NEW ZEALAND NURSES ORGANISATION | TŌPŪTANGA TAPUHI KAITIAKI O AOTEAROA

PERIOPERATIVE NURSES COLLEGE N.Z.N.O

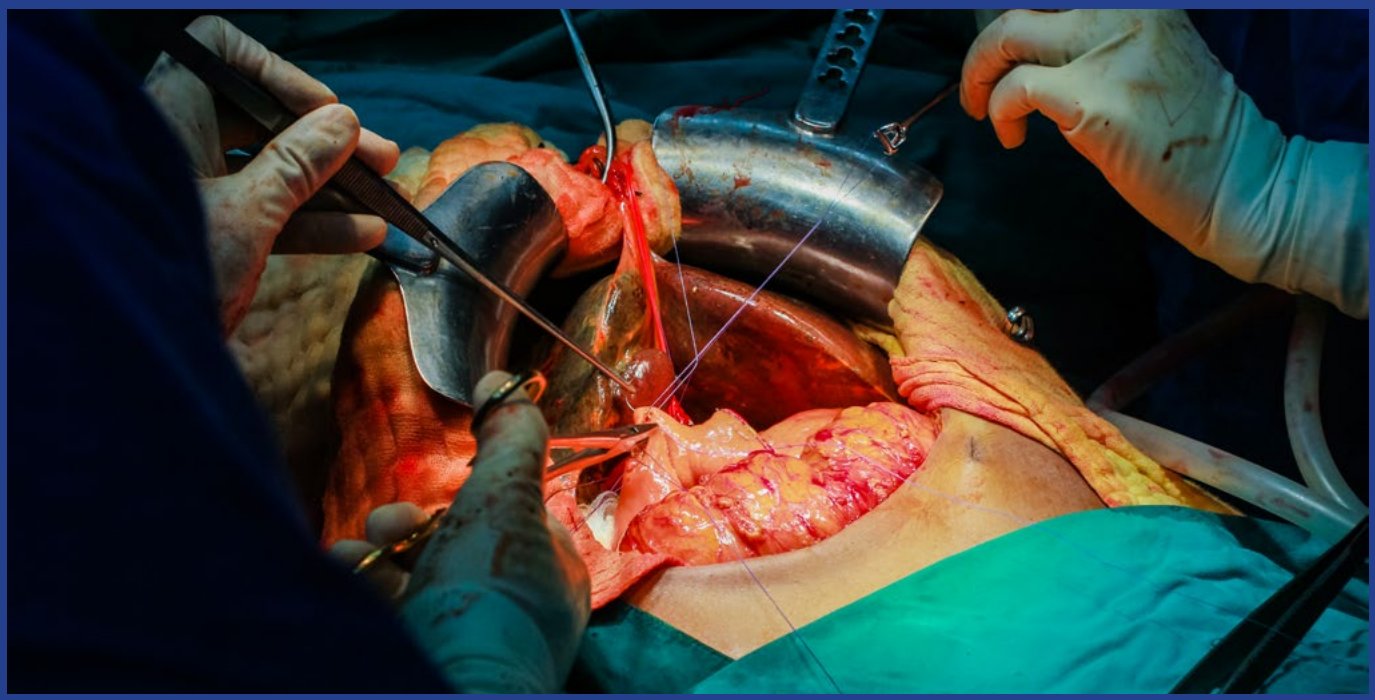
The Dissector

Journal of the Perioperative Nurses College of the New Zealand Nurses Organisation

September 2021, Volume 49, Number 2

LIVER TRANSPLANTS

A brief history of the NZ experience



LITERATURE REVIEW
Type 1 Diabetes in the Perioperative Environment

MEDICAL IMAGING NURSING
Technology driven evolution of the role

PAEDIATRIC NURSING
Waipapa Hospital Children's Recovery

DEVICE TECHNOLOGIES

STERIS

Performance and versatility

A surgical table that simply does more.

STERIS® 5095
GENERAL SURGICAL TABLE

One Integrated Approach to Healthcare

STERIS

0508 338 423 | www.device.co.nz | sales@device.co.nz

The Dissector
The official Journal of the Perioperative Nurses College of the New Zealand Nurses Organisation (PNC[NZNO]).

September 2021, Volume 49, Number 2

www.nzno.org.nz/groups/colleges/perioperative_nurses_college
The Dissector is published on a quarterly basis (March, June, September & December) by Advantage Publishing Ltd.

Editor: BRON TAYLOR
Email: dissector.editor@gmail.com

Publisher: MICHAEL ESDAILE
Advantage Publishing Ltd
michael@advantagepublishing.co.nz
Tel: 09 416 5309 / 027 495 4510

Editorial Committee:
CATHERINE FREEBAIRN
DEVIKA COOK
REBECCA PORTON-WHITWORTH
SHONA MATTHEWS
ANNIE DU PLESSIS

CIRCULATION:
The Dissector is direct mailed to all members of PNC,[NZNO] as well as other interested subscribers, libraries and teaching institutions.

NON-MEMBER SUBSCRIPTIONS
Within New Zealand, $70 (inc. postage) per annum. Overseas subscriptions (inc airmail postage): Australia: $80;
Pacific Islands: $87; Thailand: $86; Vietnam: $87; India: $93; Pakistan: $93; China: $86; Japan: $86; Korea: $86; Singapore: $86; UAE: $93; USA: $86; Canada: $87;
South Africa: $93; Ireland: $87; UK: $87.

EDITORIAL MATERIAL:
Prepared by the Editorial Committee from submitted and invited material. Whilst every effort is made to ensure accuracy, the Publishers and their agents take no responsibility whatsoever for errors, omissions or any consequences of reliance on this material or the accuracy of the information.
The inclusion or exclusion of any product or advertisement in no way means the Publishers or the Perioperative Nurses Colllege advocate or reject its use in any way.

CORRESPONDENCE
The Editorial Committee welcomes all correspondence intended for publication. Correspondence should be addressed to the Editor, Bronwyn Taylor:
dissector.editor@gmail.com
Or call: 027 323 2857
Please ensure the author's name, address and telephone number appears on the title page of any article or letter intended for publication.

COPYRIGHT
The Dissector is copyright in its entirety. Material may not be reprinted without the written permission of PNC,[NZNO] Contact the Editor for permission:
dissector.editor@gmail.com

PNC,[NZNO] WEBSITE
http://www.nzno.org.nz/groups/colleges/perioperative_nurses_college
ISSN: 1174-7579

Contributions welcome!

Tēnā koutou katoa. Welcome to the September issue which marks 47 years since the first issue of *The Dissector* was published. Appropriately, this issue we have a mixture of topics looking back to the past as well as to the future. Many things have changed over the years, though the Editorial Committee's commitment to providing you with up-to-date and interesting articles relevant to perioperative and medical imaging nurses has remained constant. Our ability to do this relies on your involvement and contributions. We want to hear from you if you have ideas on topics or themes you would like us to publish, and if you are completing post-graduate study, we'd love for you to share what you have learned with your peers.

Medical Imaging Nurses

This issue's medical imaging focus is on the emergence of the radiology nursing role. When I worked in radiology a couple of years ago, I quickly came to realise the value of these often-under-appreciated nurses, as they provide skilled care for patients in an environment dominated by medical and allied health professionals. Committee members Catherine Freebairn, Gill Martin and former Chief Editor Shona Matthews reflect on the past and present responsibilities of the radiology nurse.

Liver Transplants

This issue provides a brief history of liver transplant in Aotearoa New Zealand. Recently retired co-author Robyn Grant was one of the founding members of the liver transplant service in this country. Clinical indications for transplant and surgical techniques are explained, followed by insight into the perioperative nursing team who provide this essential service.

The Challenge

Michael Esdaile from AdVantage Publishing writes about the 'Challenge' held during the Perioperative Nurses College conference. The challenge has been running for over 40 years and Michael humorously provides us with a history of this event.

Care of the Diabetic Patient

Olivia Talyancich reviews current literature on best practice for the assessment and management of type 1 diabetes patients within the perioperative environment. Olivia discusses HbA1c levels, evaluation of comorbidities, preoperative fasting time, glycemic monitoring and insulin administration during surgical procedures. She argues that we should have a clear understanding of diabetes and its implications, using best-practice research to guide care of diabetic patients through their perioperative journey.

Paediatric-specific care

First time author Angeline Yates writes about the benefits of having a paediatric-specific surgical admissions unit, recovery and day stay unit in the recently opened Waipapa Hospital in Christchurch. Angeline contends that providing a space which supports a whānau-centred model of care nurtures our tamariki, leading to best patient outcomes.

Regional Reports

After a hiatus, two regional reports are included in this issue. The recently amalgamated Canterbury-West Coast / Nelson-Marlborough Region provide an overview of their June education session and the Auckland-Northland PNC Region give us an overview of their annual OBEX Medical-sponsored medical imaging education day.

Volunteers for the Pacific

The Royal Australasian College of Surgeons (RACS) Global Health provide an article about their volunteer medical teams who visit Pacific Island countries. With the opening of the Cook Islands quarantine-free travel bubble, and hopefully quarantine-free travel extending to other Pacific countries soon, they are seeking expressions of interest from Perioperative Nurses who would like to participate in upcoming overseas activities.

As I am writing this, we are in Level 4 lockdown due to community transmission of the highly infectious Delta strain of COVID-19. I do hope that the Government's rapid response is successful in eliminating the virus from our community. Our hopes of being able to meet together at the annual PNC Conference in Christchurch have been dashed. I had so looked forward to seeing you all there and discussing ideas for future articles, so now, if you do have ideas for articles for your journal, please do not hesitate to email me: dissector.editor@gmail.com

Noho ora mai.

– Bron Taylor, Chief Editor

The Dissector

Volume 49, Number 2

INDEX TO ADVERTISERS

Touching Base

EDITORIAL COMMITTEE

BRONWYN TAYLOR Associate Nurse Director-Workforce Development, Education and Training Perioperative Services, Auckland DHB. Email: btaylor@adhb.govt.nz

CATHERINE FREEBAIRN RN, BN, PG Cert. Radiology Nurse, Radiology Dept., Hawkes Bay DHB. catherine.freebairn@airnet.co.nz

DEVIKA COOK RN, BN, Dip Mgmt. Charge Nurse, PACU, Auckland DHB. devikac@adhb.govt.nz

REBECCA PORTON-WHITWORTH RN, MNurs, Clinical Nurse Specialist Cardiothoracic Operating Theatres RNFSA, Operating Theatre, Christchurch DHB. Email: Rebecca.Porton-Whitworth@cdhb.health.nz

SHONA MATTHEWS RN, BN, MHsc (Hons) Nurse co-ordinator Radiology, Green Lane Clinical Centre. shonamat@adhb.govt.nz

ANNIE DU PLESSIS RN, Radiology Dept, Hawkes Bay DHB. annieduplessis10@gmail.com

NATIONAL COMMITTEE

Chairperson – Juliet Asbery asberyjuliet@gmail.com;
Secretary – Berice Beach pnc.sec@xtra.co.nz;
Treasurer – Rob McHawk rob.hawker@me.com

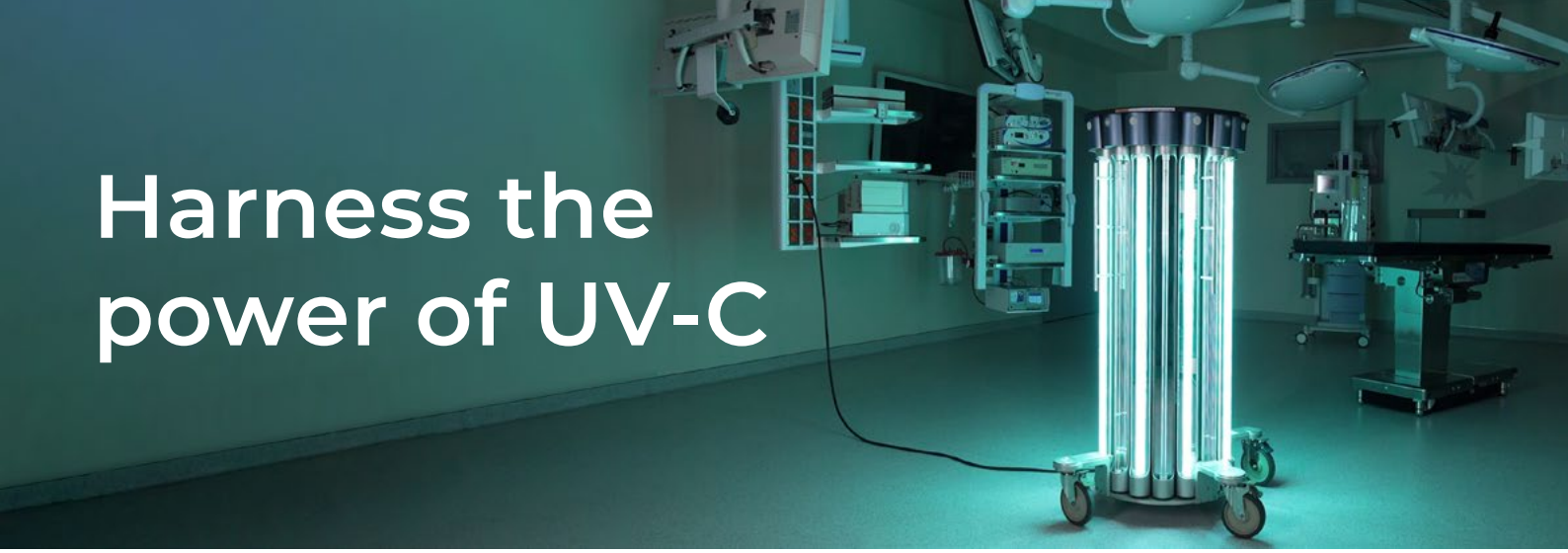
REGIONAL REPRESENTATIVES

Auckland-Northland – Gillian Martin;
Central North Island – Cassandra Raj;
Ruahine-Egmont – Karen Prendiville;
Hawkes Bay – Jan-Marie Wilson;
Wellington – Amanda Cox;
Nelson-Marlborough – Sabine Mueller;
Canterbury-West Coast – Nadine Harrison-Smith;
Otago – Natalie McLean;
Southland – Leanne Scott.

