team has a responsibility to address not only his physical needs but also Peter's psychosocial issues. Members of the multiprofessional team should discuss with him these feelings of isolation and ascertain what measures may be implemented to overcome them. A package of care that includes integrated health and social care is important in achieving optimum outcomes in Peter's case; it is crucial that Peter is involved in the development of any care plan and agrees with the decisions made.

Peter can benefit from occupational therapy assessment. A key goal for the occupational therapist is to combat Peter's isolation. This could be achieved by exploring Peter's perceptions, his leisure interests and his psychological state. The establishment of leisure interests or goal/target setting could assist alongside access and referral to other agencies, e.g. day centres. Peter is keen to walk unassisted to the local shop. The occupational therapist, physiotherapist, podiatrist, orthotist and prosthetist must work collaboratively, with Peter, to make this goal a reality.

The social worker is an important member of the multiprofessional team. Social workers form relationships with people and assist them to live more successfully within their local communities by helping them find solutions to their problems. Social workers are knowledgeable about social, emotional and mental health needs of adults and can provide supportive counselling for Peter. Additionally social workers can discuss with Peter the availability of social care to assist him and coordinate community care. Social workers can also advise Peter on financial assistance that may be available to him.

Peter lives alone. He has no family members living locally but he is in a warden-assisted bungalow. It is therefore important that the warden is made aware of Peter's needs. For example, Peter may be referred to home care services by his social worker or general practitioner; the warden should be

made aware so that they can ensure access to Peter's bungalow. The warden is also in a position to visit Peter throughout the day to attempt to overcome his feelings of isolation.

1.6.3 | The Delivery of Structured Education

All members of the multiprofessional team have a shared responsibility to offer structured education for individuals living with chronic wounds. National policy guidelines for differing wound types stress the importance of patient education to achieve concordance (agreement between the patient and practitioner) and patient empowerment (the process by which patients can take control of, and improve, their own health) (DH, 2001; NICE, 2005; Royal College of Nursing, 2006).

The Royal College of Nursing (2006) recommend patient education as a strategy to prevent recurrence of venous leg ulceration; specifically patients should be educated on concordance with compression hosiery, skin care, encouragement of mobility, exercise and elevation. Brooks *et al.* (2004) evaluated the effects of a structured nurse-led education programme that aimed to improve patient concordance and prevent venous leg ulcer recurrence. Findings suggest that those receiving structured education and usual care, versus usual care alone, experienced significantly less recurrence in one year.

The National Institute for Health and Clinical Excellence (NICE, 2005) published national policy guidance on pressure ulcer risk assessment and prevention. Recommendations include education and training for patients who are willing and able to be informed about risk assessment and prevention, including carers where appropriate. Specific recommendations include risk factors for pressure ulcer development, sites vulnerable to pressure damage, how to assess and recognize skin changes and when to refer to a health care professional.

The *National Service Framework (NSF) for Diabetes* (DH, 2001) has contributed to the focus on structured education in diabetes care. The *NSF for Diabetes* recommends structured education to improve patients' knowledge and understanding of their condition, thus encouraging empowerment (DH, 2001). The primary goal for all health care professionals and carers involved in Peter's care is therefore to enable him to manage his own diabetes and foot care as is reasonably practical.

1.6.4 | Effective Communication

One shared aspect of care that is critical to achieving optimum outcomes is effective communication between all members of the multiprofessional team. Members of the multiprofessional team must liaise with one another to achieve the implementation of agreed care plans, discuss any progress or deterioration in Peter's general and foot health and avoid offering conflicting advice to Peter.

A joint statement by the Department of Health, Universities UK, the Health Professions Council, the General Medical Council and the Nursing and Midwifery Council (DH, 2003) emphasize the importance of effective communication skills training in pre-registration and undergraduate education for health care professionals. At the point of registration and throughout professional careers health care students/professionals should:

- Be able to identify communication skills required in practice to improve patient care
- Have the ability to communicate effectively with fellow professionals and other health care staff
- Have the ability to recognize their communication skills limitations and be committed to personal development

While the Nursing and Midwifery Council (2004) stresses the importance of working as part of a team they maintain that all health care professions are personally accountable. Communication extends to the written form with onus on the individual health professional to document patient care accurately within their medical records. This is an essential component of patient care that forms a communication between professions that additionally addresses medicolegal issues. Barriers to effective communication between the multiprofessional team include poor written communication. Patient records may not be accessible to all members; some professions may not have access to the patient's medical records and as a result keep their own profession-specific patient records.



