

# Relevance of a specialised nurse in thoracic surgery

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**Abstract:** This review of the development of a specialist nursing service within a thoracic surgery centre looks at the implementation of a specialist nursing role. An analysis of the needs of the service allowed identification of areas where specialist nursing input could have a positive impact on the patient pathway: (I) a nurse-led clinic for review of patients who require early review after discharge, in particular those discharged home with chest drains, was developed; (II) improvements to the patient pathway such as day of surgery admission were introduced along with a reduction in the number of patients who require admission to intensive care after surgery; (III) the specialist nurse leads on the introduction of new technology such as electronic chest drains. The specialist nurse works in the follow-up clinic, seeing patients autonomously, with a particular emphasis on patients under long-term follow-up after thoracic surgery. A telephone clinic has been introduced for patients on long-term CT follow-up. These are well received by patients; (IV) specialist nurses also work on in-patient wards, providing specialist input to the patient pathway, and can also take on work traditionally undertaken by junior medical staff. To be successful the specialist nursing role needs to be supported by the multidisciplinary team (MDT). These roles are developed to meet the needs of each unit and can have a very positive impact on the patient pathway.

**Keywords:** Nursing; advanced nursing practice; thoracic surgery; service development

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## Introduction

The Advanced Nurse Practitioner, Thoracic Surgery at the John Radcliffe Hospital, Oxford, United Kingdom (UK), has been in post since 2011. This was a new post and has been developed to meet the needs of the local service. In examining the relevance of specialist nurses in thoracic surgery, I have reflected on the process of developing our service in Oxford and the areas where having specialist nursing input has made the most impact to the patient pathway.

## Introducing and running a specialist nursing service

In our experience, most specialist nursing roles are unique, having developed to meet the needs of the local service. A service needs analysis was key to developing

our specialist nursing service.

## Service needs analysis

We undertook a service needs analysis when introducing our service. The aim was to identify key areas where the specialist nurse could have an impact on the patient pathway. Senior staff from all specialities involved in the thoracic surgical patient pathway were asked to take part along with members of the thoracic surgery nursing and medical teams and patients undergoing surgery. They were asked for their views on the current patient pathway, what could be improved and what they thought the priorities for the specialist nursing service should be. Benchmarking with other centres who had specialist nurses in post was undertaken. This information was combined with issues identified in management plans and patient feedback, obtained as part of our unit patient involvement

programme, to identify areas where improvements to the pathway could be made. The initial objectives from this exercise were:

- ❖ Set up a nurse-led clinic to follow up patients discharged with chest drains in place and patients who need further specialist nursing input after discharge;
- ❖ Set up a telephone helpline for patients and health professionals to facilitate easy access to specialist advice for these groups;
- ❖ Identify areas for service development where the specialist nurse can have a positive impact on the patient pathway:
  - ◆ Introduce day of surgery admission and a day case patient pathway;
  - ◆ Reduce the use of intensive care after surgery;
  - ◆ Identify technology, which will have a positive impact on the patient pathway and source funding to introduce it.

The analysis also identified the educational needs of the specialist nurse and a support network to aid with the implementation of the objectives. Baseline data on length of stay and the patient pathway were collected.

### The multidisciplinary team (MDT)

MDT support was identified as important for the new role to succeed. The nurse needs to have an identifiable role within the MDT and the support of the team members in carrying out this role. Within our lung cancer MDT, we already had lung cancer specialist nurses who provide support to patients undergoing oncology treatment (1), but there was very little support available for patients undergoing surgery. To improve the support available to patients a telephone helpline was set up and all patients having surgery are given contact details for the specialist nurse at their pre-admission clinic appointment. Patients can contact the specialist nurse at any time before or after their surgery. The nurse also acts as a first point of contact for any health care professional with questions or concerns about patients under the care of the thoracic surgeons. Providing a prompt response to queries and facilitating the required actions has led to this role being valued by all members of the MDT.

### Nurse-led clinics

The need for a nurse-led service to care for patients who

are discharged home after surgery with a chest drain was identified as an important part of the specialist nurse role early in the development of our service. Approximately 15% of our patients have a prolonged air leak after thoracic surgery. With appropriate support at home these patients can have an ambulatory drain fitted and be discharged home (2,3). Our clinic runs weekly and is a completely nurse-led service. The specialist nurse undertakes a clinical examination of the patient, reviews imaging and makes decisions about on-going management of the patient. Medications can be reviewed and prescribed by the nurse as appropriate, and the medical teams are available for discussions about on-going care if required. The clinic accepts referrals from all members of the MDT and will review any thoracic surgery patient who needs early review after discharge or who can be appropriately seen by the specialist nurse (for example patients with late presentation of wound problems). Nurse-led follow-up for patients with chest drains is well received by patients (4) and allows for timely review and drain removal.