AUTHOR GUIDELINES

The Editorial Committee of *The Dissector* welcomes articles, reports, book reviews, letters to the editor, exemplars, case study experiences, research papers/projects, theatre regional news etc. Please send your ideas to: dissector.editor@gmail.com

COVER IMAGE sourced from international image library Shutterstock as there was no suitable local image available.



Harness the power of UV-C

Opritech can help you harness the power of UV-C light to eliminate pathogens.

We supply a range of innovative infection prevention solutions including air purifiers, upper air systems, disinfection chambers and disinfection robots.

PHILIPS

UV-C disinfection luminaire

natéosanté

SKYTRON®

UV-C light is a well-recognised, widely used method of eliminating pathogens and has been used for over 40 years. It provides a fast, efficient and chemical free way of eliminating pathogens in a range of settings.

Contact us for more information on 0800 32 40 32,
email sales@opritech.co.nz or visit opritech.co.nz

OPRITECH
THEATRE EQUIPMENT SPECIALISTS

part of CUBRO

Concern over lengthing surgical waiting lists . . .

As I write we are in the middle of another COVID-19 lockdown in New Zealand. I sincerely hope you are all well and navigating the restrictions whilst dealing with your own unique areas of practice and personal circumstances.

When I last wrote for *The Dissector*, we had just opened our borders to selected neighbours. This window of normality has once again been shut. I had hoped that we would be looking at an improved and clearer lockdown response – but this does not appear to be the case. I am again being advised by Perioperative Nurses College (PNC) members of inequities in access to elective cancer surgeries across district health boards (DHBs) and private healthcare providers. I am greatly concerned that our surgical waiting lists for essential surgery will once again grow exponentially as we await clarity of what we can and cannot do under the alert levels.

New Zealand is also experiencing an alarming lack of skilled Perioperative Nurses – a shortage that is being felt across every region. Many of our overseas qualified nurses have been unable to see their loved ones for the duration of the pandemic; I sincerely hope we don't lose them as we certainly need and value their contribution to our teams. Combined with the laborious process of recruiting overseas nurses – we are struggling to fill the gap.

Many of our overseas qualified nurses have been unable to see their loved ones for the duration of the pandemic; I sincerely hope we don't lose them…

No support from AUT

I noted in the last Table Talk that rapid progress was being made towards changing our perioperative workforce. Some of you will note that Auckland University of Technology (AUT) has been advertising its adapted programme for the Anaesthetic Technician (AT) qualification; this is now to be a degree course. AUT stopped supporting nursing professional development by halting its Registered Nurse Anaesthetic Assistant programme several years ago!

The PNC has been aware of changes coming to the scope for ATs; we have requested and argued for consultation many times. We welcome a flexible workforce; we welcome more evidence-based practice as this will only improve patient care. However, we have also made it clear to AUT, the Ministry of Health, the Nursing Council and the Chief Nursing Officer that we should have been consulted as key stake holders around how this new degree programme is designed and rolled out.

The new AT degree programme will be introducing non-nursing students and technicians to post anaesthetic care units (PACU) – at the very least. Nurses will be expected to supervise and support the development of these students. There has been no consultation with the PNC about the professional implications of this.

Yes, we need to fill the gap in perioperative care. Yes, the new AUT programme aims to address this. However, I do not believe that a fair and safe process has been followed to achieve this. I fully support a skilled and evidence-based workforce – nurses already do this admirably. We deserve to have been consulted on such a drastic change to our area of practice. To have not been consulted is disrespectful to the skilled Perioperative Nurses in our current workforce. I hope this does not alienate the nurses we already have and discourage their participation in perioperative practice.

Nurses largest group

Remember, nurses are still the largest group of healthcare professionals working within the perioperative pathway. We have a proven record of flexibility; every area of patient care is well within our scope of practice. We are very much aware of the need to increase workforce numbers in our area of practice. What we need is for the DHBs and Ministry of Health to recognize the value of the nursing contribution to patient care. I am asking them to support Perioperative Nursing with a commitment to further education, monetary compensation for professional development and public recognition of the contribution perioperative nursing makes to the care of patients in New Zealand. This will go a long way towards recruitment and retention in the perioperative setting.

COVID hits PNC Conference

Once again, I thank you all for your dedication and professionalism. I was so much looking forward to seeing and meeting as many members as possible at our much-anticipated annual conference in Christchurch in October. Now we will have to wait another year as the 2021 PNC Conference has become another COVID-19 lockdown casualty.

Our annual general meeting (AGM) is normally held as part of the Conference programme. This year the National Committee is still going to Christchurch for the October 7-9 dates, to have our first face-to-face meeting for a while so we will include the AGM in this.

Finally, our Facebook page is growing with more members joining by the day – please continue to support us! Go to

https://www.facebook.com/groups/perioperativenursescollegenz

— Juliet Asbery, Chair, Perioperative Nurses College

Precision without irritation

Our new skin-friendly glove, designed to reduce the risk of irritation*

Cracked skin, sores, open lesions and scabbing are not easy to ignore when you work with your hands. These symptoms are not only irritating, they can seriously impact surgical performance[1].

Biogel® PI UltraTouch® S

Precision at every touch

Biogel PI UltraTouch S is our latest innovation; designed with a skin-friendly formula*, for clinicians who are experiencing contact dermatitis (irritant or Type IV allergic). It offers the same precise feeling and performance as our polyisoprene (PI) gloves, but without accelerators known to cause contact dermatitis[1].

*Free from chemical acclerators known to cause contact dermatitis[1].

References: 1. Politiek K. et.al. Systematic review of costof-illness studies in hand eczema. Contact Dermatitis 2016.

Find out more at www.molnlycke.com.au or www.molnlycke.co.nz

Mölnlycke Health Care Pty Ltd, Level 4, 12 Narabang Way, Belrose, NSW 2085 T 02 9485 1544. F 02 9485 1555.
Mölnlycke Health Care Pty Ltd, PO Box 62-027, Mt Wellington 1641, New Zealand. Orders & Enquiries 0800 005 231.
The Mölnlycke, Biogel and Indicator names and logos are registered globally to one or more of the Mölnlycke Health Care Group of Companies.
©2017 Mölnlycke Health Care AB. All rights reserved. AUSU001364_20200211_V3

Mölnlycke®

PNC Conference postponed again

For the second year in succession the annual Perioperative Nurses Conference has become a casualty of the New Zealand Government's COVID-19 lock-down action.

As a consequence, the conference has been postponed until October 2022. The venue will remain as St Margaret's College in Christchurch.

Conference Convenor Vanessa Bacaltos thanks all those who registered for the scheduled October 7-9, 2021 conference and says "as soon as we have new dates for 2022 we will update you. Online registration is currently suspended until we confirm the exact dates for 2022."

For those who registered for 2021, The Conference Team will be in touch. Any questions please contact: joanne@conferenceteam.co.nz

The postponement of the scheduled October 2021 conference followed a meeting with the National Committee of the Perioperative Nurses College of the New Zealand Nurses Organisation and the Christchurch Organising Committee.

Christchurch woes

Last time the PNC Conference was held in Christchurch was in November 2000 when the theme was "Challenges of the New Millenium". That turned out to be prophetic as far as Christchurch was concerned.

Not quite a year later Christchurch hosted nurses from 45 countries at the 12th World Conference on Surgical Patient care, run by the Association of peri-Operative Registered Nurses (AORN). This was a week-long affair, from September 2-7, 2001 and the Christchurch Exhibition Centre was praised for its ability to accommodate such a big event.

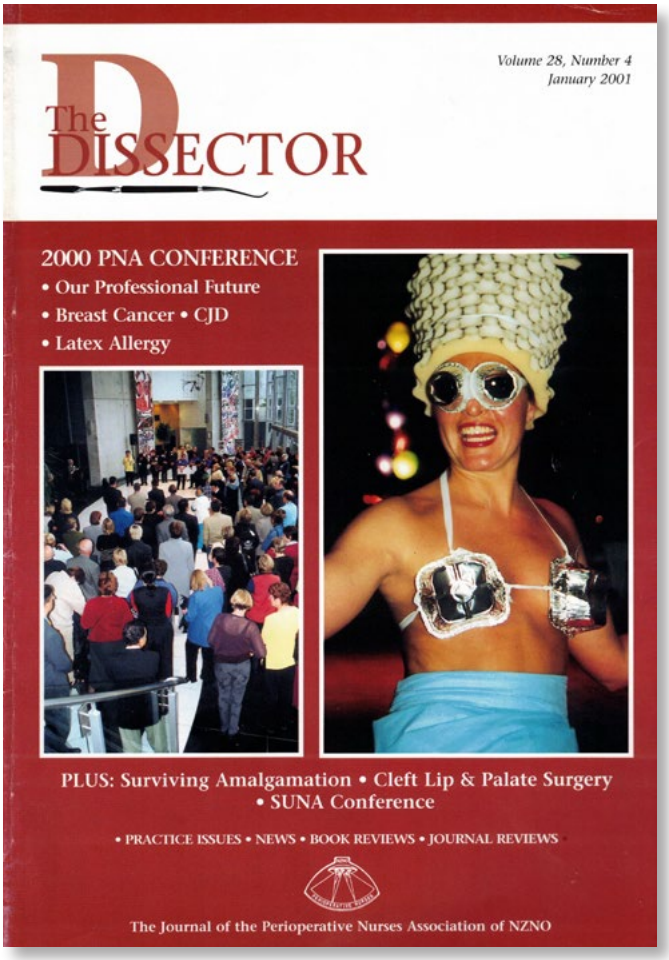
Ten years later, the 2011 PNC conference was scheduled to be held in the Garden City, but on February 22, 2011, a 6.3 magnitude earthquake destroyed the magnificent conference venue, destroying most of central Christchurch and claiming 185 lives.

So there was no PNC Conference in 2011.

Over the intervening period, New Zealand's oldest established city has slowly been rebuilt and was in a position to host the 2020 PNC Conference, the 47th in the history of PNC NZNO. But it became a victim of the New Zealand Government's COVID-19 policy and was re-scheduled for 2021, only to become a victim of COVID yet again.

What this means is that by the time the 47th annual PNC Conference is held, it will be 22 years since Christchurch last hosted the event.

For more information on the 47th Annual PNC Conference, visit the Conference website: http://perioperativeconference2020.co.nz/



Last time the annual conference was held in Christchurch, our organisation had not yet been granted College status: we were known as the Perioperative Nurses Association (PNA). Here is the cover from the January 2001 issue of The Dissector *that carried the report from the November 2000 Conference, the last time it has been held in Christchurch.*

Du Plessis joins Editorial Committee

Hawkes Bay's Annie Du Plessis has joined the Editorial Committee of *The Dissector*.

"I welcome Annie to the Committee," says Chief Editor Bron Taylor.

"Annie is currently working as an RN in radiology at Hawkes Bay District Health Board, having previously worked in a variety of acute care and aged care settings in both the public and private sector.

"Annie describes herself as 'an energetic, passionate healthcare professional with a lifelong approach to learning and service improvement'. Welcome to the team Annie, we are looking forward to working with you."

In other news, the National Committee of the Perioperative Nurses College of the New Zealand Nurses Organisation (PNC NZNO), has formally agreed for Shona Matthews to remain on the Editorial Committee.

"Thanks Shona, I know you really deserve a break, but I know the rest of us all agree that we're not quite ready to carry on without you," Bron Taylor adds.

Shona Matthews joined the Editorial Committee in 2011 and in 2015 she took over from Irene Minchin as Chief Editor with the December 2015 issue. She served in that role until stepping down from the Chief Editorship after the publication of the December 2020 issue. That meant she was the second longest continuously serving Chief Editor since Kathryn Fraser (2006-2012). ■

schülke

MICROSHIELD®

tried, tested. trusted.

Don’t compromise your surgical hand prep with anything else.

Supporting New Zealand hospitals for over 30 years.

Schulke New Zealand Ltd | www.schulke.co.nz | 0800 724 855

Amalgamation of Canterbury-West Coast with Nelson-Marlborough

Since the National Perioperative Nurses College Annual General Meeting last year, the Canterbury-West Coast Region has been in the process of merging with the Nelson-Marlborough Region. The updated membership list is in the process of being sent through so we can officially welcome our northern colleagues to our region.

