

# Designing the future in wound care: the role of the nurse practitioner

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## Abstract

The nurse practitioner is emerging as a new level and type of health care. Increasing specialisation and advanced educational opportunities in nursing and the inequality in access to health care for sectors of the community have established the conditions under which the nurse practitioner movement has strengthened both nationally and internationally. The boundaries of responsibility for nurses are changing, not only because of increased demands but also because nurses have demonstrated their competence in varied extended and expanded practice roles. The nurse practitioner role reflects the continuing development of the nursing profession and substantially extends the career path for clinical nurses.

This paper describes an aspect of a large-scale investigation into the feasibility of the role of the nurse practitioner in the Australian Capital Territory (ACT) health care system. The paper reports on the trial of practice for a wound care nurse practitioner model in a tertiary institution. In the trial the wound care nurse practitioner worked in an extended practice role for 10 months. The nurse practitioner practice was supported, monitored and mentored by a clinical support team. Data were collected relating to a range of outcomes including definition of the scope of practice for the model, description of patient demographics and outcomes and the efficacy of the nurse practitioner service.

The findings informed the development of clinical protocols that define the scope of practice and the parameters of the wound care nurse practitioner model and provided information on the efficacy of this model of health care for the tertiary care environment. The findings further suggest that this model brings expert wound care and case management to an at-risk patient population. Recommendations are made relating to ongoing research into the role of the wound care nurse practitioner model in the ACT health care system.

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## Introduction

The ACT Nurse Practitioner Project was initiated by the Nurses Registration Board of the ACT in collaboration with the ACT Department of Health and Community Care. A project steering committee was established and instigated the ACT Nurse Practitioner Trial. The aim of the trial was to investigate the feasibility of nurse practitioners (NPs) as a new level of health service for the ACT community and to provide information about the impact of the role on selected patient outcomes. Four models of NP service were selected to participate in the trial – one of these models was the wound care NP.

The development of the NP role in Australia reflects the continuing evolution and strengthening of nursing internationally. This new level of health service promotes the use of a nursing model of care to conduct comprehensive health assessments, exercise expert skills in the diagnosis and

treatment of complex problems in the patient, the carer and the family and demonstrate a high level of autonomy. Dyson<sup>1</sup> suggested that nurses working at this level integrate their clinical expertise and knowledge with ethical decision making, collaboration, education and research.

Despite the abundant literature on advanced practice and specialisation in nursing, there has been little published in the area of wound care. Flanagan<sup>2</sup> reported that, in a survey of specialist nurses in the UK in 1982, there was a failure to identify any specialist nurses practising in wound care. By 1995, however, Bale<sup>3</sup> was able to report the emergence of this new specialty and argued that the wound nurse was pivotal in the care and treatment of patients with loss of skin integrity.

The first survey of wound specialist nurses found that 90 per cent of advanced wound care nurses were in positions which had not existed prior to the investigation<sup>2</sup>. These new appointments had proliferated as a result of changes in the provision of health care<sup>2,4</sup> and a requirement for more cost effective management of patients with wounds. This has been an important evolution in the maturation of the specialty.

Cooper<sup>5</sup> stated that wound care nurses could influence health outcomes for patients with wounds more than any other health professional and predicted that nurses would be given increasing responsibility for the total care of patients with wounds. This has been borne out in contemporary health service settings in that the specialist wound care nurse has moved from the person on the health care team who carries out orders to the one who collaborates with medical and allied colleagues in providing care for these patients<sup>6</sup>.

There is a scarcity of literature available on the scope of practice of wound care NPs. One of the issues clouding discussion on wound nurses and advanced practice is the continuing confusion in nomenclature regarding specialist nurses, advanced nurses and NPs<sup>5,7</sup>.

Doughty<sup>8</sup> defined an advanced practice wound nurse as one who is a Masters prepared nurse functioning in an expanded role in the provision of direct patient care. She claimed that it seemed to be a natural progression for advanced practitioners in the specialty to increase their educational preparation and aim to become more autonomous and more visible in their practice. Gray *et al.*<sup>9</sup> agreed with the notion of autonomy. When they compared the NP's role with specialty or expert nursing practice, they found that its primary and unique aspect was its autonomy.

The dearth of literature on advanced practice for wound care nursing indicates an urgent need to investigate this important area of health care practice. The inclusion of a wound care NP in the ACT Nurse Practitioner Trial has facilitated a research base for the development of the wound care model. The definition of NP used in the ACT trial was:

*A nurse practitioner is a registered nurse working within a multi disciplinary team. The role includes extended practice in the autonomous assessment and management of clients using nursing knowledge and skills gained through post graduate education and clinical experience in a specific area of nursing practice. The role may include but is not limited to the direct referral of patients to other health care professionals, the prescribing of a designated and agreed list of medications, and the ordering of a designated and agreed list of diagnostic investigations<sup>10</sup>.*

The wound care NP trial of practice was located at The Canberra Hospital, a major tertiary referral and teaching hospital with approximately 591 beds. The hospital provides a full range of acute care services to a population of approximately 500,000 people in the ACT and surrounding areas of New South Wales.

## Research process

The overall research process was complex and multi-focal. The NPs in this trial provided a new type of health service for their patient group and, in consultation with their clinical support team, expanded and extended the boundaries of nursing practice in their field. Over time, this 'working into the role' and collection of data relating to the clinical service, created the knowledge and processes to define the scope of practice for the specific model and to inform future planning for the NP level of service for the ACT.

The trial was conducted over a 10 month period. The wound care NP was a co-researcher in the trial, working 4 days a week in the clinical setting and having 1 day of group learning activities with other NPs. The NP was supported by a clinical team that provided clinical teaching and supervision. This strategy ensured patient safety whilst enabling the NP (in training) to extend their skills and engage in experiential clinical learning opportunities. The clinical support team included:

- Director of nursing, surgical services.
- Professor of surgery.
- Clinical nurse consultant, outpatients dept.
- Plastic and reconstructive surgeon.
- Infectious diseases physician.