What other barriers might exist that make communication between the multiprofessional team difficult?

1.6.5 | Control Concomitant Medical Conditions

Many patients with chronic lower extremity ulceration will be living with concomitant medical pathologies that may be related or unrelated to the aetiology of the ulcer. Wound healing is likely to be impaired in the presence of a number of medical pathologies, e.g. peripheral arterial disease, diabetes mellitus and conditions leading to malnutrition (Morison, 2006). It is therefore important that concomitant disease processes are controlled to facilitate wound healing regardless of wound aetiology.

Other examples of concomitant diseases include rheumatologic and inflammatory diseases. Patients with these conditions are commonly prescribed drugs, such as nonsteroidal anti-inflammatory drugs and disease-modifying drugs that decrease inflammation and/or autoimmune response. These drugs can affect inflammation and local immune response required for wound healing and can ultimately delay healing. Busti *et al.* (2005) investigated the effects of perioperative anti-inflammatory and immunomodulating therapy on surgical wound healing. Findings

suggest that post-operative complications, such as wound dehiscence, infection and impaired collagen synthesis can occur as a consequence of these drugs and it may therefore be necessary to withdraw therapy prior to surgery. However, patients may experience exacerbation of symptoms. It is imperative that members of the multiprofessional team, in instances such as this, collaborate to establish risks and benefits, working with the patient to decide whether therapy should be discontinued. Medical practitioners, such as rheumatology consultants and general practitioners, play a key role in such decision making while other team members, such as nurses and therapists, can play a role in managing symptoms following withdrawal of therapy.

Achieving good metabolic control of blood glucose is essential to facilitate wound healing and prevent further complications of diabetes in individuals with diabetic foot ulceration. This can be achieved by reviewing current glycaemic control and initiating changes to therapy as required. Management of diabetes is further considered within Chapter 8. The diabetic specialist nurse can assess and closely monitor glycaemic levels and offer advice and support to Peter regarding maintenance of these levels. Diabetes specialist nurses work closely with the diabetologist to monitor and achieve tight control of blood glucose levels and arterial risk factors, such as hypertension and dyslipidaemia. In terms of local wound care the diabetes specialist nurse should liaise with podiatrists regarding dressing regimes, management of infection and wound bed preparation.

In Peter's case the diabetologist is involved in assessing and managing risk factors that could negatively impact on Peter's cardiovascular health. The United Kingdom Prospective Diabetes Study (UKPDS) (1998) demonstrated the benefits of tight control of dyslipidaemia (abnormal lipid levels in the blood) and meticulous management of blood pressure in reducing the risk of arterial pathology. This is particularly important to achieve in Peter's case as he has a history of coronary heart disease.

1.6.6 | Lower Limb Ischaemia

Ischaemia can contribute to wound chronicity and is commonly associated with diabetes, peripheral arterial disease and pressure ulcers among the elderly, and can contribute to the impaired healing of venous leg ulcers (Morison, 2006). Assessment of arterial perfusion is therefore imperative for all patients presenting with lower extremity wounds. This can be achieved by simple noninvasive tests by members of the multiprofessional team, e.g. nurses and podiatrists, but if significant ischaemia is identified a further, more detailed, vascular investigation is required and a referral must be made to the vascular team.

Within the vascular team the vascular specialist nurse takes a lead in the identification of arterial risk factors and liaises with the tissue viability nurse, ward nurses and podiatrists with clinical findings and subsequent care plans. Working closely with the vascular surgeon the vascular specialist nurse undertakes noninvasive vascular assessment identifying those who require additional investigation and intervention under the care of the consultant. The vascular surgeon can investigate arterial perfusion to the foot via more sophisticated methods such as angiography, to determine the need

for revascularization surgery (Faries *et al.*, 2004). The vascular surgeon may be involved in revascularization of the lower limbs to facilitate healing of lower extremity wounds, including pressure ulcers, leg ulcers and diabetic foot ulcers.

Patients with diabetes mellitus present a unique challenge in lower extremity revascularization due to distal distribution of arterial occlusive disease and calcified vessel walls (Sumpio *et al.* 2003). Successful healing in Peter's case relies on an adequate arterial supply to the foot; he therefore requires assessments to determine his vascular status. This will inform a prognosis for wound healing and determine the need for a referral to the vascular surgeon for further assessment and revascularization.



What vascular tests might be appropriate in Peter's case?