Our first hurdle has been incorporating Zoom into our meetings. Our last meeting was held at St Georges Hospital on June 19, 2021, which was our first test. Though we initially had a few sound volume hiccups, we got there in the end and it was great to have Nelson members included.

As with all of our regional meetings, we try to incorporate an educational focus to gain interest in attendance at meetings as well as to increase knowledge and education hours.

At the St Georges meeting, we took a side-step away from our usual nursing focus and had life coach Bernadette Smith come and speak to us. Bernadette spoke about her business and how to motivate yourself. She taught us how to hula-hoop, which was an amusing experience for us all. Some of us were far more able than others, but we all gave it a go, which was great.

Bernadette brought along her friend Kirsty Malcom to speak. Kirsty's talk was inspiring. She was a size 22 and owned the fashion store Death by Denim. Kirsty spoke about her life-changing experience which made her change her lifestyle and look after herself.

As mothers and nurses we tend not to focus on our own health but on the family and our career. Kirsty's talk encouraged us to look after ourselves and to take that healthy step.

As a Region, we are very disappointed we are not going to be able to host you all at the Perioperative Nurses Conference this year. As you will have seen on the News pages, we are a Covid casualty for a second successive year. But we are still very excited to host you all at the Perioperative Nurses College conference in 2022. We were well underway with the planning for this year with break-out speakers all lined up.

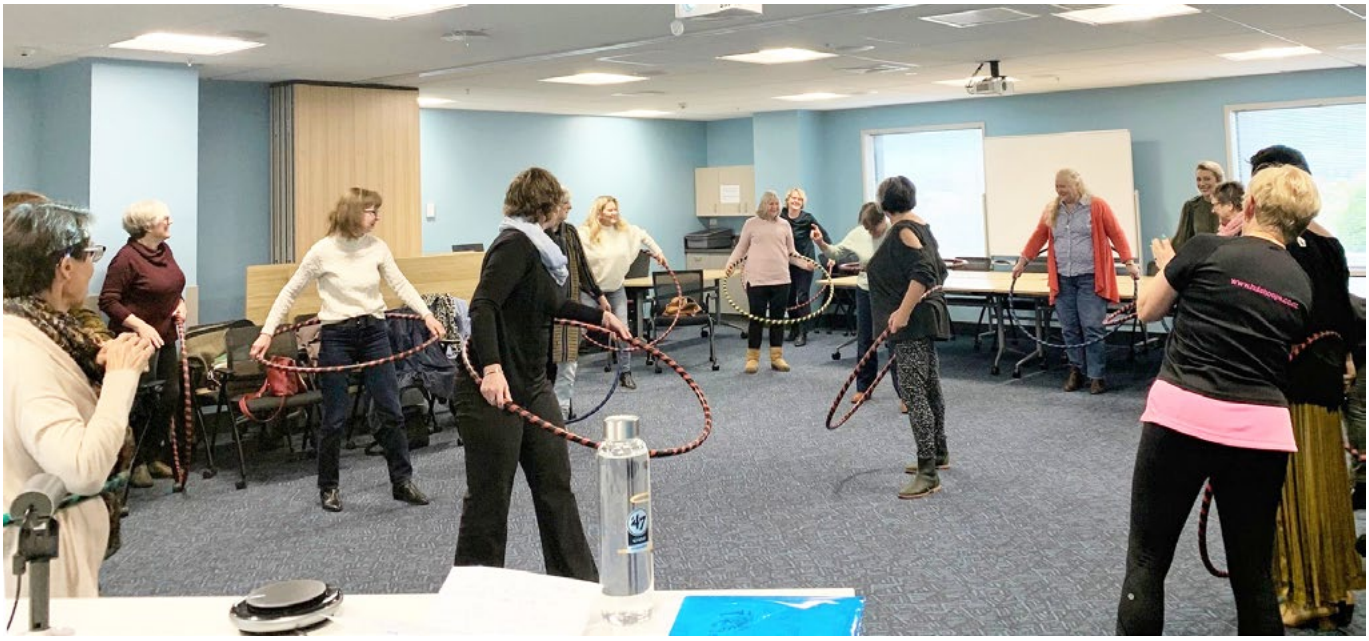
As with all of our regional meetings, we try to incorporate an educational focus to gain interest in attendance at meetings as well as to increase knowledge and education hours.

Online registration has been suspended until the dates for 2022 have been confirmed.

Thank you for registering and supporting our Perioperative Conference in Christchurch.

As soon as we have new dates for 2022 we will update you. The 2022 Conference *will* be held in Christchurch and it *will* be at St Margaret's College.

– Sarah Elley, Secretary - Sarah.elley@cdhb.health.nz



At the most recent meeting of the West-Coast PNC Region, life coach Bernadette Smith spoke about her business and motivation. She also taught members how to hula-hoop...

ALLIED LAUNDRY

BY HEALTH • FOR HEALTH

Situation Vacant

PRODUCT CHAMPION

(Reusable Barrier Linen)

- Part time, flexible hours (around 20 to 30 hours per week, negotiable)
- Opportunity for domestic travel
- Interesting and fulfilling work, with the ability to make a difference

Do you have previous operating theatre experience?

Are you passionate about environmental sustainability?

Allied Laundry Services Ltd is searching for a Product Champion to work with clinicians, promoting and supporting the use of reusable barrier linen (RBL) – gowns, surgical drapes, sterilisation wrappers.

Preferably based in Palmerston North (but possibly in the lower North Island), you will lead product development and education, provide technical advice, and promote the benefits of reusables to both new and existing customers.

Previous experience working with RBL would be of benefit, but full product training will be given. Your ability to construct and deliver a persuasive presentation, and your excellent interpersonal skills are of prime importance.

If this sounds like you, please send your CV and cover letter to jthomas@alliedlaundry.co.nz.

Applications will be reviewed as received.

Auckland-Northland Branch Medical Imaging Education morning

The Auckland region annual Medical Imaging Education morning was held on Saturday August 14, 2021. Obex Medical again supported the event at their great new premises, with morning tea and welcome organisational support provided.

The session was well attended by about 35 enthusiastic nurses and medical radiation technologists (MRT), keen to get some education hours.

Head and neck radiology cases

Dr Lee Young, Consultant Radiologist at Auckland District Health Board (Auckland DHB) presented '*Interesting head and neck radiology cases*.' Lee proved to be an enthusiastic and engaging presenter as she took the audience initially through head and neck pathology. Lee moved on to foreign body aspiration, showing a range of images of button battery and coins lodged in the upper airway and stomach. She emphasised the importance of also doing a lateral image to determine the precise position of the button battery prior to its removal, ideally within a two-hour window, to avoid serious mucosal erosion.

Imaging of peritonsillar and retropharyngeal abscess or quinsy followed and the importance of early treatment with intravenous antibiotics to avoid mediastinitis. Lee also showed imaging of upper airway papillomatous infection, also seen in babies where the mother has the human papilloma virus (HPV).

Head and neck malignancy, particularly squamous cell carcinoma, is more common in men and typically associated with smoking, high alcohol intake and human papilloma virus (HPV). The prognosis, however, is better with HPV positive tumours. She emphasised that 'the devil is in the detail' with head and neck malignancy in determining the origin and spread of the tumour and a visible nerve on imaging is always of concern.

Lee then talked about benign tumours of the head and neck which present challenges for differential diagnosis. Paraganglioma of the head and neck do not usually secrete catecholamines and may be amenable to surgical resection or radiotherapy. Core biopsies are not recommended as they are typically very vascular, so enhance well on imaging. They also have a distinct torch shape appearance or 'salt and pepper' texture.

Finally, Lee explained, using imaging, how chronic infection can also mimic a mass and showed how osteomyelitis can cause osteonecrosis and bony destruction of the jaw – sometimes seen in elderly patients with a long history of bisphosphonate use.

Pain, Procedure, Planning

Former Perioperative Nurses College Chair and pain specialist **Johanna McCamish** presented Pain, Procedure, Planning in the radiology setting. Johanna emphasised the importance of improving the patient process; clear communication with the patient regarding the duration of the procedure and co-ordination with the ward around timing of analgesia so the patient is as comfortable as possible when undergoing x-rays, or scanning.

Johanna's presentation featured 'Mrs Soretum' with a history of frequent visits to the emergency department with pain radiating to the back and under the ribs, nausea, fever, jaundice and bloating and diagnosis of possible pancreatitis. In this instance good pain management, careful positioning and distraction and effective planning to ensure the procedure is done as quickly as possible will be critical.

Likewise, 'Mr Backpain' who is 140kg and diabetic will be coming to the department with hope and looking for a 'fix'. Adequate pain relief, care and respect when positioning him on the scanning table, good communication and a procedure carried out as efficiently as possible will help. Johanna emphasised the importance of holistic patient care and doctors ordering 'tests that matter' and that change and help determine best possible practice.

Peptide Receptor Radionuclide Therapy

Nuclear Medicine Head Technologist at Auckland DHB **Trish Mead** presented *'Bringing PRRT to New Zealand'*. Neuroendocrine cells are found in the endocrine glands, such as the adrenals, pancreas, thyroid and pituitary glands, along with the ovary and testes. It is predominantly the neuroendocrine cells in the mucosa of the lungs and gastrointestinal tract that give rise to neuroendocrine tumours. Neuroendocrine tumours (NETs) are described according to the areas they are found and the hormone that the tumour excretes. This excreted hormone also determines the symptoms patients experience. Diagnosis is often a protracted process.

Peptide Receptor Radionuclide Therapy (PRRT) is used to treat somatostatin receptor positive tumours such as NETS, particularly when the tumours are widespread. PRRT prolongs survival, improves quality of life, and manages symptoms where there are limited alternative treatment options available.

The radionuclide used is Lutetium (Lu-177) Dota, a chelator or binding agent and Octreotate, a derivative of Octreotide, an agonist to the receptors of NETS. Lutetium contains beta, gamma and x-ray radiation and has a half-life of 6.65 days. The first patient was treated at Auckland City Hospital on September 24, 2020 with the initial service hastily established to care for a group of New Zealand patients who had already started or were about to start treatment in Melbourne, but COVID-19 intervened.

The permanent service began in July 2021. The patient has an IV line inserted and is given an initial amino acid infusion over at least half an hour to prevent excessive irradiation of the kidneys, followed by the PRRT infusion over about half an hour and then further amino acids. The patient is isolated during this time with the nuclear medicine technician and nurse involved in their care working behind a lead shield as much as possible. They are discharged home to self-isolate for 24hours post procedure or to Domain Lodge.

Therapeutic injections

Consultant Musculoskeletal (MSK) radiologist **Dr Karen Billington** gave a very useful presentation on '*The role of CT in MSK Therapeutic Intervention*.' A range of diagnostic but mostly therapeutic steroid injections are done in Radiology at Auckland DHB. Three main types of nerve root injection are done using computed tomography (CT) guidance: lumbar transforaminal for sciatica, lumbar interlaminar epidural for more diffuse, less targeted pain and cervical transforaminal for neck pain.

A steroid nerve root injection is often trialled before considering more invasive surgical options and sometimes when it is the patient's preference or where surgery is not possible. A magnetic resonance

Nurse Educator – Perioperative Service (0.9FTE)

We've made Northland DHB much more than just a place to come to work. You can make an impact on your community and on your own professional development – all whilst enjoying a flexible and healthy work-life balance.

Northland DHB is committed to Te Tiriti o Waitangi and holds stewardship for equitable health outcomes for Māori as Tāngata Whenua as the highest priority.

Achieving the best health outcomes for our patients starts with expecting the best from ourselves, and right now Northland DHB is looking for an exceptional Nurse Educator to join the team at Whangarei Hospital.

The recent addition of 2 new operating theatres gives us 8 operating theatres and a procedure room. You will be working on specialties including orthopaedics, general surgery, plastics, gynaecology, urology, trauma, maxillofacial, dental, eyes and ENT. Being a regional hospital, your patients will range in age from paediatric right through to geriatric.

This is a varied role where no two days will feel the same – whether it be providing on the floor clinical support to staff, training and development, or supporting Group Leaders developing group study days. The educators also work closely with the tertiary training providers to showcase the perioperative environment.

Jointly with the current Nurse Educator, you will be responsible for the facilitation of education for our Perioperative nursing team. You will also work closely with the Nurse Manager and Associate Clinical Nurse Managers to develop and expand the current Perioperative Education programme and support clinical practice when required.

The successful applicant will be an experienced Registered Nurse with at least 4 years experience working in operating theatres, has knowledge of operating room standards, Level 4 / Expert PDRP and post graduate study with a focus on adult/clinical teaching.

You will be passionate about education with a demonstrated ability to communicate effectively with others. Ideally you will have current or recent experience as a Nurse Educator and hold or be working towards a Masters.

A career with Northland DHB will see you action meaningful change in the region we love, and in your professional development – all whilst enjoying everything the stunning North has to offer. You really can enjoy the best of both.