The methodology for the trial was influenced by the approach used in health service research. Essentially this approach utilises a design that incorporates multiple methods, is outcome focused and multidisciplinary<sup>11</sup>. The trial gained ethics approval from the ACT Human Research Ethics Committee and was funded by the ACT Department of Health and Community Care and the Nurses Board of the ACT. The NP position was funded by The Canberra Hospital for the 10 month period.

### Aims and objectives

The trial was conducted to provide information to the ACT Nurse Practitioner Project Steering Committee on the potential role of NPs in the system of health service for the ACT. Specifically, the aims of the trial of practice for the wound care NP model were to investigate the feasibility of the wound care NP role in the tertiary care setting in terms of the impact of the role on selected patient outcomes, and to establish the scope of practice for the model. These aims were defined by the following research objectives to:

- Investigate the wound care NP model according to the dimensions of the role.
- Provide information on the impact of the NP service in the ACT on patient outcomes specifically in relation to access, safety and clinical effectiveness.
- Identify the changes required at the level of education, policy and legislation in the ACT to incorporate the NP level of service delivery into the health care system.
- Contribute to the growing body of knowledge about the NP role and its impact on the Australian health care environment.

This paper will report on the findings related to the scope of practice of the wound care NP and the impact of the service according to access, safety and clinical efficacy outcomes.

### Recruitment of patients

Recruitment of patients for the wound care NP model was reliant upon referrals from hospital nurses, doctors and medical specialists. Extensive information sessions were conducted throughout the hospital and information letters were circulated to wards and relevant individual visiting medical officers. Consequently, referrals were made to the NP by both nursing and medical staff. A patient information sheet was given to referred patients and informed consent was obtained from all patients who were enrolled on the trial. The patients who were not consented to the trial were those who were unable to give informed consent due to cognitive

impairment. These patients were provided with a specialist wound care consultation that did not extend the scope of nursing practice and no data were collected.

### Data collection

The data collection tools were designed with reference to those used for the NSW NP project<sup>12</sup>. Data collection involved generic data for a minimum data set and model specific data and included both qualitative and quantitative data. The data specific to the wound care NP model related to:

- *Diagnostic details of the patients seen by the NP*: analysis of these data determined the pattern of service for the model and informed the scope of practice for development of the clinical protocols.
- *Consultation details, treatment, investigative and referral decisions made by the NP*: analysis of these data informed the specific details for the clinical protocols. These in turn defined the parameters of autonomous practice for the NP.
- *Data relating to the clinical team's review of the NP's clinical decisions*: analysis of these data provided information on the safety on the NP service and in turn informed the development of the clinical protocols for the wound care NP model.
- *Patient outcomes*: analysis of these data informed decisions on the safety and effectiveness of the NP level of service.
- *Survey of patients who received NP service*: analysis of these data provided a consumer perspective of the service.
- *Survey of health professionals related to the clinical service*: the health professionals survey informed the feasibility of the NP role as a new level within existing health service.

In addition, the wound care NP maintained a reflective journal documenting the learning needs identified during each week of clinical practice. The NPs also participated in weekly focus group meetings that generated data on the generic learning needs of a NP. However, reporting on the educational outcomes of the trial is outside the scope of this paper.

### Results

Analysis of the data provided a description of the clinical profile of the patients attended and the patterns of service provided by the NP. The NP wound management service was available to all patients throughout the hospital. The NP role consisted of patient assessment and treatment and patient and staff education. As the data were collated,

patterns emerged demonstrating the main patient groups treated during the trial period.

**The patients**

Forty two patients were enrolled on the trial, of whom 24 were female and 18 were male. There was a total of 184 patient visits with a range of 1-17 visits and an average 4.4 visits per patient. The patients' ages ranged from 11-88 years with the largest group being in the 70-79 age group (Figure 1). Seven patients who were enrolled were under 50 years old and there was one child aged 11 years.

Patients in the trial were diagnosed as having chronic leg ulcers, infected leg wounds, cellulitis, pressure ulcers, diabetic foot ulcers, multi-trauma wounds and fungating tumours. The five patients who did not fall into these categories were suffering from a spider bite, shingles, a pilonidal sinus, a perineal fistula and a sinus wound following hysterectomy. Several of the patients had multiple wound related diagnoses, making the total number of diagnoses 46 (Figure 2).

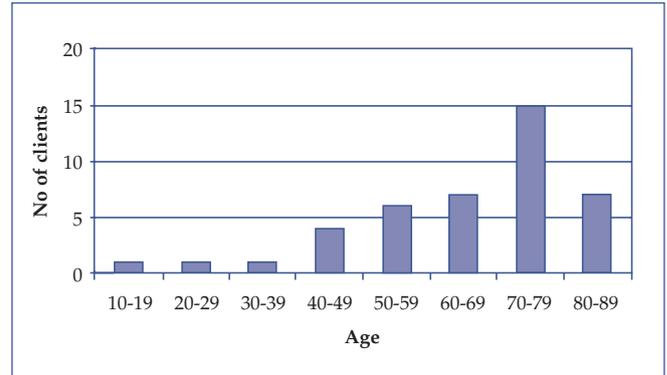
During the course of the trial, the number of patients with complex wounds requiring specialist wound management care became evident. Of the 42 patients enrolled on the trial, 32 were in-patients and 10 were out-patients. Fourteen of the patients had length of stay consistent with the national average for the Diagnostic Related Group and 18 had length of stay extended beyond the national average. Figure 3 demonstrates the length of stay for these 18 patients compared to the average length of stay for their Diagnostic Related Group coding. There are insufficient data to conclude that the wounds were solely responsible for the extension to length of stay; however, there is consistent extension across different diagnostic groups.

