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# Knowledge and perceptions of the NMSA role in Australia: A perioperative staff survey

## Abstract

In Australia, the role of the Non-Medical Surgical Assistant (NMSA) lacks recognition and professional regulation. This paper reports the findings of a recent survey of Australian perioperative staff [n=116] to determine their knowledge and perceptions of the NMSA role. The survey findings confirm that the role is not well established across the Australian health care system. Of concern is that perioperative staff are required to fill the role of surgical assistant on an impromptu basis. NMSAs with no post-graduate qualifications are perceived by perioperative staff to be less equipped in mentoring, leadership, theatre efficiency, safety and procedural knowledge. There was evidence that some perioperative praxes necessitate the role of the NMSA to avoid practices that compromise patient safety.

**Keywords** surgical assistant, Non-Medical Surgical Assistant, survey, perioperative practice, Australian health care system, scope of practice

## Introduction

Practising perioperative nurses work in a relatively flat hierarchy in the clinical setting in which their roles are largely dictated by differences in the context of care. On occasion, variances in contexts and resources require Registered Nurses (RNs) to perform roles, such as surgical assisting, not typically associated with their scope of practice and this is a reflection of the leadership often displayed by perioperative clinicians<sup>1-3</sup>. Recently, the role of

Nurse Practitioner (NP) has paved the way for nurses to expand their autonomy and scope of practice into the realm of other health care disciplines. As many possible Advanced Practice Nursing (APN) roles emerge in the Australian health care context, perioperative nurses will be required to consider the role of the NMSA and its relationship to scope of practice within the perioperative environment. Perioperative nurses may be able to develop pathways towards the role of the NMSA in ways that assure equality of cost and care delivery with those who currently perform the role<sup>4-6</sup>. This paper investigates the knowledge, perceptions and need for the role of NMSA in Australia.

## Background

In a recent study on the role of the NMSA in Australia, it was reported that only RNs and NPs were performing the role<sup>5,7,8</sup>. The role of the NMSA presents a potential domain for advanced practice in Australia, particularly for perioperative nurses<sup>9</sup>. Depending on the qualification of the clinician, the scope of their practice and degree of autonomy they have may vary within the bounds of national or state legislation<sup>10,11</sup>.

In a recent practice audit of the role of the NMSA in Australia only RNs and NPs responded as performing the role of the NMSA<sup>12</sup>. Since orthopaedic and general surgery are the most commonly performed surgeries in Australia it was anticipated that orthopaedic surgery would have the highest NMSA involvement

and general surgery the second highest<sup>13</sup>. This was confirmed by a recent practice audit of NMSAs in Australia<sup>12</sup>.

Advantages and disadvantages associated with the role of NMSA have been identified in the literature. Advantages were cost savings<sup>5,14-17</sup>, better access to medical care<sup>14,15,18-24</sup>, contributions to operating theatre and hospital proficiencies<sup>5</sup>, and positive influence on novice doctor training through added supervision<sup>8,25-29</sup>. Disadvantages identified were related to capability to perform advanced tasks<sup>14,20,29</sup>, education and continuing evaluation of the NMSA<sup>25,29-32</sup>.

In a study conducted in New Zealand on the role of the NMSA, most of those training for the role felt supported by other perioperative nurses, non-nursing staff and surgeons. The majority of surgeons who were surveyed as part of this report also felt the NMSAs were supported by other nursing staff. One surgeon and one NMSA from the private sector strongly disagreed that nursing and non-nursing colleagues understood or supported the role<sup>33</sup>. A paper generated from the implementation of NMSAs for public lists in a private hospital program in Australia highlighted that both perioperative staff and surgeons were very supportive and positive about the role of the NMSA<sup>34</sup>.

Very little literature exists about the opinions or perceptions of key stakeholders such as perioperative staff. Nurses, in particular, constitute a large proportion of the health care profession so surveying nurses on health-related research can yield valuable information<sup>35</sup>.

## Aim

The aim of this study was to survey perioperative nurses' knowledge and perceptions of the role of the NMSA to identify current perioperative practice relevant to the role of the NMSA.

## Method

This research takes the form of a descriptive, quantitative paper using survey method with convenience sample. Data analysis is descriptive. Institutional ethics approval for the survey was obtained from The University of Queensland (#2015000084). Permission from the Australian College of Operating Room Nurses (ACORN) to administer the survey at the national conference was obtained. Implied consent was achieved by participants progressing through the survey to final submission.

## Participants and sampling

Convenience sampling was adopted for this survey. As the total population of perioperative staff in Australia is difficult to accurately estimate, a sampling frame of the perioperative population who attended the 2016 ACORN National Conference was used. Using a specialty association of this type for sampling is time efficient and the researcher can access a geographically diverse sample<sup>36</sup>. The Australian attendees at this conference were approximately 900. Using an industry standard confidence interval of 95 per cent and margin of error of 5 per cent the sample size required to allow generalisability from the survey was 270<sup>37</sup>.