Our people live our values:
Tangata I te tuatahi **People First** - People are central to all we do
Whakaute (tuku mana) **Respect** - We treat others as they would like to be treated
Manaaki **Caring** - We nurture those around us, and treat all with dignity and compassion
Whakawhitiwhiti korero **Communication** - We communicate safely, openly and with respect to promote clear understanding
Taumata teitei (hirangi) **Excellence** - Our attitude of excellence inspires success, competence, confidence and innovation

Contact our team today on jobs@northlanddhb.org.nz

Vacancy No: NS21-172
Closes: 31 October 2021

Enjoy the best of both.

northlanddhb.org.nz

NORTHLAND DISTRICT HEALTH BOARD
Te Poari Hauora Ā Rohe O Te Tai Tokerau

(MRI) scan is required within the last six months for nerve injections and epidurals. For joint injections, MRI, CT, or single photon emission computed tomography (SPECT) are all acceptable.

Patient selection is important as the ability to lie prone and still is critical.

Anticoagulants are ideally stopped for all nerve root injections, but aspirin is permitted. Generally, no intravenous sedation is required but the patient should ideally have someone with them to drive them home and this is essential for lumbar nerve root injections and epidurals, as the patient often lacks sensation in their feet initially. The usual risks of any procedure such as bleeding, infection, injury to surrounding structures, or allergy exist but are very rare with skilled Radiologists and CT guidance.

Karen discussed the type of favoured steroid and long-acting local anaesthesia as this is often a subject of confusion for nurses and MRT involved with the procedure. Particulate steroid such as betamethasone (celestone) and kenacort are preferred for joints, while non-particulate steroid dexamethasone is used for cervical (4mg dose) and lumbar (8mg dose) nerve-root injections. Marcaine 0.25% long-acting local anaesthesia is used in the spine and Marcaine 0.5% for joints.

The patient is positioned appropriately for the targeted injection, a skin marker grid placed, and planning CT performed. The images are reviewed by the radiologist and the appropriate slice selected. For epidural nerve root injections, the posterior epidural space at the point where the target nerve is being pinched is identified and the steroid administered using aseptic technique. Cervical nerve root injections are more difficult, because the vertebral artery is often tortuous in older patients and a smaller 25g needle is ideal.

Adverse event prompts practice review

The final two presentations were from the convenors. **Shona Matthews,** Clinical Charge Nurse in Radiology at Greenlane Clinical Centre asked the question – '*Is this examination appropriate*?'

An adverse patient event following a CT guided lung biopsy last year and frequent conversations with patients referred to the outpatient radiology department prompted the nursing team to review their practice.

The outpatient radiology setting means staff have limited and sometimes inaccurate patient information provided by referrers, short patient contact time, limited time to check clinical records and limited time to contact patients. Particularly the latter two factors identified the need to plan, ideally review clinical records and contact patients a week out from selected examinations.

Although the consultant radiologist carried out CT guided lung biopsy check referrals, this only involved reviewing the imaging to see if the biopsy was technically possible.

A member of the nursing team now provides a recent medical summary for the radiologist and contacts the patient to check the appointment has been received, provide necessary explanations, checks on patient ability to lie flat and still, checks that anticoagulants are being appropriately managed, and ensures they have someone to collect and remain with them overnight. This process has identified several patients where their other comorbidities made the procedure too high risk or inappropriate or where management of anticoagulants had been overlooked.

Patients booked for CT colonography are also contacted by a nurse to confirm they have received the booking and bowel preparation and understand this. This provides an opportunity for the patient to ask questions and the nurse to suggest modification to bowel prep if necessary and assist with diabetic management if required. On occasions a patient/relative will have already decided that they do not wish to go ahead, and we can cancel the appointment or contact the referrer and suggest an alternative. While time consuming, most patients now arrive for their appointments and are properly prepared.

Nursing obese patients in the radiology suite

Gillian Martin, Clinical Nurse Specialist in Radiology at Auckland City Hospital presented a summary of an article recently published in the *Journal of Radiology Nursing,* titled '*Nursing and radiographic management of patients with severe obesity in the radiology suite*' (Falker & Oberholtzer, 2021).

Her presentation included New Zealand statistics for obesity rates and demographics plus the challenges associated with safely managing and accommodating patients with the disease of severe obesity in the radiographic suite.

It is imperative that nurses and MRTs work cohesively to decrease the risk of complications, optimize imaging, and improve patient well-being in this population. The nurse and MRT must carefully assess and reassess the patient to ensure their safety from the point of entry into the radiology suite and through discharge. The challenges associated with care of the patient with severe obesity potentially include pulmonary, cardiac, and dermatological issues along with diabetes, difficult intravenous access, obesity bias and discrimination. Safe patient handling for both the patient and staff must also be considered. Preparing and caring for the patient with severe obesity for imaging and the imaging itself may be difficult especially if sedation is required.

It is recommended that radiology departments develop a guide for all staff that includes weight capabilities for radiology equipment to ensure patients with obesity can be safely cared for in the radiology suite. The guide should be readily available for staff and address all of the above challenges.

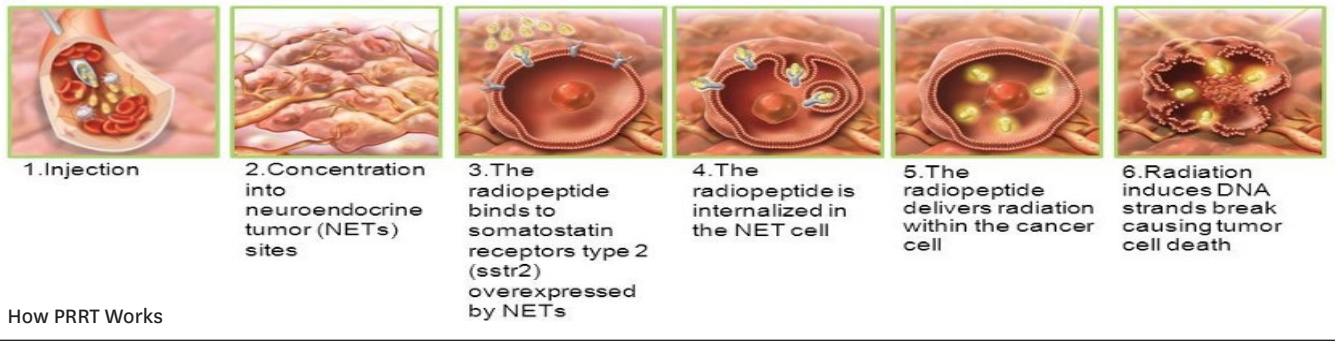
– Shona Matthews

References

Falker, A., Oberholtzer, L. (2021). Nursing and radiographic management of patients with severe obesity in the radiology suite. *Journal of Radiology Nursing xxx* 1-5. https://doi.org/10.1016/j.jradnu.2021.06.002

Diagram: PRRT: How it works

Zaknun JJ, Bodei, L., Mueller-Brand, J. et al., (2013). The joint IAEA, EANM, ad SNMMI practical guidance on peptide receptor radiolnuclide therapy (PRRNT) in neuroendocrine tumours. *Eur J Nucl Med Mol Imaging*. 2013;40(5):800-816 http://www.ncbi.nlm.nih.gov/pubmed/23389427



How PRRT Works

Ansell

EBOS HEALTHCARE

know the DIFFERENCE

PI skin-friendly glove technology breaks the rules

KEEPING PERFORMANCE STANDARDS HIGH AND ALLERGENICITY LOW

Not all PI gloves are made the same. Ansell's polyisoprene (PI) gloves are now even softer and more durable thanks to our proprietary PI-KARE™ skin-friendly, non-sensitising formulation, which eliminates standard chemical accelerators known to cause allergic contact dermatitis, effectively reducing the glove allergenic profile so you can enjoy a worry-free day at work.

Talk to your EBOS representative and discover the world's first skin-friendly, non-sensitising PI range.

PI-KARE™
Skin-friendly, non-sensitizing
PI Technology

Contact EBOS Healthcare on 0800 18 17 16 or visit www.eboshealthcare.co.nz

GAMMEX®

Ansell, ® and ™ are trademarks owned by Ansell Limited or one of its affiliates. © 2021 All Rights Reserved.

Radiology nursing
from the past and into the future

By Shona Matthews, Catherine Freebairn & Gillian Martin

Abstract The role of the radiology or medical imaging nurse has steadily evolved in concert with developments in imaging technology. These changes are explored along with development of professional nursing bodies both in New Zealand and internationally. A range of advanced practice roles are emerging as diagnostic and therapeutic options develop and the acuity and complexity of patients increases.

Keywords radiology nursing, imaging modalities, professional bodies, interventional radiology, advanced practice.

Introduction

The role of the radiology nurse has very much mirrored the development of medical imaging technology and the emerging need for patient care before, during and after radiological procedures.

Radiology nursing is a relatively new and evolving specialty. Descriptions of early radiology nursing roles in the 1970s involve task-orientated preparatory activities, 'watching over' and transporting patients, with nursing a useful, but optional add-on to the service.

The combination of a greater range of diagnostic and therapeutic procedures with increasing patient complexity and acuity has seen radiology nurses practising with more autonomy and focusing on continuity and planning of patient care. Collaborative practice between radiology nurses, medical radiation technologists (MRT) and radiologists has proved vital to ensure best possible patient outcomes. It is useful to look back at where we have come from and forward to challenges ahead in this dynamic specialty.

Background

The first documented involvement of nurses in a radiology department dates back to the 1940s at the Dana Farber Cancer Institute in Boston (Goodhart & Page, 2007). Another early nursing pioneer was Charlotte Louise Goodwin who joined the radiology team at The Johns Hopkins Hospital in Baltimore, Maryland in the late 1940s. Goodwin went on to become the director of radiology nursing at John Hopkins and had a leading role in developing the specialty (Collinson,2020).

An evolving role

However, it was not until the 1970s that the role of radiology nurse, then referred to as an X-ray nurse, became more common. The role mainly involved patient preparation: for example, rectal washouts for out-patient barium enemas, or female catheterisation for micturating cystograms. Essentially the nurse was required should the patient become ill whilst having their X-ray or scan. Not surprisingly, X-ray nurses were often looked upon as 'handmaidens' rather than colleagues by older radiologists, and 'interlopers' by radiographers.

Radiological advancement throughout the 1970s saw the development of the first computerised axial tomography (CAT) scanner, or CT scanners as they are called today, enabling the radiologist to visualise cross sectional views of soft tissue via by computer reconstruction.

Similarly, the transition of magnetic resonance imaging (MRI) into medicine offered a safer, non-radiation, non-invasive imaging tool for diagnosing and planning patient treatment.

Fluoroscopy, or real time imaging, also provided the possibility to use catheters within the intravascular anatomy and offer minimally invasive forms of treatment (Collinson, 2020). These techniques were initially known as "Special Procedures", later Angiography and more recently "Interventional Radiology" or IR.

The task-orientated, early interventional radiology nurse, then referred to as angiography nurse, would wash and check angiography catheters and three-way taps after use, clean and sharpen arterial puncture needles, straighten and check guidewires and wash cervical caps used for hysterosalpingograms. Cleaned radiology equipment was then sent away for sterilisation and repacking ready for re-use.

The radiology nurse role expanded as technological and imaging advancements increased the range of procedures undertaken by radiologists, from simple diagnostics to interventions and treatments.

Throughout the 1980s and '90s, the demand for nurses to carry out vascular access, patient assessments prior to procedures, conscious sedation and post procedure care grew. Fortunately during this period radiologists and radiographers increasingly began to view radiology as a collaborative, multi-disciplinary team, of which nurses were a vital component.

Emergence of professional groups

The 1980s also saw the emergence of professional radiology nursing bodies. In 1981, the American Radiologic Nurses Association (ARNA) was established and in 2007 changed its name to the Association for Radiologic and Imaging Nursing (ARIN) as it is known today.

Radiology nursing was recognised by the American Nurses Association as a nursing specialty in 1991 (Collinson, 2020). The ARIN aims to promote quality patient care while providing radiology nurses with support and continuing education within the radiology setting. ARIN, together with the Radiology Nurse Certification Board, provided

The role of the radiology nurse mirrors the development of medical imaging technology and the emerging need for patient care before, during and after radiological procedures.

a system of certification and recertification through examination and recognition of continuing education credits, resulting in a qualification valid for four years (Collinson, 2020).

The Royal College of Nursing (RCN) in the United Kingdom organised a radiology nurses conference in 1987 with presentation titles topical today, such as 'Establishing a Special Interest Group for Radiology Nurses', 'Radiology Nurse – Partner or Handmaiden', and 'Nursing Process – can it ensure continuity of care within the radiology department'.

A special interest group within the RCN emerged. It was called the 'Imaging Nurses Forum' and held an annual conference and regional study days from the late 1980s. Eventually in the late 1990s, The Society of Interventional Radiology Nurses and Radiographers (SIRNR) was established to represent the interventional radiology discipline and promote excellence and education.

This group within the British Society of Interventional Radiology now have an annual conference and regional study days. The Royal College of Radiologists have standards and guidance documents that are written in collaboration with RCN Imaging Nurses Forum (Martin, 1987).