The 32 in-patients had a range of co-morbidities from 1-33 per patient (Figure 4). On analysis of the data, co-morbidities included peripheral vascular disease and diabetes mellitus, and 19 patients were diagnosed with serious infections. Of the 11 patients in the trial who had diabetes, three died from complex infections. Three of the six patients who had pressure ulcers died in hospital from their underlying primary condition.

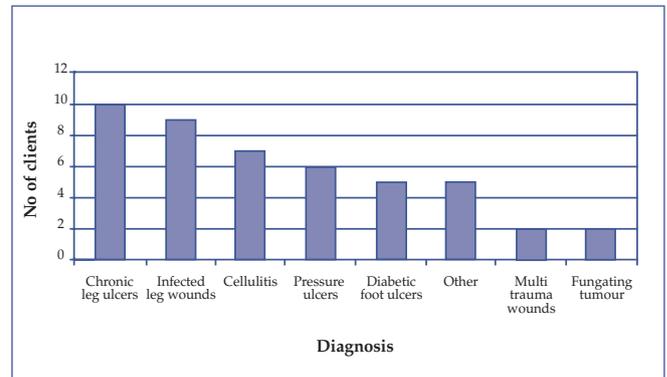
**Referrals to the NP**

Fourteen patients were referred from the medical units, 23 patients from the surgical units and 5 from the women and children's unit at The Canberra Hospital. The NP, therefore, provided a service to patients throughout the hospital and

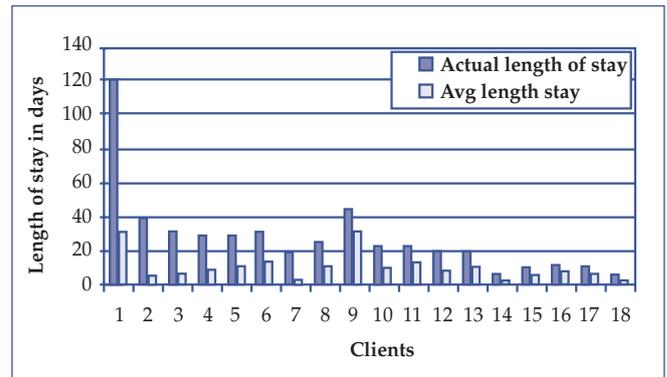
**Figure 1. Patient age distribution.**



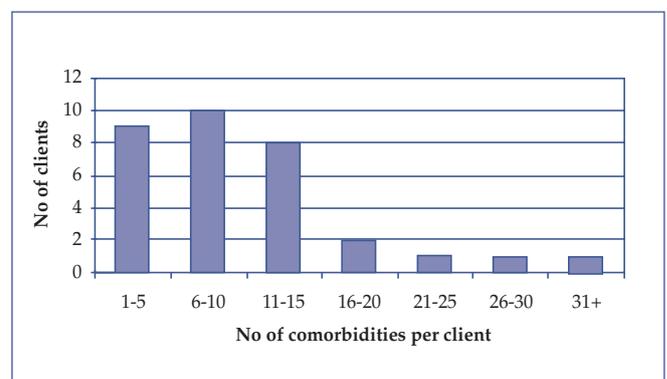
**Figure 2. Aetiology of wounds.**



**Figure 3. Comparison actual and average length of stay.**



**Figure 4. Range of co-morbidities.**



across all service areas. Referrals from ward nurses were 66 per cent, medical staff 30 per cent and allied health 4 per cent.

### The wound care NP service

The NP carried out 399 clinical activities related to the delivery of wound care treatments for 184 patient visits. Clinical interventions included complex dressings, doppler studies, ankle brachial indexes, wound biopsies, compression bandaging, conservative sharp surgical debridement and patient education. The findings demonstrate that 189 of these activities were related to complex wound care activities. Patient education and counselling accounted for 160 of the interventions and were a vital component to the delivery of holistic care. Seven of the patients required the NP to initiate their hospital admission. There were no data on the time taken on indirect patient care, e.g. organising pharmaceutical devices for the patients and communicating with the relatives, community nurses and general practitioners regarding the patient's progress.

Data were collected on the clinical outcomes across six categories for episodes of care for those patients where follow up was possible. During the trial, 47 clinical outcomes were assessed. Thirty eight cases achieved improved outcomes across all six categories (except where the category was not applicable). There was disagreement noted on expected outcomes in the categories of 'improvement in functional status' and/or 'no significant clinical event' (such as admission to hospital, death) for nine patients. However, the circumstances leading to these disagreements were, in all cases, outside the control of the NP.

### Initiating medications

Initiating medications played a minimal role in the wound care NP's scope of practice during this trial. The requirement to prescribe medication was mostly related to oral analgesics such as codeine and topical preparations such as antimicrobials (silver sulphadiazine) and corticosteroids (hydrocortisone acetate). No patients on the trial required analgesia stronger than paracetamol and codeine and therefore there were no data to support the inclusion of narcotics in the medication formulary.

The NP and the clinical team considered that prescribing of narcotics was outside the scope of practice for the wound care NP. When antibiotics were required, the patients were generally discussed with or referred to the infectious diseases team. Topical anti-microbial creams were prescribed for the treatment of heavily colonised wounds and for the control of

wound odour. Medications were prescribed in 35 per cent of patients and at 8 per cent of visits.

### Initiating diagnostic tests

Fifty seven pathology tests were ordered for 42 patients over 184 visits. The NP requested wound swabs, blood sugar levels, full blood examination, and urea and electrolytes. During the trial the NP requested only seven X-rays; these were requested mostly to confirm or exclude the presence of osteomyelitis. The ordering of more sophisticated tests such as MRI scans was done in collaboration with a medical colleague as part of the referral process. During this trial, it was identified that the ordering of diagnostic tests by the wound care NP is a valid element of the NP's scope of practice.

### Referrals to other health professionals

The NP initiated patient referrals to other health professionals in 86 per cent of cases seen (n=90 referrals). Patients were mostly referred to GPs for ongoing management, community nursing for ongoing dressings or to infectious disease physicians for treatment of wound infections. Patients were also referred to podiatrists, orthotists and physiotherapists. Hence in this trial of practice a wide range of health professional expertise was coordinated by the NP which strongly suggests that effective wound management is enhanced by consistent case management and multidisciplinary input.