1.7 | Nutritional Assessment and Management

Nutrition is a crucial aspect of a holistic approach to wound management, regardless of wound aetiology (Todorovic, 2002). Poor nutritional status can delay healing (Russell, 2001) and as such it is important that patients with wounds undergo nutritional assessment. All members of the multiprofessional team, but perhaps particularly nurses based in hospital and the community, play an important part in identifying patients who are nutritionally compromised. Nurses and dietitians may be involved in undertaking nutritional assessment. Dietitians are able to offer further in-depth advice on nutritional requirements. The dietitian can educate Peter regarding his nutritional requirements. Peter is able to maintain a balanced diet but in patients where this is not feasible nutritional requirements may need to be met through the use of nutritionally complete supplements (Todorovic, 2002).

1.8 | Rehabilitation Following Amputation

Members of the multiprofessional team involved in rehabilitation include physiotherapists, prosthetists, podiatrists and occupational therapists, all of whom need to be involved in Peter's rehabilitation. In Peter's case rehabilitation includes (1) assessing activities of daily living, (2) assessing mobility, (3) maintaining cardiovascular health, (4) assessing foot function and (5) maintaining foot health.

1.8.1 | Assessment of Activities of Daily Living

The occupational therapist can aim to establish how Peter is coping with activities of daily living and offer strategies and interventions to maximize Peter's quality of life. This might include assessment of personal activities: toileting, washing/bathing, dressing and stump care. The latter overlaps with

nursing, podiatry and physiotherapy highlighting the need for liaison and notifying other professionals involved in Peter's care if problems arise. In terms of domestic activities Peter feels alone and isolated. The occupational therapist can assess how Peter is coping with basic tasks: home care, laundry, shopping, cooking, etc. Where possible equipment to assist Peter can be provided, energy management techniques taught and access to other services such as dietitians or social services could be established.

1.8.2 | Mobility

The overall aim of the physiotherapist is to maximize independence to minimize carer input. This can be achieved by liaison with the prosthetist to ensure the best fit of Peter's prosthesis to maximize weight-bearing capacity on his right limb. A prosthetist can assess and provide Peter with the most appropriate artificial limb, ensuring that the limb fits correctly and does not compromise his skin integrity. A prosthetist considers prosthetic function, usefulness, residual limb health and prosthetic appearance at fitting and review appointments.

It is essential that members of the team liaise with one another regarding Peter's care. The physiotherapist needs to be aware of Peter's weight-bearing status on his ulcerated foot. On occasion nonweight bearing may be advised to completely offload the wound and promote healing, but the risk of a decrease in cardiovascular fitness and respiratory reserve should be considered when rendering the patient immobile. It is important that the physiotherapist and podiatrist work together, with Peter, to determine the most appropriate offloading strategy for Peter's foot ulcer.

The occupational therapist can assess Peter's mobility both indoors and outdoors. This role overlaps with that of the physiotherapist involved in Peter's care, highlighting the need for effective communication. The assessment involves Peter's ability to transfer in the house, his ability to use his prosthesis and his access to transportation outdoors. Dependent on the findings, the occupational therapist can provide Peter with adaptive equipment to assist his mobility, provide pressure relief in consultation with the podiatrist and physiotherapist, and investigate and establish access to services to assist Peter's transportation. An assessment of seating can also be undertaken with provision of pressure-relieving devices to prevent pressure damage on the sacrum or on the contralateral limb.

1.8.3 | Risk of Deterioration of Cardiorespiratory Fitness

The physiotherapist plays a key role in maintaining and improving Peter's cardiorespiratory function so that he can maintain present mobility and cope with extra demands should a second amputation take place. Transfers for a bilateral amputee are more demanding in terms of cardiovascular fitness. This is achieved by teaching wheelchair manoeuvres to increase cardiorespiratory fitness and prophylactic respiratory exercises to maintain respiratory reserve.

1.8.4 | Assessment of Foot Function

The presence of foot deformity is a known risk factor for foot ulcers, particularly rheumatoid foot ulcers and diabetic foot ulcers. The International Diabetes Federation Clinical Guidelines Task Force (2005) recommends that the foot should be inspected for hammer or clawed toes and bony prominences that could be subject to high pressure and trauma. In Peter's case he has established Charcot's neuroarthropathy which has caused significant foot deformity (please refer to Chapter 8 for further details). Peter has also undergone amputation of the great toe and partial amputations of the forefoot. As a result foot function is significantly impaired. The podiatrist can assess foot function and undertake gait analysis, including measurement of foot pressures. Measurement of foot pressure allows the podiatrist to identify sites of high pressure on the foot, so appropriate management strategies that offer pressure relief can then be implemented.