In New Zealand the emergence of nursing roles in interventional radiology and cardiology in the early 1980s prompted a need for education and practical information. With the support of Obex Medical, a group of interested nurses formed Cardiology, Radiology, Interventional and Special Procedures (CRISP), with the aim of promoting education and establishing lines of communication within the field.

The first CRISP seminar was held in Wellington in 1985 and thereafter was held annually in different centres. In 2009 a ballot of members supported the group joining the Perioperative Nurses College of the New Zealand Nurses Organisation (PNC^{nzno}). Radiology or medical imaging nurses are now fully integrated across all College activities (Matthews, 2014).

Continued over page.

The radiology nurse today

The increasing complexity of radiology procedures and growing patient acuity required a higher level of nursing skill and experience. From the late 1980s, radiology nurses worked across all radiology modalities: CT, MRI, ultrasound, fluoroscopy and interventional radiology. The involvement of nurses in caring for both radiology out-patients and in-patients, including patients in purpose built radiology day-stay units contributed to optimal patient outcomes.

Radiology nurses recognised the important part they play in the continuity and planning of patient care and the preparation of pre-admission and discharge information for patients is now an established part of the role (Matthews, 2006).

Clinical nursing leadership in radiology, along with technology growth, has influenced and established a patient–centred care approach across radiology modalities. In CT the radiology nurse provides a safe, supportive environment for patients during the short time they are in the department. They are responsible for patient assessment, preparation and coordination of CT guided biopsies. They administer CT colonography examinations and facilitate patient education and consenting of scans and procedures.

The CT nurse also provides IV cannulation and administration of contrast media, manages post scan allergic reactions and contrast extravasations. Radiology day-stay units have been established providing a safe environment for pre-procedure check in, administration of medications, post procedure care and discharge of patients.

Interventional Nurses, previously "X-Ray procedure Nurses" have a similar work environment as operating room nurses, undertaking scrub and circulating nurse roles. In addition to this, they are responsible for administering analgesia and conscious sedation, and monitoring high acuity patients throughout long and complex procedures.

Interventional radiology (IR) was almost exclusively vascular in nature, but with developments in treatments for oncology patients, nurses involvement in procedures such as Transcatheter Arterial Chemo Embolisation (TACE) and tumour ablation are now more common. The use of a mobile image intensifiers in operating rooms has progressed, and many larger hospitals now have 'hybrid theatres', which is an operating theatre with advanced medical imaging capability.

This environment is safe and ideal for cases requiring surgical and quality imaging techniques for interventional radiology patients. Hybrid theatres cater for complex cases such as endovascular aortic aneurysm repair (EVAR) and involve a collaboration of perioperative nursing skills from interventional radiology, vascular surgery and post anaesthetic care units (PACU).

Radiology nurses remain responsible for on-going patient care, advocating for patients needs and creating a safe passage through a complex department with the addition of extended or expanded areas of practice (Glendening, 2000).

The growth of nursing leadership in radiology with influence at an executive level has contributed to the emergence of nurse specialist educators and nurse practitioner roles in the radiology team.

Nurse-led services have been supported, allowing credentialled senior radiology nurses or nurse specialists to establish peripherally inserted central catheter (PICC) services, and ultrasound-guided intravenous (IV) access services for patients with difficult IV access. Recently, radiology has seen PICC line services extend to tunnelled PICC line insertions.

The role of the radiology nurse is evolving and developing rapidly with some senior credentialed nurses inserting ultrasound guided abdominal drains in patients with ascites and abscesses and providing a mobile ascites drainage service for patients in the community hospice.

Recent advancement of radiology nursing has seen the first radiology nurse practitioner role in New Zealand influencing patient care in the community, providing nurse-led pre-admission and post procedure vascular clinics, collaborating with multidisciplinary teams, vascular surgeons, GPs and radiologists to optimise patient outcomes.

Recent technology changes for interventional radiology nurses with the introduction of clot retrieval treatment for patients who have suffered ischaemic stroke, has involved nurses learning new skills and working within tight time restrictions. Hospitals have needed to increase radiology department staff numbers to provide a 24/7 service, especially Auckland City Hospital, providing treatment for the upper North island.

Challenges ahead

"One never notices what has been done; one can only see what remains to be done." – Marie Curie 1894.

The future of radiology nursing is positive and progressive and the radiology nurse is a vital component in the provision of patient care. The radiology nurse role has become more complex and skilled than could have been imagined 15 years earlier with great potential to develop and extend nurse-led services using the range of emerging technologies. Radiology departments are collaborating with medical device companies, and involvement in clinical trials, often 'first in man' trials, requiring nurses to learn new techniques and handle new devices. Some countries are training radiology nurses in arterial closure device deployment, insertion of tunnelled central lines, vascular ultrasound, and other procedures where they are the proceduralist not the assistant or scrub nurse. As the radiology specialty moves forward, patients are being offered more diagnostic procedures and treatments that are image guided and minimally invasive, where once they would have required surgery. Treatment options have become more available for high acuity or cancer patients who are not suitable for surgical intervention.

While the radiology nursing role is increasingly defined, who this is yet to be reflected in the wider nursing management structure, certainly in New Zealand. While there has been considerable focus on nurse/patient ratios in the ward environment, the same focus has not been applied to radiology departments. As radiology departments move from a once predominantly Monday to Friday service to providing 24-hour cover, the corresponding increases in full time equivalent nurses has not been prescribed.

The expansion of radiology procedures and services and the corresponding demand for radiology nurses providing complex nursing care must be recognised and resourced to maintain safe staffing levels going forward. Future support of the radiology nurse role is integral for the safe delivery of patient care and achieving optimal patient outcomes.

References

Collinson, R. (2020). Advanced practice providers. In Gross, K. A. (Ed). *Advanced practice and leadership in radiology nursing.* (1st ed., pp. 3-14). Springer Nature Switzerland AG 2020. https://doi.org/10.1007/978-3-030-32679-1

Curie, M. (n.d.) One never notices what has been done; one can only see what remains to be done. Retrieved from https://en.wikiquote.org

Glendening, M. (2000). Personal diary: A radiology nurse's perspective. *Academic Radiology, 7, 46-47.*

Goodhart, J., Page, J. (2007). Radiology Nursing. *Orthopaedic Nursing,* 26(1), 36-39.

Martin, G. (1987). Personal unpublished archives. Royal College of Nursing.

Matthews, S. (2006). Maintaining the essence of nursing in medical imaging. *Kai Tiaki New Zealand*, 12(10) 12-13. ISSN. 1173-2032.

Matthews, S. (2014). The history of CRISP. *The Dissector, 41(4) 19-22.*

Sterilisation wraps made closer to home

We supply SoftMed Sterilisation Wraps.
Manufactured in Victoria, Australia, we closely manage the supply chain ensuring great supply with no fuss.

Available in three GMS weights and six sizes these high quality wraps are known for their drapability.

To find out more email us at **enquiries@bamford.co.nz**

BAMFORD

We get it.

bamford.co.nz

Global Health Spec

By Gabbi Hamilton

Abstract The Royal Australasian College of Surgeons (RACS) Global Health has a vision that '*safe surgical and anaesthetic care is available and accessible to everyone*'. Through partnerships with ministries of health across the Asia-Pacific, RACS Global Health works to build local workforce capacity, strengthen health systems and provide specialist surgical mentoring and training. Since the opening of the Cook Islands quarantine-free travel bubble, and with talks of quarantine-free travel extending to other Pacific countries, RACS Global Health is seeking expressions of interest from Aotearoa New Zealand (AoNZ) Perioperative Nurses who would like to participate in upcoming overseas activities.

Keywords Volunteer, Global, Health, Pacific Islands, Asia-Pacific, DFAT

About the Royal Australasian College of Surgeons (RACS)

The Royal Australasian College of Surgeons (RACS) is a non-profit membership organisation training surgeons and maintaining surgical standards in Australia and Aotearoa New Zealand (AoNZ). RACS' primary purpose is providing education, training and research in the practice of surgery.

More than 7000 surgeons and 1300 surgical trainees across nine specialties are registered with the organisation.

One arm of the organisation is the Global Health Department. RACS Global Health has a vision that '*safe surgical and anaesthetic care is available and accessible to everyone*'. The distinct international development contribution of RACS Global Health programmes is that RACS works in direct partnership with national governments, regional organisations, hospitals, surgeons, and patients to ensure we can support health systems strengthening with a central focus on workforce capacity-building. This is with the aim to enable sustainability of health services into the future.

Through collaboration with Asia-Pacific regional partners, RACS Global Health ensures that programmes are driven by the self-determined needs and priorities of the national governments we work with. Activities are designed in consultation with, and at the request of, Pacific Island country Ministries of Health. These activities align with both individual national health priorities and regional concerns and opportunities.

The Pacific Islands Programme (PIP)

RACS Global Health is currently managing nine programmes across 13 countries in the Asia-Pacific region, the largest being the Pacific Islands Programme (PIP). PIP has been synonymous with RACS Global Health since it was launched in 1995. Funded by the Australian Government through the Department of Foreign Affairs and Trade (DFAT), the last two decades have seen more than 600 volunteer medical teams visit 11 Pacific Island countries, providing over 60,000 consultations and 16,000 procedures.

In 2016, RACS entered into a new five-year grant agreement with DFAT to extend PIP until 2021, with activities covering all specialised clinical services, including surgery, anaesthesia, cardiology, nursing, radiology, nephrology, psychiatry and more. The key to this has been strengthening ties with other Australian, AoNZ and Pacific Island specialist associations and colleges. Programme activities seek to support medical education, hospital services, clinical governance, workforce planning, the continuing professional development of clinicians, and the systems and structures that support their function. The overall aim of the programme is to ensure that healthcare in Pacific Island countries is affordable, appropriate to local needs, is accessible and of good quality.

RACS Specialist Medical Volunteers play an invaluable role in the development of the Pacific surgical workforce. Since 2016, 178 volunteers from Australia and AoNZ have been deployed to Pacific Island countries to support clinical activities and capacity development. This includes 42 surgeons, 50 specialist nurses, 26 anaesthetists, and 80 clinical specialists in audiology, pathology, radiology, psychiatry, dermatology, and other

ialist Volunteering

Amanda Richardson in the Solomon Islands.

areas. Their contribution has made a significant impact on the lives of individual patients and clinicians in the Asia-Pacific region.

"*Participating in five voluntary PIP trips [has] given me so much personal pleasure and growth. It has been professionally rewarding and so satisfying to be able to provide a service to our Pacific neighbours.*" - Amanda Richardson, current PIP specialist volunteer.

Insights from a perioperative nurse volunteer

Amanda Richardson is a registered Perioperative Nurse with an interest in ear nose and throat (ENT) surgery. In 2013, Amanda accompanied her first ENT team, comprising of two surgeons and an anaesthetist, to Pohnpei in the Federated States of Micronesia (FSM) to provide ENT surgery to patients who would otherwise not have access to the required care. Since this initial visit, Amanda has accompanied the team back to FSM and to the Solomon Islands annually (until the recent COVID-19 global pandemic placed a pause on all RACS Global Health visiting medical teams).

Amanda has "enjoyed everything about [her] experience. The travel and exploring these areas are highlights but mostly [she has] enjoyed helping and making a difference to the patients [she has] cared for."

Becoming a RACS Global Health specialist volunteer is a highly rewarding opportunity to make a difference in countries where the access to specialist medical care can be lacking. Amanda told RACS that she has always wanted to work in remote locations and "to be able to use [her] skills in less advantaged areas".

Although adapting to working in a Pacific hospital can be a challenge, as the equipment and infrastructure is not always on par with Australian and New Zealand hospitals, Amanda explained that she was able to think outside the box and to adapt her skills and training to provide nursing care that is safe and effective for each patient she sees.

Volunteering with RACS

RACS Specialist Medical Volunteers are the backbone of RACS Global Health programmes. Without the extraordinary commitment and skills

provided by volunteers such as Amanda, RACS Global Health would not be able to provide surgical and educational support to our Pacific neighbours.

Since the opening of the Cook Islands quarantine-free travel bubble, and with talks of quarantine-free travel extending to other Pacific countries, RACS Global Health is seeking expressions of interest from interested New Zealand Perioperative Nurses who would like to participate on upcoming overseas activities.

"[Being a RACS Global Health Specialist Volunteer] is the most amazing, exhilarating, interesting and challenging experience ever. You meet so many interesting people and get to do some good for those patients who appreciate and are so grateful for your help." – Amanda Richardson

While on overseas deployment, all travel, accommodation, transport, pre-trip medical checks and meals will be funded by RACS.

RACS has also engaged International SOS to provide health and security advice and support to our volunteers.

Before being accepted as a RACS Global Health Specialist Volunteer, applicants must complete a two-stage interview selection process to assess their clinical competency and suitability for overseas deployment. If selected, volunteers will be asked to complete RACS Global Health's key compliance processes including undertaking a New Zealand Ministry of Justice Criminal Check and completing several online training modules.

For further information on volunteering with RACS Global Health, please refer to the RACS Global Health Deployment Guidebook. This resource provides comprehensive information about volunteering on a RACS Global Health programme.