### NP clinical reasoning skills

All patients seen by the NP were reviewed by the clinical team to ensure that the treatment was appropriate. These review sessions monitored safety of practice and the appropriateness of the NP's clinical decisions. They also met the clinical learning needs of the NP by providing collaborative critique and analysis of clinical management decisions and options. Analysis of the clinical review data revealed that there was 100 per cent agreement by the clinical team with the NP's assessment and management plans across the patient consults throughout the trial.

### Non-enrolled patients

There were 54 patients treated by the NP outside the conditions of the trial; they were therefore managed in her capacity as an advanced practice nurse. These patients were not enrolled as research participants on ethical grounds due to their advanced illness and/or inability to give informed consent to participate. The average age of the non-enrolled group was approximately 10 years higher than the enrolled group and they were mostly patients from nursing homes.

Whilst there is no data on these patients to contribute to information about the NP trial of practice, it is important to note that this patient demographic will constitute a significant component of a legitimised NP service in the acute care setting.

### Patient satisfaction

Surveys were sent to 28 patients who participated in the trial with a 75 per cent response rate. The aim of the survey was to obtain a customer focus on the service provided. However, the opportunity to survey patients was limited as several of the patients became incapacitated and several had died during the course of the trial. Surveys were not sent out to patients until their treatment was completed.

Survey questions related to knowledge of the NP service, satisfaction with the service and willingness to see a NP again. Extended answers were invited on what the participant liked about the service, what they did not like about the service and additional comments. Responses were positive about the NP role and all these patients agreed that they would see a NP again if the service were available. Twenty patients expressed a high level of satisfaction with the service and with the information provided.

Qualitative analysis of the comments offered by the patients in their questionnaires provides an additional level of information to inform the results of this trial. The analysis of the patients' feedback revealed that their comments fell into three broad themes – access to skilled care, skills and expertise, and information provided.

### Access to skilled care

Access to skilled care was identified as an important issue for patients with wounds. Prior to the wound care NP trial, many patients did not have access to specialist wound care services. The comments from the patients in the trial indicated that a responsive and accessible service made a difference to their recovery. The following quotes illustrate this.

*I have particularly appreciated the care that (named NP) has provided. She is very responsive to my concerns and is friendly and efficient – no nonsense, no time wasting, no buck passing. The major benefit I've found, however, is the effective interface between her role as a wound practitioner and access to the specialists. While specialists are willing to give highly responsive care, they are not always available to do so. I have found (named NP's) role to be of great benefit here because of the greater access & variety of intervention she can provide. The role is a valuable one.*

*A thoroughly professional service was provided with a minimum of effort from me. I felt comfortable from day one and was always confident that a satisfactory conclusion would be reached. The NP fills a vital role in our community.*

### Skill and expertise

Skilled and expert practice has the potential to make an improvement to patient outcomes. Eighteen patients strongly agreed that the NP had improved their health, and three were undecided.

*I liked the skillful and particularly kind service which I found most reassuring in my present state of health and the advice, attention and treatment received.*

*By far the best treatment of my condition after almost 18 months of treatment.*

*The service that the NP provides has been a Godsend for me. My case has been a long and involved one. I am sure I would have been much more dissatisfied about the level of care I am receiving if it had not been for (named NP) and the trial. I dare say I would have given up attending clinics at some stage even though the wound continues not to heal! I am however appreciative of the attention I've received in the clinics as well as through the community nurses.*

### Information provided

The third theme related to the information provided. It has been demonstrated that patients will be more involved in their own care if they are given oral and written information<sup>13, 14</sup>. The patients who were surveyed answered positively and comments included the following:

*It was very informative and understandable.*

*The provision of information, education and patient support.*

*She explained things well and I was comfortable with her.*

*I have all confidence in and admiration for the NP service in this wound clinic, the NP was attending to my wounds and we have built up a good nurse to patient relationship.*

### Discussion

The analysis of data has provided information on the patient demographics and the scope and outcomes of practice of the wound care NP service. The statistical data relating to the NP service was subjected to interpretive scrutiny and triangulated with the descriptions of practice from the clinical review data and the clinical outcomes data to develop the clinical protocols and medication formulary for the NP

model. Additionally the analysed data provided information on the impact of the service on patient outcomes related to access, safety and clinical effectiveness.

Clinical protocols were adopted in the ACT Nurse Practitioner Trial as a mechanism for defining and communicating the scope of practice of specific NP models. The protocols were developed from the data that were collected over the 10 months of the trial relating to the NP service. The protocols represent a general guide to appropriate practice. They are inclusive rather than prescriptive and the aim is to provide information on which decisions can be made rather than dictate a specific form of diagnostic and treatment strategy. Within the scope of practice defined by these protocols the NP has full discretion and autonomy in practice.

### Scope of practice of the wound care NP model

The data relating to the service provided by the NP were analysed and interpreted to identify a pattern of practice. This relied on information related to the:

- Presenting patient problems most consistently managed.
- Patterns of prescribing and ordering of diagnostic tests.
- Referral patterns.

Additional data were compiled from aggregation of comments provided on the clinical review sheets over the 10 month period of data collection. Analysis and collation of this varied data enabled the investigators to define the scope of practice for the wound care NP.

The wound care NP is able to extend nursing care activities and to practice autonomously within a well defined area of clinical service. In order to define this area of service, the most frequently occurring and the most critical/most effective patient care activities were collated and conceptualised. This process enabled the identification of four distinct areas of practice:

- Management of vascular ulcers.
- Management of complex wounds.
- Case management of diabetic foot ulcers.
- Minor surgical procedures for treatment and diagnosis in wound care.