**Table 1: Demographic data of respondents**

Role title (n=124)	Number (percentage)
Director or Assistant Director of Nursing	2 (1.6%)
Nurse Practitioner	3 (2.4%)
Nurse Unit Manager or Assistant Unit Manager	18 (14.5%)
Nurse Educator	16 (12.9%)
Perioperative Nurse Surgeon's Assistant	5 (4%)
Clinical Nurse Specialist / Consultant	19 (15.3%)
Registered Nurse / Clinical Nurse	58 (46.7%)
Enrolled Nurse / Endorsed Enrolled Nurse	1 (0.8%)
Anaesthetic Technician	1 (0.8%)
Other	1 (0.8%)
State where practising (n=124)	
Victoria	24 (19.3%)
New South Wales	26 (20.9%)
Queensland	42 (33.8%)
Northern Territory	4 (3.2%)
Western Australia	10 (8%)
South Australia	8 (6.4%)
Tasmania	6 (4.8%)
Australian Capital Territory	4 (3.2%)
Region of practice (n=124)	
Metropolitan	71 (57%)
Regional	43 (34%)
Rural	7 (0.5%)
This question is not applicable to my role	3 (0.2%)

## Survey/tool

The survey/tool was developed by the first author (TH), who is a member of ACORN and an NMSA currently practicing in Australia. Pilot testing was undertaken by six health professionals assessing face validity. Content validity was assessed by a group of perioperative staff and NMSAs. No reliability assessment e.g. test-retest, alternative-form testing, was undertaken<sup>38</sup>.

## Results

A total of 124 surveys were started with a completion rate of 93 per cent (n= 116). As outlined in Table 1, respondents were predominately Registered/Clinical Nurses (46.7 per cent, n=58), Clinical Nurse Consultants (15.3 per cent, n=19) and Nurse Unit Managers (14.5 per cent, n=18). The highest number of respondents came from Queensland (33.8 per cent, n=42) and the largest group worked in a metropolitan area (57 per cent, n=71).

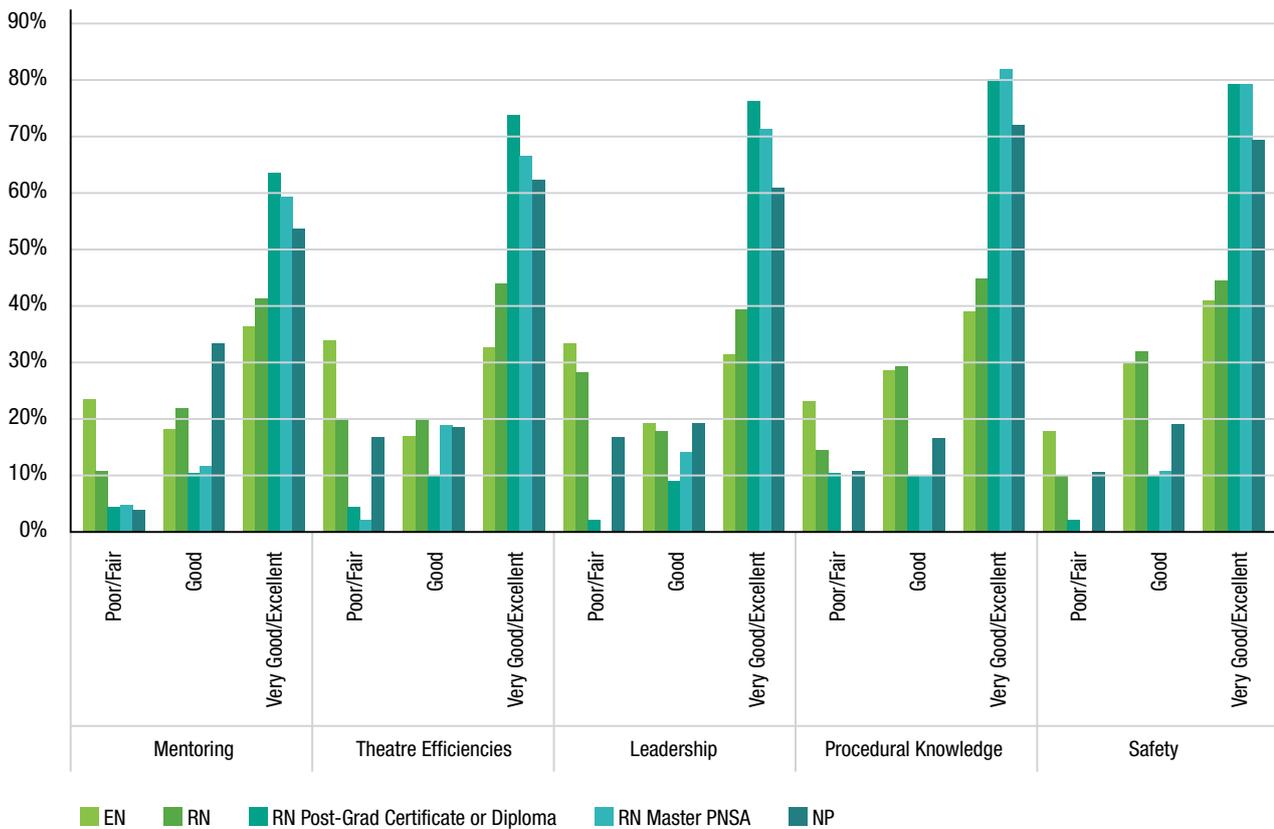
As outlined in Table 2, of roles exclusive to the NMSA role, Perioperative Nurse Surgeon's Assistant (PNSA) was the most familiar with 83.6 per cent (n=102) of respondents currently working with an NMSA in their unit. The generalist role of NP scored 95 per cent (n=116), which is higher than PNSA but NPs work in many specialties in the health care system. Perioperative Nurse Practitioners who work as NMSAs scored 51.6 per cent (n=63), much lower than the PNSA.