How to apply

If you wish to apply to become a RACS Global Health Specialist Volunteer, please email volunteer@surgeons.org and provide the following:

- Current CV
- Copy of qualifications
- Registration Certificate with the Medical Council of New Zealand
- A short paragraph about why you wish to become a RACS Global Health Specialist Medical Volunteer (previous international experience will be seen as desirable but is not a requirement of the role)

To find out more about RACS Global Health programmes, please visit our website. ■

Australian Aid

Orthopaedic Visiting Medical Team In Vanuatu 2018. Photo Darren James

Make the change from plastic to our new plant-based products

Defries Industries are bringing the innovative NewGen environmentally friendly product range to our New Zealand and Australian customers.

Replace your single-use plastic medical products with our plant-based product lines, clinically developed for use in the operating room and custom procedure packs.

Add them now to Custom Procedure Packs.

Single sterile products available soon.

SMART SUSTAINABLE DESIGN

By taking an agricultural sugar-cane by-product and upcycling it into a plastic-free healthcare product, these products are environmentally friendly and biodegradable.

Made with 100% plant based materials and coated with a biocompatible film.

DefriesIndustries New Zealand | Hospitals Trust Defries

wayne.titmus@defries.com.au ph: +61 448 043 275

NewGen Surgical

The opening of Waipapa Hospital Children's Recovery

By Angeline Yates RN, BN, PGDip HSc

Abstract Christchurch Hospital has recently moved into Waipapa Christchurch Hospital. This article provides insight into the benefits of having a paediatric specific surgical admissions unit, recovery and day stay unit.

Keywords Recovery, family centred care, emergence delirium, paediatric Perioperative Nursing.

Introduction

The recently opened Waipapa Hospital in Christchurch welcomed the introduction of a paediatric-specific surgical admissions unit, recovery and day stay unit. Up until this time children were recovered in a blended mix unit. This was far from ideal, with children and whānau exposed to adults recovering and vice-versa, with out-of-control noise factors and at times a lack of privacy. The new child-dedicated area is well equipped to provide a whānau-centred model of care. The paediatric recovery has five bed spaces, with the added addition of a single room that can be a quieter space, especially for sensory-challenged children.

Families now have a dedicated space to wait outside the recovery room. Staff endeavour to provide frequent communication and reunite families as soon as possible in the postoperative phase.

The children's surgical admission area is a child friendly space with play areas pre- and post-surgery. Day stay patients are admitted and followed through to discharge by the same nursing staff, fostering whanau connection and continuity of care. The unit also has a dedicated paediatric nursing team.

Background

The recovery unit at Christchurch Hospital has expanded rapidly with a correlating 100 per cent increase in full time equivalent (FTE) nursing staff over 10 years. We now have approximately 70 FTE Registered Nurses working across the wider perioperative service. This includes electroconvulsive therapy at Hillmorton Hospital, birthing suite with elective and emergency caesarean lists, two existing recoveries in Christchurch hospital, including magnetic resonance imaging (MRI), and computerised tomography (CT) lists for children. The recovery nurse provides care for eleven-plus surgical specialties, across the lifespan from neonates to the elderly.

Family-centred care

The recovery nurse caring for paediatric patients needs to be highly skilled to provide care for this population group, as a child differs significantly from an adult. Nurses must be astutely aware of anatomic and physiologic differences between adults and children, especially when monitoring an unconscious child's airway. Immature renal and hepatic systems have implications for weight-based calculations when administering drugs and intravenous fluids. Surgical intervention and anaesthetic agents contribute to specialty paediatric specific requirements (Girad, 2014; Manias, Kinney, Cranswick & Williams, 2014).

Canterbury District Health Board (Canterbury DHB) has a commitment to align organisational performance with its philosophy of providing child-centred care. Within this philosophy the family/whānau must also be supported by the health system (Canterbury DHB, 2019). Watts et al. (2014) define family-centred care as planning care for children and their families which ensures that all the family members are recognized as care recipients. Working in with wider Canterbury DHB child health policies saw the introduction of a Standard of Care policy in January 2021 for paediatric patients incorporating family-centred care as policy.

Perioperative pathway

The perioperative pathway for a child from hospital admission to the postoperative recovery period is an extremely stressful time. The child and whānau require support and good communication (Trimm & Sandford, 2010; Munday, Kynoch & Hines, 2014; Wei et al., 2017).

Tagadaya and Macapobre (2012) identify the waiting period for family members as one of the most demanding and critical periods during hospitalisation. Pomicin, Maccacari, and Buccini (2018) identify the correlation between parents' anxiety and the anxiety and pain experienced by children during the postoperative period. Children with high preoperative anxiety reportedly have higher postoperative pain levels. Reducing parental anxiety can reduce the anxiety of children, one such intervention is providing prompt and detailed communication throughout the perioperative pathway (Houle, Belew and Miller; 2015; Pomicin et al., 2018; Yayan, Zengin, Duken, & Suna Dag, 2020).

Nurses must be astutely aware of anatomic and physiologic differences between adults and children, especially when monitoring an unconscious child's airway.

A clinical phenomenon called emergence delirium (ED) is often encountered in the recovery area. Emergent delirium in children specifically under the age of six is a complex altered state of health which is two to three times more common in children than in adults, (Kamienski, McCartney, Mcloughlin & Pallaria, 2018). Although usually short-lived, it causes distress to patients, parents and staff. The association between preoperative anxiety and ED has been reported in many studies. According to Kain et al. (2004) "65 per cent of all children undergoing anaesthesia and surgery develop intense anxiety and fear in the preoperative holding area and during induction of anaesthesia" (p.1648). Mountain, Smithson, Cramolini, Wyatt and Newman (2011) report that anxiety can be attributed to being separated from parents and uncertainty about the anaesthetic, surgery and outcome. The aetiology of ED is still not fully understood but is believed to be multifactorial. The literature identifies significant risk factors for ED which include: the type of surgery, with a higher incidence in ophthalmological and otorhinolaryngological procedures; anaesthetic agents used; and patient characteristics (Mohkamkar et al., 2014, Reduque & Verghese, 2013; Vlajkovic & Sindjelic, 2007).

According to Bong and Ng (2009), there was a reduction in ED when a child could wake up slowly in a quiet environment. For every additional minute of wake-up time, ED decreased by 7 per cent. Vlajkovic and Sindjelic (2007) agree and advocate a quiet, dark environment with as little auditory stimulation as possible and parental presence is the best practice for reducing ED.

Waipapa Recovery

It is a very exciting time for the nursing staff working in the Waipapa paediatric areas as the service is continuing to evolve. The potential to improve our service is limitless and Canterbury's new paediatric recovery is a very positive step in the right direction. Increasing patient acuity and workload expectations highlight the need for the provision of a child friendly environment, staffed by a qualified and sustainable workforce. Development and succession planning of our nursing workforce must remain a high priority, ensuring satisfactory skill mix within a specialised paediatric recovery. It is important to note that the United Kingdom, United States of America, and many European countries have specific training for paediatric nurses (Glasper, 2013; 2017). Anecdotally, the child health component of the NZ Bachelor of Nursing training reportedly has limited child health education. Newly graduated nurses require extensive support to transition into specialised areas such as recovery

where staff are rostered throughout the whole service. Paediatric specific education packages are provided to support staff in this highly challenging area. There is also a full-time Nurse Educator and Clinical Nurse Specialist supporting this space. "In order to provide quality healthcare, it is essential to review work processes, and train and qualify registered nurses in the care of the paediatric patient" (Wegner et al., 2017, p.5)

Conclusion

Our new Waipapa Paediatric Recovery provides many opportunities for further enhancing our patient's journey. The feedback since opening has been overwhelmingly positive, especially from the paediatric anaesthetists. Empowering a family model of care nurtures our tamariki and leads to best patient outcomes.

"Whaea Taku toa I te toa takatahi taku toa takitini Taki Mano e"
"It's not by my own self but by that of the many" (NZNO, 2019, p. 2)

Emergent delirium in children specifically under the age of six is a complex altered state of health which is two to three times more common in children than in adults…

About the Author

Angeline is a Registered Nurse working at Christchurch Hospital in the Recovery Unit (Post Anaesthetic Care Unit). She has worked in this department for over 14 years and is currently on a secondment in the Children's Surgical Admissions Waipapa. Prior to this, her background included medical, surgical, radiology and emergency nursing with no prior paediatric experience. In fact, this initially put her off applying for the PACU nurse position as her comfort zone was nursing adults. A decade later, caring for children is her passion and privilege and she is looking forward to being part of the journey to improve services to this patient group, especially children with autism, Māori and Pacifica patients. She has focused her studies on health disparities and social determinants impacting vulnerable population groups. Angeline is passionate about mentoring and supporting our new graduate nurses in this challenging space.

References

Bong, C. L., & Ng, A. S. B. (2009). Evaluation of emergence delirium in Asian children using the Pediatric Anesthesia Emergence Delirium Scale. *Paediatric Anaesthesia*, *19*(6), 593–600. https://doi.org/10.1111/j.1460-9592.2009.03024

Girad,N; (2014). A weighty mistake. *AORN Journal*. Elsevier USA. https://doi.org/10.1016/j.aorn.2014.04.016

Glasper, A. (2017). Does a Shortage of Specially Trained Nurses Pose a Threat to the Provision of Optimum Care for Sick Children in Hospital? *Comprehensive Child and Adolescent Nursing*. Taylor and Francis Ltd. doi.org/10.1080/24694193.2017.1289740

Glasper, A. (2013). Should nurses work outside their own field of practice? *British Journal of Nursing*, *22*(13), 790–792. doi-org.libproxy.ara.ac.nz/10.12968/bjon.2013.22.13.790

Houle, K. E., Belew, J., & Miller, B. (2015). Implementation of a Phase I Caregiver Visitation Program for a Specialized Pediatric Population. *Journal of Perianesthesia Nursing*, 30(4), 301–307. https://doi.org/10.1016/j.jopan.2014.07.012

Kain, Z. N., Caldwell-Andrews, A. A., Maranets, I., McClain, B., Gaal, D., Mayes, L. C., … Zhang, H. (2004). Preoperative anxiety and emergence delirium and postoperative maladaptive behaviors. *Anesthesia and Analgesia*, *99*(6), 1648–54, https://doi.org/10.1213/01.ANE.0000136471.36680.97

Kamienski, M; McCartney, M; McLoughlin,M & Pallaria, T.(2018). Pediatric Emergence Delirium: A Case Study. *Journal of PeriAnesthesia Nursing*, https:doi.org/10.1016/j.jopan.

Khan, A., Furtak, S. L., Melvin, P., Rogers, J. E., Schuster, M. A., & Landrigan, C. P. (2016). Parent-reported errors and adverse events in hospitalized children. *JAMA Pediatrics*, *170*(4). doi.org/10.1001/jamapediatrics.2015.460

Manias, Kinney, Cranswick & Williams, (2014). Medication errors in hospitalised children. *Journal of Paediatrics and Child Health*, 50 (1), 71- 77. https://doi.org/10.1111/jpc.12412

Mohkamkar, M., B.S., Farhoudi, F., M.D., Alam-Sahebpour, A., Mousavi, S., M.D., Khani, S., PhD., & Shahmohammadi, S., B.Sc. (2014). Postanesthetic emergence agitation in pediatric patients under general anesthesia. *Iranian Journal of Pediatrics*, *24*(2), 184-190. Retrieved from https://search-proquest.com.whitireia.idm.oclc.org/docview/1527307197?accountid=180369

Moore, A. D., & Anghelescu, D. L. (2017). Emergence Delirium in Pediatric Anesthesia. *Pediatric Drugs*. Springer International Publishing. https://doi.org/10.1007/s40272-016-0201-5

Mountain, B. W., Smithson, L., Cramolini, M., Wyatt, T. H., & Newman, M. (2011). Dexmedetomidine as a pediatric anesthetic premedication to reduce anxiety and to deter emergence delirium. *AANA Journal*, 79(3), 219–224.