In the case of established foot deformities, e.g. secondary to rheumatoid arthritis, orthopaedic surgeons may undertake corrective surgery to prevent primary episodes of ulceration or prevent recurrence of foot ulceration.

Therapeutic footwear and total contact insoles can reduce plantar pressure in Peter's case. The podiatrist must work with the orthotist to achieve the best outcomes for Peter. This can be achieved by assessing the mechanics of the foot, identifying problems with foot function and producing insoles to correct foot function and relieve pressure. Additionally the orthotist can assess and measure Peter's foot for therapeutic footwear that can provide extra depth and width to accommodate insoles, while minimizing the risk of pressure, shear and friction on his already compromised foot.

1.8.5 | Maintenance of Foot Health

Podiatrists play a key role in maintaining foot health. Podiatric care, including nail care and management of skin pathologies such as callosities, has been shown to reduce the risk of foot ulceration and therefore reduce the prevalence of lower extremity amputation (Ronnemaa *et al.*, 1997; Plank *et al.*, 2003).

Peter requires regular foot care to prevent new episodes of ulceration. Community or hospital-based podiatrists can provide regular skin and nail care.

1.9 | Wound Care

A number of members of the multiprofessional team are involved in lower extremity wound care and are involved in assessing wound characteristics and striving to achieve microbiological control.

The main treatment objectives in Peter's case are to promote wound healing and prevent adverse outcomes, such as infection and tissue necrosis, that could precede further amputation.

1.9.1 | Microbiological Control

All members of the multiprofessional team should assess wounds for signs of infection. However, the podiatrist or nurse are often the professionals involved in local wound care and therefore the first to observe clinical signs of infection. Shank and Feibel (2006) suggest that broad-spectrum antibiotics and meticulous local wound care may achieve remission of mild-to-moderately severe infections and should be included in all treatment regimens complicated by mild-to-moderately severe infections. It is imperative that communication is maintained between members of the multiprofessional team, particularly with the evolution of extended-scope practice for nurses and professions allied to medicine. Traditionally doctors have prescribed antibiotic therapy for wound infections; however, dependent on demonstrable training and qualification, nurses and podiatrists have access to medication, including broad-spectrum antibiotics.

Infection can spread rapidly in the diabetic foot with devastating consequences; if infection is not recognized or treatment is delayed diabetic foot ulcers can become limb and life threatening (Sheppard, 2005). It is important that all members of the multiprofessional team involved in local wound care monitor Peter's wound for further episodes of infection. Prompt management of infection in the diabetic foot is imperative. In the case of severe infection the diabetologist must admit the patient to the ward for intravenous antibiotics and urgent assessment of the need for surgical drainage and debridement (Edmonds, 2006). In the case of severe infection, particularly when complicated by the presence of ischaemia, an aggressive surgical approach may be required (Shank and Feibel, 2006). In this case the orthopaedic surgeon may be involved in bone resection, correction of deformity or amputation.

1.9.2 | Wound Debridement

Wound debridement is an essential aspect of wound care that is required to remove dead and devitalized tissue from the wound bed to facilitate wound healing. There are many methods of debridement available to the practitioner; therefore it is important to discuss these options with the patient so they are involved in decision making and can give their informed consent (Anderson, 2006). Anderson (2006) states that nurses should be aware of professional requirements for competence and refers to the Tissue Viability Association's guideline (2005) for conservative sharp debridement.

Podiatrists are ideally placed to offer skilled debridement of foot ulcers having undergone extensive training in sharp debridement. Additionally, scalpel work forms a major part of a podiatrist's daily workload and so scalpel techniques are developed to a high level of skill with experience (Baker, 2002).