Clinical protocols were developed around these areas of practice to structure both the parameters, and the expanded dimensions, of the wound care NP model. Development and refinement of these protocols resulted from repeated critique

and examination by the multidisciplinary investigating team and clinical support team. When agreement was reached by clinicians and investigators, the clinical protocols were accepted. The protocols also provided the basis for the formal assessment of the NP's clinical competence. Each of these protocols will be discussed in detail.

### Management of vascular ulcers

The results demonstrate that the majority of patients who were enrolled on the trial had vascular ulcers. The common issue with this group was the chronicity of the problem due to their age and co-morbidities and the deterioration in quality of life attributed to their disease. Management of care for these patients constituted an important component of the NP's practice.

This clinical protocol (Figure 5) was developed from the previously described patterns of practice. This included detailed patient assessment incorporating relevant investigative options necessary to confirm the aetiology of the wound, the essential distinction being arterial or venous. Treatment initiated and managed by the NP included a broad range of options including integrated management of co-morbidities. Conditions for referral were also identified and specified. The patients in the trial with vascular ulcers were managed using these care options and there was 100% agreement by the clinical team in the clinical review data sheets.

### Management of complex wounds

The complexity of the health care needs for patients in the acute care environment with wounds, specifically for those with co-morbidities, indicates the importance of a NP level of service in this setting. A NP is able to operate with a level of autonomy, coordinate a range of medical referrals, and optimise timely intervention of wound care therapies.

The clinical protocol for management of complex wounds (Figure 6) describes the NP's approach to the assessment and treatment of patients with pressure ulcers, surgical wounds, wound dehiscence and wounds complicated by co-morbidities. The results relating to co-morbidities for the patients in the trial revealed the multiple factors that impair wound healing and contribute to extended lengths of stay (Figures 3 & 4). Therefore, the detailed and non-prescriptive approach set out in this clinical protocol is necessary to develop individualised case planning and management.

### Diabetic foot ulcer: case management

The results indicated that the NP attended to a smaller proportion of patients with foot wounds as a secondary complication of diabetes (Figure 2). However, the clinical support team, in consultation with the NP, determined that this patient demographic is at a significantly higher risk of amputation and loss of life than any of the other wound aetiologies studied in the trial. Furthermore, all patients in the trial from this group achieved improved clinical outcomes from NP case management. This was a compelling argument for this clinical protocol to be included in the wound care NP scope of practice, enabling this group of patients to be given the accurate and timely diagnosis and treatments that is available through a NP service<sup>15,16</sup>.

The clinical protocol for NP management of the diabetic patient with a foot ulcer (Figure 7) includes patient assessment – including relevant diagnostic options to confirm the aetiology of the wound – and treatment, management and referral options. Neither biopsy nor sharp surgical debridement is an appropriate treatment option for the NP with patients who have high-risk diabetic foot ulcers. This alert is built into the protocol as are specific referral points and options.

As patients with diabetic foot ulcers have multiple clinical problems requiring multidisciplinary management, the pattern established in the trial was that the NP acted in the role of case manager and coordinator of care. This approach has been shown in other studies<sup>17</sup> to improve outcomes for patients with complex medical problems.

### Minor surgical procedures for treatment and diagnosis in wound care

Participating in minor surgical procedures is a major extension to the wound care nurse specialist role. The clinical team trialling this model determined that it was appropriate for patients requiring intervention in this range to be managed by the NP. As with the clinical protocol for case management of the diabetic foot ulcer, there were qualitative indications that the patients requiring minor surgical procedures benefited from the NP initiating timely interventions of these procedures – this is supported by the literature<sup>18,19</sup>.

The clinical protocol for minor surgical procedures has been developed to describe the elements of clinical assessment and decision making including the diagnostic and therapeutic options and referral points. The specific techniques and skills

involved are not a part of the protocol as there is the assumption that the skill development is achieved during NP clinical education, as was the case in this trial.

Wound biopsy is required to confirm the aetiology of a wound with unusual characteristics (i.e. to exclude neoplastic disease) or to identify organisms when the patient has not responded to standard antibiotic therapy. Sharp surgical curette or debridement is performed to remove contaminated or dead tissue, to prepare for skin grafting or for the application of biological skin substitutes, or to accelerate the healing process in senescent tissue. See Figure 8 for this clinical protocol.

### Impact of NP service

The results indicate that the wound care NP service was safe, efficacious and valued by patients. Furthermore, the interventions and referrals effected by the NP during the trial resulted in timely treatments for patients with complex wound care requirements in the acute care setting, thus improving access to requisite health care for this patient group.

The NP treatment decisions and clinical interventions were supervised and monitored by the clinical support team. This ongoing review of NP service was documented on the clinical review data sheets. Analysis of these records revealed agreement by all or relevant individual members of the clinical support team with the NP's clinical assessment and management decisions for 100 per cent of cases reviewed. Considering that during the trial these clinicians were responsible for the management of these patients, this brings strong support and clear endorsement for the safety of this NP service. Similarly the data relating to clinical outcomes indicated that the NP service was efficacious in bringing improvement to the health/functional status for patients in the trial.

### Conclusions and recommendations

This paper has reported on the trial of practice for the wound care NP role at The Canberra Hospital. The results from this trial of practice indicate that it is likely that the wound care NP in an acute care setting would contribute to improved clinical service for this vulnerable patient population. In addition, there are indications from this trial of practice that the NP level of service was well received by patients in that the service was considered to be timely, accessible and skilled.

Figure 5. Wound care nurse practitioner clinical protocol. Management of vascular ulcers.

These protocols represent a general guide to appropriate practice. They are inclusive, not prescriptive. They aim to provide information on which decisions can be made, rather than dictate a specific form of treatment.