Munday, J., Kynoch, K., & Hines, S. (2014). The effectiveness of information-sharing interventions to reduce anxiety in families waiting for surgical patients undergoing an elective surgical procedure: a systematic review. JBI Database of Systematic Reviews and Implementation Reports, 12(3), 234–273. https://doi.org/10.11124/jbisrir-2014-1411

New Zealand Nurses Organisation (NZNO). (2019), *Guideline – Code of Ethics*. Retrieved from https://www.nzno.org.nz/Portals/0/publications/Guideline%20-%20Code%20of%20Ethics%202019.pdf?ver=19LQpYx8wspprjbTNt9pWw%3d%3d

Pomicino, L., Maccacari, E., & Buchini, S. (2018). Levels of anxiety in parents in the 24 hr before and after their child's surgery: A descriptive study. *Journal of Clinical Nursing* (John Wiley & Sons, Inc.), 27(1–2), 278–287. https://doiorg.libproxy.ara.ac.nz/10.1111/jocn.1389

Reduque, L. L., & Verghese, S. T. (2013). Paediatric emergence delirium. *Continuing Education in Anaesthesia, Critical Care and Pain*, *13*(2), 39–41. https://doi.org/10.1093/bjaceaccp/mks051

Tagadaya, M., Macapobre, R., & Rich, E. R. (2013). The impact of the use of paddle pagers on family member anxiety during the intraoperative period. *Journal of Perianesthesia Nursing*, 28(6), 377–382. https://doi.org/10.1016/j.jopan.2012.10.009

Trimm, D. R., & Sanford, J. T. (2010). The process of family waiting during surgery. *Journal of Family Nursing*, 16(4), 435–461. https://doi.org/10.1177/1074840710385691

Vlajkovic, G. P., & Sindjelic, R. P. (2007). Emergence delirium in children: Many questions, few answers. *Anesthesia and Analgesia*. https://doi.org/10.1213/01.ane.0000250914.91881.a8

Watts, R., Zhou, H., Shields, L., Taylor, M., Munns, A., & Ngune, I. (2014). Family-centered care for hospitalized children aged 0-12 years: A systematic review of qualitative studies. JBI Database of Systematic Reviews and Implementation Reports, 12(7), 204–283. https://doi.org/10.11124/jbisrir-2014-1683

Wei, H., Roscigno, C. I., & Swanson, K. M. (2017). Healthcare providers' caring: Nothing is too small for parents and children hospitalized for heart surgery. *Heart and Lung: Journal of Acute and Critical Care*, 46(3), 166–171. https://doi.org/10.1016/j.hrtlng.2017.01.007

Wegner, W., Silva, M. U. M. da, Peres, M. de A., Bandeira, L. E., Frantz, E., Botene, D. Z. de A., & Predebon, C. M. (2017). Patient safety in the care of hospitalised children: evidence for paediatric nursing. *Revista Gaucha de Enfermagem*, *38*(1), e68020. doi.org/10.1590/1983-1447.2017.01.68020

Yayan, E. H., Zengin, M., Düken, M. E., & Suna Dağ, Y. (2020). Reducing Children's Pain and Parents' Anxiety in the Postoperative Period: A Therapeutic Model in Turkish Sample. *Journal of Pediatric Nursing*, 51, e33–e38. https://doi.org/10.1016/j.pedn.2019.07.00

Liver Transplants in Aotearoa New Zealand

By Bron Taylor & Robyn Grant

Abstract Liver transplantation surgery has been available in Aotearoa New Zealand (AoNZ) for the past 23 years. This article is a brief history of liver transplant in AoNZ, with a Perioperative Nursing focus.

Keywords Liver Transplant surgery, deceased donor, live donor, Perioperative Nursing

Introduction

Liver transplantation is now accepted as a standard treatment for end stage liver disease, small hepatocellular carcinoma and acute liver failure (Johnston & Gane, 2020).

The New Zealand Liver Transplant Unit (NZLTU) opened in December 1997. The first adult liver transplant in Aotearoa New Zealand (AoNZ) took place in February 1998, with paediatric transplants available from 2002. Prior to this liver transplant patients travelled to Australia (McCaughan & Munn, 2016).

History of the New Zealand Liver Transplant Unit

Guidelines supporting the establishment of a single, nationally-funded liver transplant unit were produced by the New Zealand Society of Gastroenterology in March 1994 (Allardyce, 2002). The following April, the Ministry of Health (MOH) announced the decision to provide a liver transplant service in Aotearoa New Zealand (AoNZ) (Beehive, 1997). Auckland won the initial three-year contract in June 1997 (Allardyce, 2002).

The NZLTU attracted a wealth of clinical and management talent. Steve Munn headed the unit, returning to AoNZ from the Mayo Clinic where he had been leading transplant surgery (Allardyce, 2002). Numerous people including OR nurses, anaesthetists, technicians and surgeons went overseas to up-skill (Allardyce, 2002), spending three weeks at the Mayo Clinic, Rochester, Minnesota in the United States of America (Johnston, 2002). Sponsorship from the Lions Club covered some of the cost of setting up the service (Streat, 1997).

The first liver transplant took place in New Zealand in February 1998, with the team performing 13 transplants in the first year (Johnston, 2002). The first paediatric transplant was completed in 2002 (McCaughan & Munn, 2016). Ten years later, the NZLTU celebrated its 500th transplant (Johnston, 2012). By August 7, 2021 a total of 774 adult (more than 16 years old) and 172 paediatric (under 16 years old) liver transplants had been performed (Johnston, personal communication, August 10, 2021).

Anatomy & physiology of the liver

The liver is the largest and heaviest of the solid glandular organs in the body (Mahadevan, 2014), comprising around two per cent of an adult's body weight (Kalra, Yetiskul, Wehrle & Tuma, 2021). It sits high up in the abdominal cavity, moulded to the under surface of the diaphragm, surrounded and protected by the lower circumference of the rib cage. On the diaphragmatic surface, the falciform ligament demarcates the right lobe from the left lobe. The left lobe is much smaller than the right, approximately a quarter or a fifth the size of the right lobe. The quadrate and caudate lobes are found on the inferior surface of the liver, as is the gallbladder (Mahadevan, 2014).

The liver is a very vascular organ and in an average adult it receives 1.5 litres of blood per minute, which approximates to nearly 25 per cent of the resting cardiac output. Its blood supply is derived from the unusual combination of both venous and arterial sources; the portal vein provides 70–75 per cent of the inflow with the hepatic artery supplying the rest (Mahadevan, 2014).

The liver is a critical organ, playing a role in nearly every organ system in the body. It aids in digestion and metabolism, interacting with the gastrointestinal and endocrine systems. It manages cholesterol homeostasis and is the storage site for fat-soluble vitamins, iron and copper.

An essential function of the liver is metabolism and/or detoxification of foreign chemical substances such as drugs. Furthermore, the liver manages the synthesis of nearly every plasma protein in the body, including albumin and all the clotting factors of the intrinsic and extrinsic pathways, apart from factor VIII (Kalra, Yetiskul, Wehrle & Tuma, 2021). Bile is produced by hepatocytes and, following secretion, travels through ducts to either the duodenum or the gallbladder for storage.

Clinical Indications for liver transplant

Liver transplant is the treatment of choice for end-stage chronic liver disease (Gane et al., 2002). Cirrhosis is the reason for more than 80 per cent of adult transplants, with hepatitis C and alcoholic liver disease the two most common diagnoses (Tran, Nissen, Poordad and Martin, 2004).

Symptoms of cirrhosis include portal hypertension, hyperestrinism and hypoalbuminemia, as a result of the liver's diminished ability to produce protein and detoxify substances. Coagulopathy occurs as a result of decreased clotting factor synthesis (Kalra, Yetiskul, Wehrle & Tuma, 2021).

Other indications for transplant include cholestatic liver disorders such as primary biliary cirrhosis, primary sclerosing cholangitis and biliary atresia, chronic hepatitis from hepatitis B and autoimmune hepatitis, metabolic diseases such as Wilson's disease and non-alcoholic

steatohepatitis, fulminant hepatic failure, and nonmetastatic hepatocellular carcinoma (Tran, Nissen, Poordad and Martin, 2004). Paediatric indications include biliary atresia and metabolic liver disease (Tran, Nissen, Poordad & Martin, 2004).

Orthoptic liver transplant surgery

Few operations require the attention to technical detail necessary in liver transplantation. Technical errors translate directly into poor liver function, infection or biliary complications. Thus, transplantation is only performed by trained surgeons with experienced anaesthetic and nursing support (Clavien & Killenberg, 2006). Liver transplantation has four main stages: the donor hepatectomy, the recipient hepatectomy, the implantation of the liver, followed by haemostasis and reconstruction of the bile duct (Makowka, et al., 1988).

The first step in any transplant is the retrieval of the donor organ. Orthoptic organ donation is only possible when a person is on a ventilator in an intensive care unit, usually with severe brain damage. Two separate sets of assessments are carried out by two different doctors to confirm brain death. Following the family's agreement, the donor coordinator for Organ Donation New Zealand (ODNZ) is contacted. They obtain medical information about the patient, liaise with the transplant teams and organise the organ retrieval operation. The donor team travels to the hospital where the patient is being cared for and surgically remove the organ(s) (ODNZ, n.d. a). A donor call-out can take anywhere from six to 20 hours, often in the middle of the night. This can be incredibly stressful, especially if there are time-pressures for the recipient patient.

At Auckland, the liver transplant team is called in and starts preparing for surgery at least an hour prior to the patient's transfer to the OR. Often these patients are critically ill and have bleeding disorders, therefore, preparation includes ensuring for potential complications such as massive blood-loss. The scrub nurse and primary circulating nurse set up and count the huge amount of surgical instruments and equipment. Simultaneously, the anaesthetic team prepare their complex set-up including invasive monitoring, multiple infusion pumps and the auto-transfusion cell-saver. While these teams are preparing, the second circulating nurse goes to the ward or Department of Critical Care (DCCM) to collect the patient. It is a terrifying time for the family members and part of the role of the second circulating nurse is to provide support and reassurance to the patient and whanau, along with completing the pre-operative patient assessment and checklist.

Some of the transplant nursing team members (2005). Robyn Grant is on the far right of the back row (green hat) with Bron Taylor in the middle of those seated.

Liver transplant surgery begins with a recipient hepatectomy (Clavien & Killenberg, 2006), often the most difficult stage of the entire liver transplant procedure (Makowka, et al., 1988). It can be very challenging and complex in patients with severe portal hypertension or those with multiple previous surgeries (Clavien & Killenberg, 2006). There is no single best method to remove the diseased native liver. After adequate exposure is obtained, the condition of the liver is assessed and a plan made for whatever technical approach will be permitted by the abnormal anatomy (Makowka, et al., 1988). The classical surgical technique requires resection en-bloc of the retrohepatic vena cava and the portal veins (Clavien & Killenberg, 2006). The donor liver usually arrives back at Auckland City Hospital just prior to, or during, the recipient hepatectomy. A second surgical team may need to back-table the organ so that it is ready for transplant. The circulating nurse(s) support this team, ensuring the instruments and sutures are available and counted alongside the primary count.

Before initiating the vascular reconstruction, the surgical field must be completely ready, with perfect haemostasis and the vessels prepared for the vascular grafts (Lladó & Figueras, 2004). The classical implantation technique begins with the suprahepatic and infrahepatic caval anastomoses followed by the portal anastomosis. These are completed as quickly as possible to reduce the warm-ischemia time of the new liver (Clavien & Killenberg, 2006). Prior to reperfusion, the liver is flushed via the portal vein to wash out any preservation fluid and air trapped in the liver (Makowka, et al., 1988). The hepatic arterial anastomosis is the final vascular step in the procedure (Clavien & Killenberg, 2006). This stage of the surgery is another particularly challenging time for the surgeons and nurses. Multiple sutures are required, often for interrupted anastomoses, with 'clumps' of needles passed back to the scrub nurse to be sorted and accurately accounted for. Once the cross-clamps are removed, bleeding can be a huge issue, so the team must be well prepared and vigilant. The scrub nurse must be very focussed; rapidly loading needles, keeping track of instruments and anticipating needs.

Once haemostasis is achieved the final stage of the transplant occurs. Biliary tract reconstruction is carried out by either duct-to-duct anastomosis or Roux-en-Y hepaticojejunostomy (Clavien & Killenberg,

Number of Livers Transplanted in New Zealand

Organ	2015	2016	2017	2018	2019	2020
Liver (deceased donors)	45	56	52	47	54	51
Liver (living donors)	3	3	3	2	4	3
Annual totals	48	59	55	49	58	54

Source: Organ Donation New Zealand, n.d. retrieved from https://www.donor.co.nz/facts-and-myths/statistics/

Success Rates

Organ (deceased donors)	1 year	5 years
Liver – adult	96%	89%
Liver – paediatric	93%	92%

Source: Organ Donation New Zealand, n.d. retrieved from https://www.donor.co.nz/facts-and-myths/statistics/

F&P HumiGard | Humidify to Protect

Improving patient outcomes with surgical humidification

DURING SURGERY

- Reduces the incidence of peri-operative hypothermia
- May improve local tissue oxygenation[#Δ]
- May improve local tissue perfusion[#Δ]
- Deflects particles[§Δ]

POST SURGERY

- Improves end of surgery core body temperature
- Reduces local peritoneal inflammation
- Reduces SSI[«]
- Reduces time in recovery[«]

LONG TERM

- May reduce adhesion formation[Δ]
- May reduce tumour burden[«Δ]
- May reduce tumour metastasis[«Δ]

« in laparoscopic surgery; # in open surgery; Δ as demonstrated in an animal model; § as demonstrated in a wound model.

Reduction in economic costs

To find out more call our customer service team on **0800 503 553** or visit **www.fphcare.com/surgical**

Fisher & Paykel HEALTHCARE

bravura EDUCATION

Exceptional Laser Safety Officer Courses

2021 Webinar Series

- ✓ Personalised support
- ✓ Recognised
- ✓ Highly rated
- ✓ Eligible for CPD points
- ✓ Meets AS/NZS standards

Dates out now!

Endorsed and recognised by
Radiation Health Departments and professional bodies.

+61 1300 001 808
hello@bravura.edu.au
www.bravura.edu.au

Some of the instruments and equipment required for a transplant (2005)

2006). These anastomoses are often completed using an interrupted suture method, meaning multiple fine sutures are required. At the end of the transplant, it is not uncommon for the nurses to be accounting for over a hundred suture needles, dozens of packs of laparotomy swabs and several packs of gauze swabs.