The specialty with the highest involvement of NMSAs in this survey was orthopaedics surgery (39.8 per cent, n=49), followed by general surgery with (33.3 per cent, n=41). For uptake in other surgical specialties see Table 2. Utilisation was highest in metropolitan private perioperative units.

**Table 2: Experience with the non-medical surgical assistant**

Familiarity with role titles (n=122)	Number (percentage)
Non-Medical Surgical Assistant (NMSA)	37 (30.3%)
Perioperative Nurse Surgeon's Assistant (PNSA)	102 (83.6%)
Nurse Practitioner (NP)	116 (95%)
Perioperative Nurse Practitioner (PNP)	63 (51.6%)
Registered Nurse First Assistant (RNFA)	68 (55.7%)
Physician Assistant (PA)	46 (37.7%)
Do NMSAs work in your unit? (n=122)	
Yes	42 (43.4%)
No	75 (61.4%)
N/A	5 (4.1%)
Which clinicians have you worked with in the role of NMSA? (n=122)	
Enrolled Nurse (EN)	19 (15.5%)
Registered Nurse	45 (36.8%)
Registered Nurse with a graduate certificate surgical assisting qualification	28 (22.9%)
Registered Nurse with a graduate diploma surgical assisting qualification	22 (18%)
Registered Nurse with a master's degree surgical assisting qualification	23 (18.8%)
Perioperative Nurse Practitioner	14 (11.4%)
Physician Assistant	6 (4.9%)
Allied Health Professional e.g. physiotherapist, occupational therapist	10 (8.1%)
Other	2 (1.6%)
No experience	49 (40%)
In which surgical specialties have you worked with an NMSA? (n=123)	
Cardiac/thoracic/vascular surgery	22 (17.8%)
General/paediatric surgery	41 (33.3%)
Neurosurgery	11 (8.9%)
Orthopaedic surgery	49 (39.8%)
Otolaryngology/head and neck/ENT surgery	8 (6.5%)
Plastic/reconstructive/cosmetic surgery	33 (26.8%)
Urology	20 (16.2%)
Gynaecology/obstetrics/fertility	32 (26%)
Ophthalmology	6 (4.6%)
Other	2 (1.6%)

**Figure 1: Perceived skill level of nurses working in the role of Non Medical Surgical Assistant**



Respondents were asked how often they were required to perform the role of surgical assistant on an 'ad hoc' basis due to the absence of a designated surgical assistant. This occurred daily for 17 per cent of respondents (n=21), once a week for 18.7 per cent (n=23) and once or twice a month for 22 per cent (n=27). The most common circumstance for this was 'out of hours emergency' (52.4 per cent, n=64), 'pre-arranged assistant didn't show up or needs to leave early' (29 per cent, n=36) and 'regular session with no pre-arranged assistant' (24.5 per cent, n=30). When asked to indicate how often a number of different clinicians performed the role of surgical assistant, 21.9 per cent of respondents (n=23) indicated the instrument nurse did so, on a daily basis.

Perceived skill level of the various nurses working in the role of NMSA

are outlined in Figure 1. ENs and RNs with no NMSA qualifications were rated 'poor/fair' a higher proportion of the time across all categories (mentoring, leadership, theatre efficiencies, safety and procedural knowledge) compared to RNs with an NMSA qualification and NPs who were predominately rated 'good' or 'very good / excellent'. Non-nursing NMSA numbers were too low for a comparison.