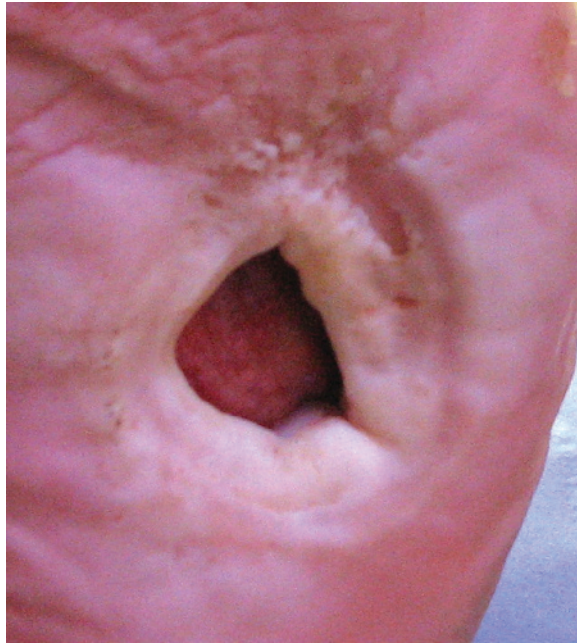


Figure 1.3
Macerated callus surrounds the wound

Peter's wound has macerated callused margins requiring regular sharp debridement (Figure 1.3).

1.9.3 | Instigate Dressing Regimens

Different professionals in the multiprofessional team may be involved in the instigation of dressing regimens; typically nurses and podiatrists are involved in dressing selection. At present there is no one ideal wound dressing for all stages of healing. With a plethora of wound dressings available to the practitioner this task can prove challenging and, not surprisingly, can lead to disagreement within the team. However, it is important to ensure continuity of care and avoid conflict within the team. Dressing choice should not be altered without prior discussion with other members of the multiprofessional team.

1.9.4 | Implement Offloading Strategies

Achieving effective pressure relief (offloading) is considered key to promoting healing of foot ulcers. Many methods have been suggested, including bed rest, wheelchair, crutches, total contact casting, felted foam and therapeutic shoes (Boulton *et al.*, 2004) with much research focusing on offloading diabetic foot wounds (Chapter 8). Effective pressure relief is equally as important for all foot ulcers, e.g. rheumatoid foot ulcers (Chapter 9).

Achieving effective offloading is challenging in Peter's case. Peter has already undergone a below-knee amputation. He is ambulant with his prosthetic limb and crutches but offloading his residual limb via crutches is not feasible. It is essential that the podiatrist liaises with other members of the multiprofessional team, including physiotherapy and occupational therapy, when selecting offloading strategies. It is important that Peter remains mobile to encourage his rehabilitation and preserve cardiovascular health, so in this case a wheelchair is not an option.

1.10 Case Study Revisited

1. Why is a multidisciplinary approach needed?

A multiprofessional approach is needed to ensure that all of Peter's physical and psychosocial needs are addressed. No one member of the wound care team can address all elements. Therefore a team approach is warranted to ensure that Peter receives a holistic care plan tailored to meet his needs while optimizing outcomes and preventing further amputation.

2. Which members of the multidisciplinary team need to be involved?

Ward nurses, community nurses, specialist nurses, podiatrists, specialist podiatrists, occupational therapists, physiotherapists, general practitioners, dietitians, consultants, prosthetists, orthotists, social workers and Peter are all required to work in partnership.

3. How can successful collaboration improve Peter's care?

Successful collaboration can optimize Peter's care as a team approach improves planning, assessment, implementation and evaluation of Peter's care, and addresses his physical and psychosocial needs. The team can discuss his care and ensure that the best available evidence-based care is delivered. As the team are collaborating together this can reduce the risk of aspects of his care being missed and enhance effective care planning, ensuring that he has access to appropriate services to meet his needs.

4. Are there any potential barriers to collaborative care in Peter's case?

Barriers to effective collaborative care include professionals having a lack of knowledge and understanding of the role of other professions, a lack of communication within the team, inadequate referral to the correct profession and each profession writing its notes in separate medical/nursing notes, leading to repetition and poor communication and conflicting opinions in terms of care strategies. In Peter's case, care was largely community based. Regular team meetings proved difficult as there were no single team premises and time was perceived as a barrier. Communication was largely via written notes and telephone calls rather than personal contact.

1.11 | Conclusion

This chapter has identified, discussed and explored the role of the wound care multiprofessional team and the importance of collaborative working. The role of each member of the wound care multiprofessional team has been explored and how they contribute to Peter's care has been highlighted. Peter's case has been used as a focus throughout the chapter and has exemplified how an effective multiprofessional approach to patient care can benefit the patient's health care and clinical outcomes.



Reflection

Take time to reflect upon your learning from this chapter. Ask yourself:

- 1. What knowledge did I possess prior to reading this chapter?**
- 2. How has my knowledge developed?**
- 3. How will I implement this into my future practice?**

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