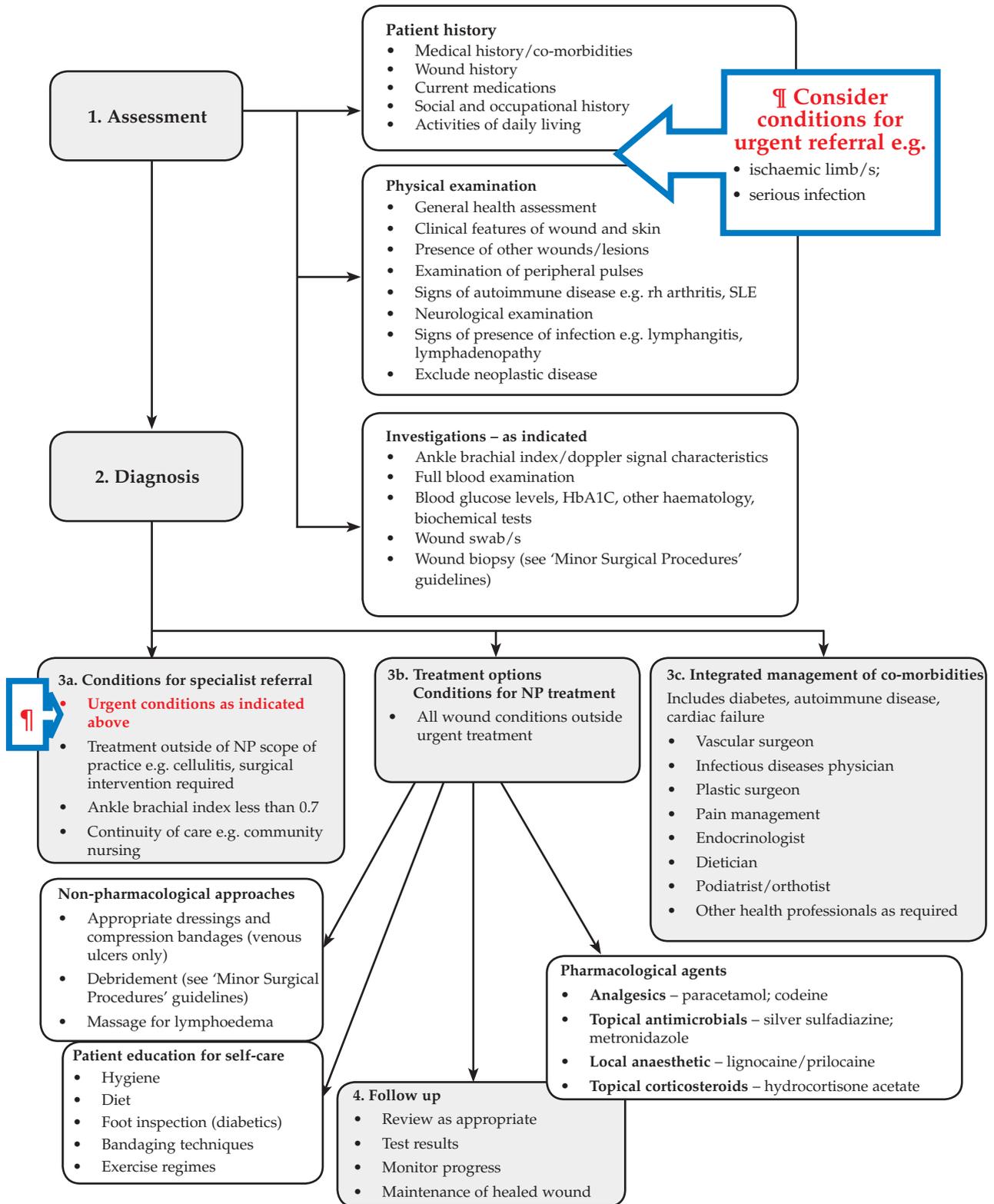


Figure 6. Wound care nurse practitioner clinical protocol. Management of complex wounds.

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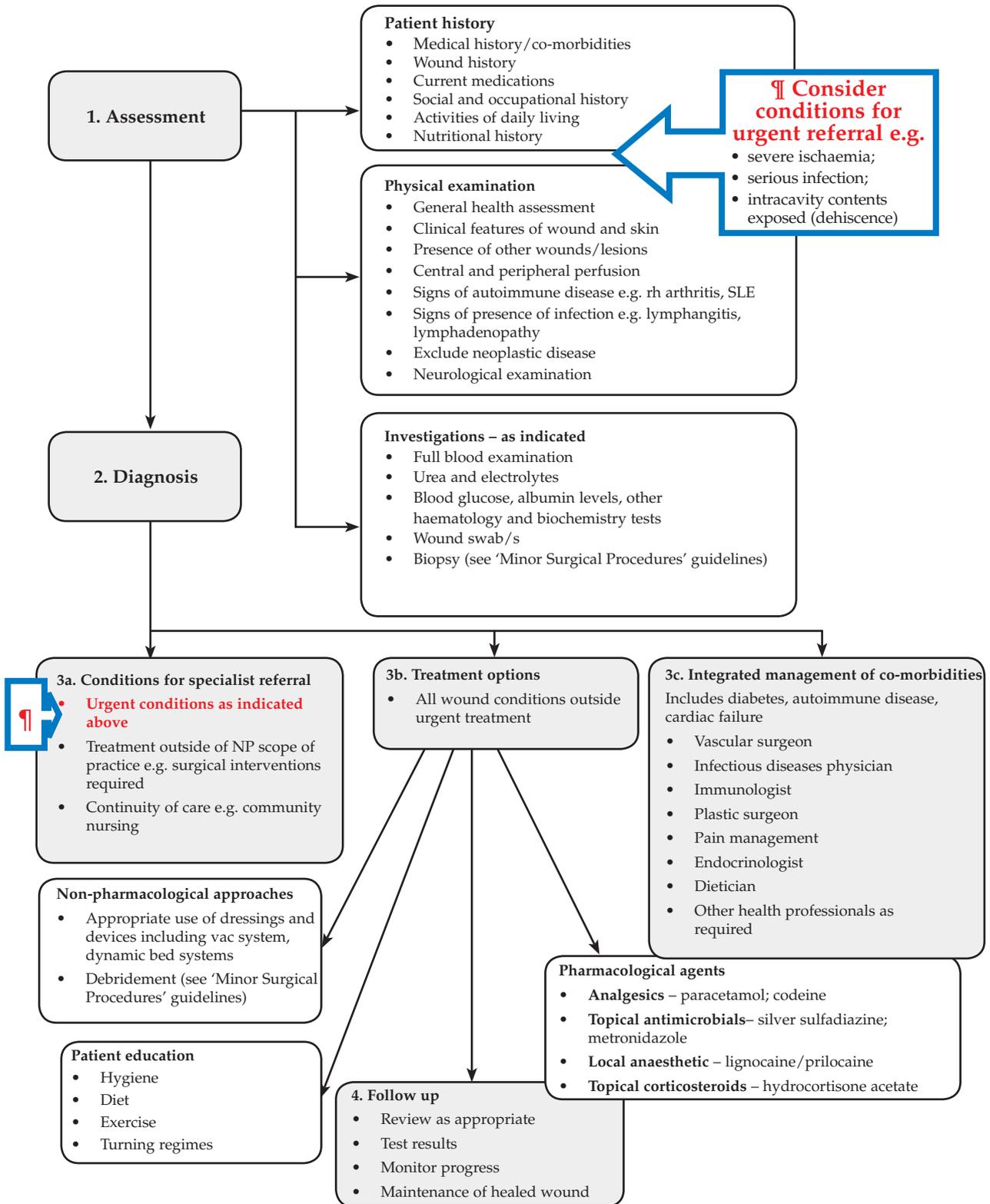