Regarding governance of the NMSA role in Australia, the majority of respondents (88.4 per cent, n=107) thought the Australian Health Practitioner Regulation Agency (AHPRA) via the Nursing and Midwifery Board Australia (NMBA) should participate in the governance process and 52 per cent (n=63) thought the Royal Australasian College of Surgeons (RACS) should have input into governance of the role.

## Discussion

While the sample of respondents did not reach the statistically significant figure of n=270, this is the first attempt at surveying perioperative staff across Australia about their perceptions and knowledge of the role of the NMSA. Completion rate of respondents was 92 per cent. Responses indicate the role of NMSA in Australia is not yet a mainstream role with more than half of the respondents (61.4 per cent, n=75) not incorporating NMSAs in their units and (40 per cent, n=49) having no experience with an NMSA at all. It is difficult to encourage nurses to participate in a survey where they are unable to see its relevance<sup>35</sup> and lack of exposure to the NMSA role would reinforce this irrelevance.

Three interesting points were highlighted in this survey:

### 1. Perioperative staff members are required to fill the role of surgical assistant on an impromptu basis

If perioperative staff members are required to fill the role of surgical assistant this would add weight to the argument that a need exists in the Australian health care system for the role of the NMSA. The first issue this raises is that the health care facility must provide a staff member in this situation. The second issue of concern is that, while some of the tasks performed by perioperative staff members who fill in as surgical assistants may seem very rudimentary – for example ‘pointing the camera’ for vision during laparoscopic procedures – using untrained assistants has implications related to medico-legal outcomes and patient safety in the event of a complication both intraoperatively and in the postoperative period<sup>39</sup>. Staff who perform but are not formally designated to the role of surgical assistant leave themselves exposed to organisational and medico-legal ramifications<sup>40</sup>.

### 2. The instrument nurse is performing a dual role of surgical assistant, in some cases, on a daily basis

Twenty-two per cent of respondents indicated that the instrument nurse was required to also perform the role of surgical assistant on a daily basis. Standards of practice from both ACORN and the Association of Perioperative Registered Nurses (AORN), the peak perioperative nursing body in the United States of America, state that the NMSA cannot concurrently function as an instrument nurse and cannot partake in the counting procedure<sup>41, 42</sup>. When the instrument nurse is also performing the surgical

assistant role, patient safety is considered to be compromised. This compromise is related to issues with establishing priorities between assisting the surgeon and conducting a comprehensive count<sup>43</sup>.

### 3. NMSAs with no post-graduate qualifications are perceived by perioperative staff to be less equipped in the skills of mentoring, leadership, theatre efficiencies, safety and procedural knowledge.

This poses the question: What differences in their ability to execute advanced practice tasks exist between diploma-prepared ENs, degree-prepared RNs, RNs with post-graduate NMSA qualifications and master’s level NPs?<sup>44</sup> The differences in specialty practice and advanced practice lie in the level of education which, in turn, promotes the clinician’s ability to execute complex tasks<sup>45</sup>.

Regarding governance of the NMSA role in Australia, almost 85 per cent of respondents thought AHPRA via the NMBA should govern this role. This would ensure that the role of NMSA in Australia was a nursing role based on a nursing model of care. This varies from some of the international NMSA roles that have developed based on the medical model of care rather than patient-centred care.

### Limitations

Surveys are considered a cost-effective mode of collecting information across an immense array of clinicians and practice settings<sup>46</sup>: however, surveys of health care providers are characterised by low response rates<sup>35,47</sup>. Low response rates raise concerns about the generalisability of the results. Nurses are reluctant to participate in a survey if the value or relevance is

not clear<sup>35</sup>. As the role of NMSA is not a mainstream health care role in Australia, many nurses are not familiar with the title or the role. Entry in a draw of a non-monetary prize was used as incentive to participate in the survey but this technique has been shown to yield varying success<sup>35,46</sup>.

### Conclusion

A need exists in the Australian health care system for the NMSA role. This need is reinforced by perioperative staff reporting they regularly fill in for absent surgical assistants when there is no pre-arranged assistant, the pre-arranged assistant needs to leave and in out-of-hours cases. Survey findings also indicate that the dual role of instrument nurse and surgical assistant is being performed in Australian perioperative units. Support for the formal recognition and regulation of the NMSA role in Australia is evidenced by perioperative staff perception that NMSAs with a higher level of qualification consistently perform tasks related to mentoring, leadership, theatre efficiencies and procedural knowledge at a ‘good’ or higher level. In the interests of patient safety, a dialogue should commence between ACORN, the Royal Australasian College of Surgeons and the Nursing and Midwifery Board of Australia to determine the best approach for recognising, educating and professionally regulating the NMSA role in Australia.

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