When setting up a nurse-led clinic, protocols or guidelines can be utilised as required and the appropriate administration support must be provided. In our clinic, communication with other health care professionals caring for the patient and the general practitioner is by clinic letter. The clinic receives the same administrative support as all others within the department.

### Service development

Many of the areas for action identified in our initial service needs analysis come under the heading of service development. A specialist nurse can be ideally placed to lead on new developments within the service as she will have contact with all of the professionals involved in the patient pathway and can provide education and support for change across department boundaries. Examples of new service developments within our department include.

#### *Day of surgery admission*

All patients now attend a specialist pre-admission clinic with an anaesthetist present (5). Any issues that may cause concern during surgery or investigations that are outstanding are identified in the clinic and addressed prior to admission. Patients are admitted to a non-specialist admissions day ward on the day of surgery and most will walk to theatre. The specialist nurse devised the protocols

**Table 1** Primary lung cancer follow-up imaging and review programme

Follow-up prior to introduction of the ANP role	Current follow-up programme
CXR every 3 months for 2 years	CT every 6 months for 2 years
CXR every 6 months between years 2 and 5	CT every year between years 2 and 5

ANP, advanced nurse practitioner; CXR, chest X-rays; CT, computed tomography.

for running the pre-admission service and provided education and support to the admission ward (which is not staffed by trained nurses) when implementing the change. She continues to provide assistance and support as required. Prior to this project, all patients were admitted to the cardiothoracic surgery ward the day before surgery; currently 98% of our thoracic surgery patients are now admitted to the admissions ward on the day of surgery.

#### ***Reduction in admissions to intensive care after surgery***

Prior to the implementation of change, most patients having thoracic surgery were admitted to intensive care following thoracic surgery. The recovery staff were not confident in the management of chest drains after surgery and found management of pain challenging. We introduced a programme of education for recovery nurses along with guidelines and care plans, which increased the confidence of the staff. Less than 5% of our patients are currently admitted to intensive care after surgery. The most common reasons for intensive care admission are that patients are co-morbid, are having extensive surgery requiring extra monitoring or have complications in theatre. Once the initial education programme was complete, very little additional input has been required as this knowledge is now part of the core skills of the recovery practitioners. The specialist nurse continues to provide support for specific patient issues as required.

#### ***Introduction of electronic chest drains***

The evidence required to support the introduction of electronic chest drains (6–8) was collected by the specialist nurse. The use of traditional drainage systems on the cardiothoracic ward was audited and a comparison made with the cost of using the preferred electronic system. This, along with the enhancements to patient care that introduction of the new drains would provide, was presented in a business case which was approved by the divisional managers. The specialist nurse managed the introduction

of the new drains and continues to provide education and support as required.

#### **Resected lung cancer follow-up pathway**

As the specialist nursing role became embedded within our service, it became clear that the follow-up of patients who have had lung cancer resected could be improved and would be suitable for management by a specialist nurse. Within our institution, patients who have surgery for pathology other than primary lung cancer are referred back to their primary team for on-going follow-up. However, patients with resected lung cancer stay under the thoracic surgeons for follow-up and surveillance. Prior to the introduction of the specialist nurse, these patients were usually reviewed by the junior doctors working in the clinic. Within the UK, there were no clear guidelines on the ideal follow-up pathway for patients who have had lung cancer resected. We worked with our MDT to devise a computed tomography (CT) based follow-up programme (*Table 1*).

The specialist nurse undertook a period of supervised practice; then began to practise autonomously within the clinic (9). Over a 4-year period, there were 546 clinic appointments in 189 clinics for 285 patients with primary lung cancer (10). There were 278 appointments for patients having a first-time follow-up after surgery for other conditions (most commonly excision of lung metastasis, pleurodesis for pneumothorax and biopsy). This role has been well received by the MDT and by patients. The presence of the specialist nurse within the follow-up clinics increases capacity, allows trainees to observe consultant practice with the clinic and to see a wider range of patients. The patients appreciate the continuity of care and improved access to specialist nursing support. Abnormalities and concerns detected during the follow-up programme are presented at the MDT meetings by the specialist nurse, who takes responsibility for the actions requested by the team. This role is appreciated and respected by the MDT.