Figure 7. Wound care nurse practitioner clinical protocol. Diabetic foot ulcer: case management.

**Inappropriate candidates for ‘Minor Surgical Procedures’**

These protocols represent a general guide to appropriate practice. They are inclusive, not prescriptive. They aim to provide information on which decisions can be made, rather than dictate a specific form of treatment.

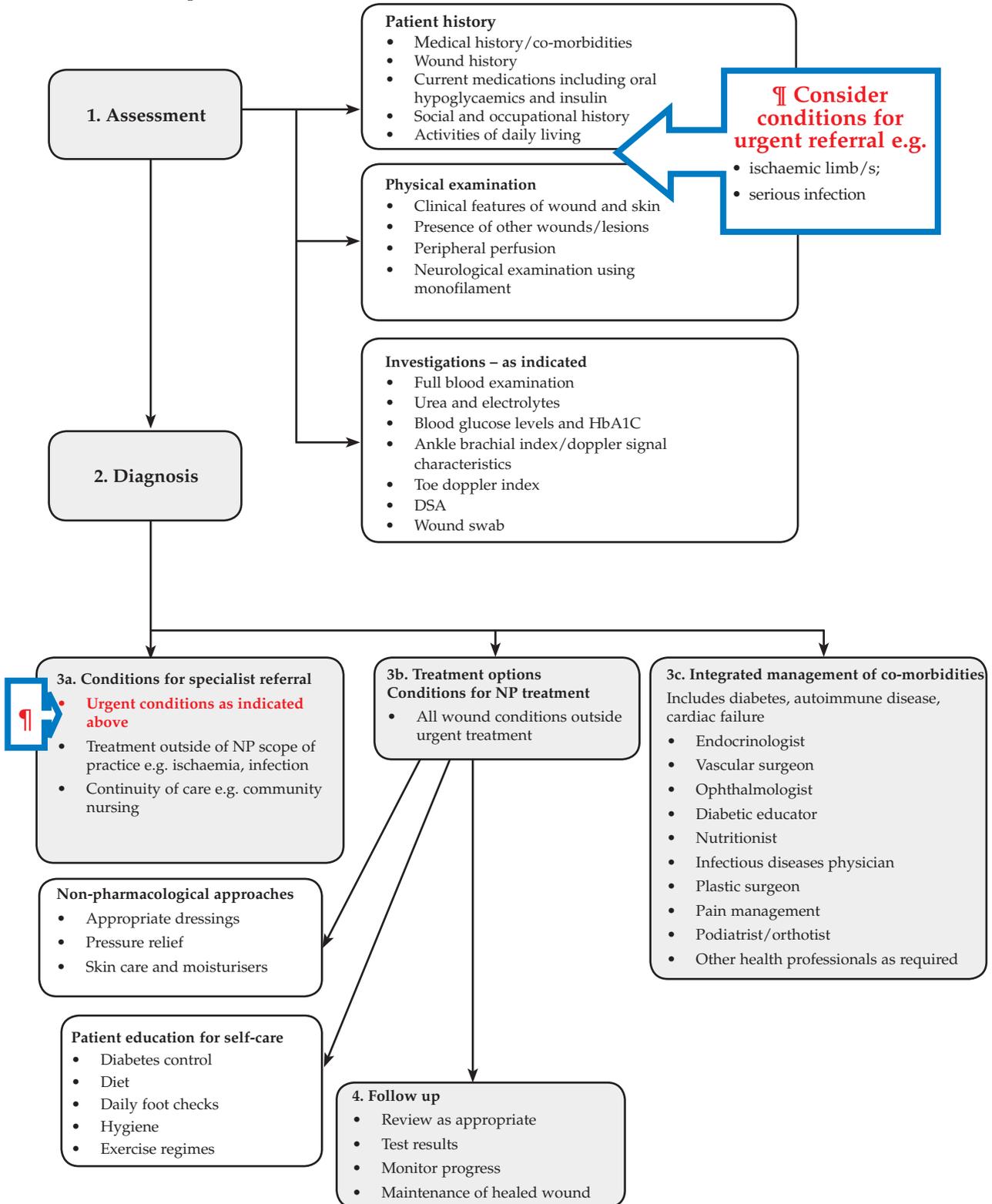
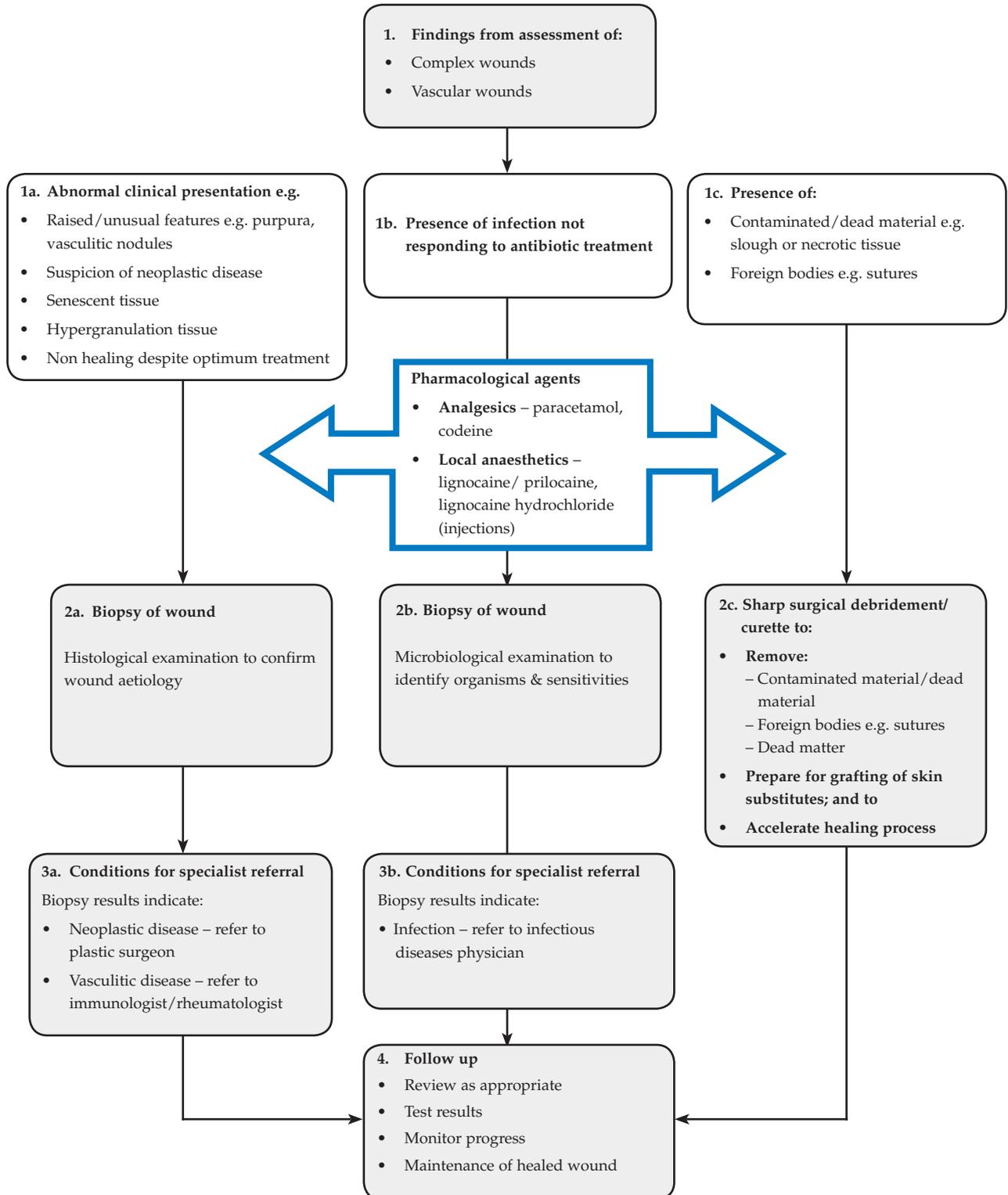


Figure 8. Wound care nurse practitioner clinical protocol. Minor surgical procedures for treatment and diagnosis in wound care.

**Contra-indications e.g. severe ischaemia (refer to specialist)**

These protocols represent a general guide to appropriate practice. They are inclusive, not prescriptive. They aim to provide information on which decisions can be made, rather than dictate a specific form of treatment.



The clinical protocols that provide the parameters for the scope of practice for the wound care NP model were derived from research data and agreed upon by the multidisciplinary clinical support and investigator teams. This gives a rigorous clinical credibility to the scope of practice for this model whilst providing a methodological framework for further development of clinical protocols in this and other NP models.

This trial of practice for the wound care NP model has demonstrated that the NP is safe, efficacious and skilled in the delivery of specialist wound care health service to the community. The escalating age of the ACT population is associated with increasing patient co-morbidities and consequently increasingly complex wound problems.

The findings from this trial have demonstrated that, in the long term, resources invested in a wound care NP service have the potential to improve the quality of health care and therefore the quality of life for patients with wounds. The recommendations resulting from this trial include that:

- Legislative change is enacted to support extended practice for a wound care NP.
- The clinical protocols and medication formulary be adopted to structure the parameters that define the scope of practice for the wound care NP model and be used to inform prescribing, ordering of diagnostic studies, referral privileges and therapeutic interventions for the model.
- The wound care NP service is incorporated as a new level of health care to improve outcomes and quality of life for patients with chronic wounds.
- Following legitimization of the role, further development and research is conducted to test the clinical protocols and monitor referral trends, staff utilisation, service provision, clinical outcomes and cost effectiveness of the wound care NP role in the acute care setting.

## Acknowledgments

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## Letter to the Editor

Dear Editor

I wish to advise you and your readers that Maersk Medical now market and sell the SORBSAN brand of products. It was noted on Page 84 of the May issue (Vol 10 No 2) in the article *Dressings 2* that Sorbsan was manufactured by Seton Scholl. Please also note that in addition to being available in Sheet and Rope/Packing, it is also

available in a Ribbon with Probe and the unique Sorbsan Plus (Flat with Pad).

Regards

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