Recently, we have developed a nurse-led telephone follow-up clinic for this group of patients. The patients

attend their local hospital for the CT scan; then have a formal appointment to be called with the results. In the first seven months, there were 129 patient appointments in 24 telephone clinics. Average call length is 10 minutes with a range of 3 to 20 minutes. Every patient scheduled for a telephone appointment was contactable at the appointed time. Satisfaction with the clinic is high with 97% patients requesting their next follow-up appointment in the telephone clinic. Patients appreciate the opportunity to receive their results without having to make a second journey to the hospital (traffic and parking in Oxford is notoriously bad). They continue to receive continuity of care as the nurse who calls them is the same nurse who they saw in the consultant's clinic and the formal appointment time and date is well received. The specialist nurse now reviews all of the CT follow-up results and allocates patients to the most appropriate clinic.

Telephone follow-up by a specialist nurse one week after discharge is also well received by patients. Contacting patients at this point in time can resolve issues early and prevent readmission (11). Guidelines are available to assist the specialist nurse when making these calls.

### Advanced practice skills

Specialist nurses require advanced practice skills to undertake these roles. Excellent history taking and clinical examination skills along with advanced communication skills are essential within our specialist nursing service. A non-medical prescribing qualification along with appropriate radiation safety training to support a radiology requesting protocol are also required for autonomous practice within the clinical setting.

Specialist nurses have an important role on in-patients wards, providing specialist input to the patient pathway and education and support to the ward team. Nurses with advanced practice skills can also take on many of the tasks usually undertaken by junior doctors in in-patient areas (12). Studies have demonstrated that introducing nurse practitioners to undertake duties traditionally undertaken by junior doctors can have a positive impact on patient experience, outcomes and safety (13). In the UK many thoracic surgery centres now have ward-based nurse practitioners providing much of the care previously undertaken by junior medical staff.

### Conclusions

Specialist nursing roles can have a positive impact on all

aspects of the thoracic surgery patient pathway. There isn't one template for roles of this kind; instead they are introduced and developed to meet the needs of each particular service. They need the support of all members of the MDT to be successfully implemented.

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### Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.

### References

1. Tod AM, Redman J, McDonnell A, et al. Lung cancer treatment rates and the role of the lung cancer nurse specialist: a qualitative study. *BMJ Open* 2015;5:e008587.
2. Mueller MR, Marzluf BA. The anticipation and management of air leaks and residual spaces post lung resection. *J Thorac Dis* 2014;6:271-84.
3. Burt BM, Shrager JB. Prevention and management of postoperative air leaks. *Ann Cardiothorac Surg* 2014;3:216-8.
4. Williams S, Williams J, Tcherveniakov P, et al. Impact of a thoracic nurse-led chest drain clinic on patient satisfaction. *Interact Cardiovasc Thorac Surg* 2012;14:729-33.
5. National Lung Cancer Forum for Nurses. Guidelines to Prepare and Support Patients Undergoing a Lung Resection. London: NLCFN, 2013.
6. Pompili C, Detterbeck F, Papagiannopoulos K, et al. Multicenter international randomized comparison of objective and subjective outcomes between electronic and traditional chest drainage systems. *Ann Thorac Surg* 2014;98:490-6; discussion 496-7.
7. Jablonski S, Brocki M, Wawrzycki M, et al. Efficacy assessment of the drainage with permanent airflow measurement in the treatment of pneumothorax with air leak. *Thorac Cardiovasc Surg* 2014;62:509-15.
8. Gilbert S, McGuire AL, Maghera S, et al. Randomized trial of digital versus analog pleural drainage in patients with or without a pulmonary air leak after lung resection. *J Thorac Cardiovasc Surg* 2015;150:1243-9.
9. Mitchell J, Black E, Belcher E. Successful development of a nurse led thoracic surgical follow-up clinic for lung cancer patients. *Lung Cancer* 2014;83:S39-S40.

10. Mitchell J. MA 08.05 Surviving Lung Cancer, an Analysis of the Patient Concerns Identified in a Nurse-Led Follow-Up Clinic after Thoracic Surgery. *J Thorac Oncol* 2017;12:S1832.
11. National Lung Cancer Forum for Nurses. Guideline for Telephone Follow up for Patients Undergoing Thoracic Surgery. London: NLCFN, 2013.
12. Royal College of Nursing. Advanced nurse practitioners - an RCN guide to advanced nursing practice, advanced nurse practitioners and programme accreditation. London: RCN, 2012.
13. McDonnell A, Goodwin E, Kennedy F, et al. An evaluation of the implementation of Advanced Nurse Practitioner (ANP) roles in an acute hospital setting. *J Adv Nurs* 2015;71:789-99.

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