Following surgery, patients are transferred to DCCM for at least one night. Barring complications, they respond very quickly to the new graft liver and are usually discharged from hospital between six and 14 days post-transplant (Johnston & Gane, 2020).

Live donor liver transplants

The NZLTU completed the first paediatric live donor transplant on January 30, 2002 and the first adult on August 14, 2002 (Johnston, personal communication, August 10, 2021). In AoNZ, five per cent of adults and 50 per cent of paediatric liver transplants are done using live donors (Harrison, 2012, as cited in Gavin, Malpas & Bartlett, 2015). The need for the live donation operation is driven by the lack of deceased donors, high rate of mortality for those with liver failure and no equivalent of dialysis (Gavin, Malpas & Bartlett, 2015). Ethical considerations for this surgery are significant due to the invasiveness of the donor surgery and the high-risk to the patient (Gavin, Malpas & Bartlett, 2015).

Live donor transplant surgery adds a further layer of complexity as two teams are required and the timing of each surgery must be carefully coordinated. The surgery is effectively planned acute rather than elective or truly acute. Live donor surgery begins prior to the recipient, with the split-graft of the liver delivered to the next-door OR for back-tabling during the recipient hepatectomy.

Perioperative transplant nurses

Being a member of the liver transplant team is a huge commitment and as such recruitment has been a challenge over the years. Being on the team is voluntary, with the team agreeing to be on call for three to four days per week, working long, anti-social hours whenever required, including weekends and public holidays. Some of the team also cover donor call, requiring them to travel around the country at short notice.

Training OR nurses to become members of the transplant team is complex and comprehensive. Prerequisite to joining the team is a minimum of two years scrubbing and circulating experience, including an extensive background in liver and vascular surgery. Members must have an advanced knowledge of anatomy and physiology and an in-depth understanding of every stage of the surgery, enabling them to anticipate what the surgeons will need before they need it. This translates to a significantly higher level of stress due to the acuity of the patient and complexity of the surgery.

The small team of nurses are a dedicated and committed group who support each other. There are five nurses on call at any one time,

including the donor nurse. There are always two transplant trained scrub nurses on call in case one gets sick. The fourth transplant nurse is called in as required for a paediatric split-liver, extremely complex surgery, or for short-notice live donor surgeries. Being part of the team is indisputably very tiring, however this is offset by the satisfaction of making a life-changing difference to their patients. Throughout Australia and AoNZ there are many nurses who had once been a member of the AoNZ liver transplant team.

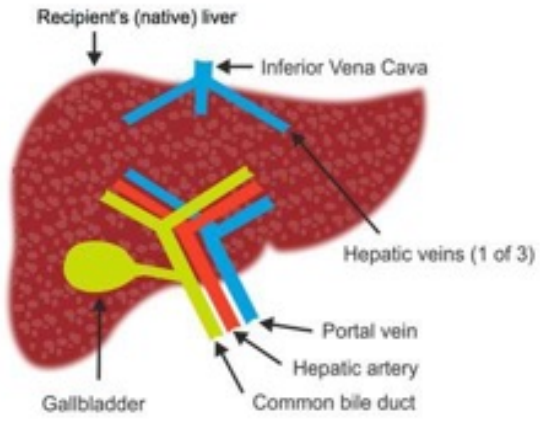
Success Rates

The aim of transplantation is to return patients to a normal life without any limitations, though they will need to be on immunosuppressant treatment for the rest of their lives (Johnston & Gane, 2020). The success rates for liver transplants in AoNZ are comparable to international rates (ODNZ, n.d. b).

A 2016 report showed that the median adult patient survival was approximately 20 years, with more than 70 per cent of paediatric patients alive 20 years following transplant (McCaughan & Munn, 2016). There has been a steady improvement in survival decade upon decade (McCaughan & Munn, 2016) and the NZLTU now expects transplant patients to have greater than a 95 per cent one-year survival and 87 per cent five-year survival (Johnston & Gane, 2020). ODNZ's website indicates that the success rate for adult deceased-donor recipients is currently 96 per cent at one year and 89 per cent at five years, with paediatric deceased-donor recipients at 93 per cent at one year and 92 per cent at five years (ODNZ, n.d. b).

Conclusion

Liver transplants have been available in AoNZ for 23 years. As at August 7, 2021, the perioperative transplant team had completed 946 liver transplants (Johnston, personal communication, August 10, 2021). Being part of this specialised team who provide this life-saving service



Depiction of before (above) and after (below) liver transplant surgery for primary sclerosing cholangitis (Millson et al. 2020, p. 387)

BARRIER® Surgical gown Virus Protection Plus (VPP)

High-performance Virus Protection Plus (VPP) surgical gowns designed to protect both healthcare personnel and patients

High-performance Virus Protection Plus (VPP) surgical gowns are designed to protect both healthcare personnel and patients from the transfer of viruses and other microorganisms. VPP surgical gowns meet AAMI level 4 requirements for resistance against viral penetration.

- Designed to provide virus protection
- Breathable material
- Hook-and-loop secured to the nonwoven
- Resistant to blood strikethrough
- Available in sterile and non-sterile
- HP gown complies with EN13795:2019 requirements
- Meets ANSI/AAMI PB70:2012 level 4 requirements

Find out more at www.molnlycke.com.au or www.molnlycke.co.nz

Mölnlycke Health Care Pty Ltd, Level 4, 12 Narabang Way, Belrose, NSW 2085 T 02 9485 1544. F 02 9485 1555.
Mölnlycke Health Care Pty Ltd, PO Box 62-027, Mt Wellington 1641, New Zealand. Orders & Enquiries 0800 005 231.
The Mölnlycke and BARRIER trademarks, names and logos are registered globally to one or more of the Mölnlycke Health Care group of companies. © 2021 Mölnlycke Health Care AB. All rights reserved. AUSU002658_halfpage_10092021

Mölnlycke®

Emma setting up for a liver transplant (2005)

requires a great deal of commitment and sacrifice, with the rewards being the satisfaction of a job well done and the knowledge that they have contributed to transforming the lives of their patients and whānau.

About the Authors

Robyn Grant *was Charge Nurse Manager of the abdominal transplant, upper GI and vascular services at Adult and Emergency Operating Rooms, Auckland DHB for 20 years. She has recently retired. She started in Auckland Hospital operating rooms in 1982 and was one of the original team members that travelled to the Mayo Clinic for training, setting all of the instruments and equipment required for this ground-breaking service on her return. Robyn scrubbed for the first adult liver transplant in AoNZ, recalling the experience as 'seriously scary' with huge amounts of adrenaline and excitement, followed by elation. Over the years she led the nursing team through many other milestones, including the first live donor liver transplant, the first paediatric transplant, the first combined heart-liver transplant and the first donation after cardiac death (DCD).*

Bron Taylor *is the Associate Nurse Director, Workforce Development, Training & Education, Perioperative Services, Auckland DHB. She has recently completed a Masters' level research portfolio at the School of Nursing, University of Auckland. Bron was a member of the liver transplant team from 1998 until 2011. She was fortunate enough to travel with Robyn to UCLA in October 2001 for paediatric liver transplant training prior to the service being available.*

References

Allardyce, R. (2002). The New Zealand Liver Transplant Unit, *New Zealand Medical Journal*, *115*(1159), U127.

Beehive.govt.nz. (1997). *Liver Transplant Decision* (press release). Retrieved from https://www.beehive.govt.nz/release/liver-transplant-decision

Clavien, P., & Killenberg, P. G. (2006). *Medical care of the liver transplant patient, 3E* (3rd ed.. ed.). Malden, Mass.: Malden, Mass. : Blackwell Pub. 2006.

Gavin, C., Malpas, P. J., & Bartlett, A. (2015). The experiences, motivations, and opinions of New Zealand's live liver donors. *New Zealand Medical Journal, 128*(1425), 54-60.

Gane, E., McCall, J., Streat, S., Gunn, K., Yeong, M. L., Fitt, S., . . . Munn, S. (2002). Liver transplantation in New Zealand: The first four years. *New Zealand Medical Journal, 115*(1159), 13p.

Johnston, M. (2002). Liver Transplantation: the Nursing Viewpoint. *The Dissector, 30*(2), 14-16

Johnston, M. (2012). *Hepatic Happenings Newsletter, 6* (1).

Johnston, M., Gane, E. (2020). *Shared Care Guide for Patients Undergoing Liver Transplantation*. Retrieved from https://nzsg.org.nz/assets/Uploads/Shared-Care-Guide-for-Patients-undergoing-Liver-Transplantation.pdf

Kalra, A., Yetiskul, E., Wehrle, C.J., Tuma, F. (2021). *Physiology, Liver.* In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK535438/

Lladó, L., & Figueras, J. (2004). Techniques of orthotopic liver transplantation. *HPB: the official journal of the International Hepato Pancreato Biliary Association, 6*(2), 69–75. https://doi.org/10.1080/13651820310020756

Mahadevan, V. (2014). *Anatomy of the liver.* Surgery (Oxford), 38(8), 427-431. doi:10.1016/j.mpsur.2014.10.004

Millson, C., Considine, A. , Cramp, M.E., Holt, A., Hubscher, S., Hutchinson, K., ... Tripathy, D. (2020). Adult liver transplantation: UK clinical guideline - part 2: surgery and post-operation. *Frontline Gastroenterology* 11(3), 85-396. Retrieved from https://fg.bmj.com/content/11/5/385

Makowka, L., Stieber, A. C., Sher, L., Kahn, D., Mieles, L., Bowman, J., Marsh, J. W., & Starzl, T. E. (1988). Surgical technique of orthotopic liver transplantation. *Gastroenterology clinics of North America, 17*(1), 33–51.

McCaughan, G. W., & Munn, S. R. (2016). Liver transplantation in Australia and New Zealand. *Liver Transplant, 22*(6), 830-838. doi:10.1002/lt.24446

Organ Donation New Zealand, (n.d. a). *Everything you need to know about donation*. Retrieved from https://www.donor.co.nz/facts-and-myths/

Organ Donation New Zealand, (n.d. b). *Statistics*. Retrieved from https://www.donor.co.nz/facts-and-myths/

Streat, S. (1997). *New Zealand National Liver Transplant Programme: Sponsorship Proposal to Lions*

Tran, T. T., Nissen, N., Poordad, F. F., & Martin, P. (2004). Advances in liver transplantation: New strategies and current care expand access, enhance survival. *Postgraduate Medicine; Postgrad Med, 115*(5), 73-85. doi:10.3810/pgm.2004.05.151

Type 1 Diabetes Mellitus in the Perioperative Environment

By Olivia Talyancich

Abstract: Diabetes is a chronic health condition with several classifications. This article is a review of the literature exploring type 1 diabetes, with a focus on patient assessment and management within the perioperative setting.

Keywords: Diabetes, evidence-based practice, perioperative, assessment and management

Introduction

Diabetes mellitus is a chronic health condition resulting from insulin secretion deficit and/or insulin action. Type 1 diabetes affects 15,000-20,000 New Zealanders. This accounts for five to eight per cent of all New Zealanders with diabetes (Ministry of Health, 2015).

Diabetes is classified as type 1, type 2, gestational or diabetes due to other causes (American Diabetes Association, 2016). This article focuses on the assessment and management of type 1 diabetes within the perioperative environment. Health implications from poor patient management of type 1 diabetes include cardiac and vascular disease, blindness, kidney failure and limb amputation (Pippitt, Li & Gurgle, 2016).

This literature review defines evidence-based practice (EBP) and relevance to patient management. Hemoglobin A1c (HbA1c) levels, evaluation of comorbidities, preoperative fasting time, glycemic monitoring and insulin administration during surgical procedures are discussed. Critical analysis of current literature provides best practice for the assessment and management of type 1 diabetes patients within the perioperative environment.

Evidence-based practice

Florence Nightingale, a recognised EBP pioneer within the nursing discipline, used evidence obtained through experimentation to improve patient outcomes.

During the 1980s, Patricia Benner's theory advanced clinical nursing skill and acquisition using EBP research (Benner, 1982). EBP evolved from purely clinical-based to integrating nursing practice research (Mackey & Bassendowski, 2017).

Chan, Glass and Phang (2020) describe EBP as "the integration of the best research evidence, expert clinical judgement, and the preferences and values of patients" (2020, p 46). Similarly, Horntvedt, Nordsteien, Fermann and Severinsson (2018) state that EBP "involves a conscious use and application of various knowledge sources, including the use of published research in conjunction with clinical expertise and patient values and preferences" (2018, p 1).

Use of the EBP framework within nursing supports patient-specific decision making and positively influences patient safety. Nurses must acquire knowledge to effectively practise EBP and advance their practice. Organisations require systems and available resources such as nursing databases to support critical thinking and decision making within a clinical setting (Yoo, Kim, Kim, Kim, & Ki, 2019).

Access to workplace policy and procedures, best practices guidelines and nursing databases increase nurses' knowledge and research ensuring patient care and management is evidence-based and best practice.

Diabetes within the perioperative environment

Diabetes is defined as a group of metabolic diseases in which glucose metabolism is interrupted, resulting in hyperglycemia. Insulin and other hormones such as glucagon, cortisol, epinephrine and growth hormone are necessary for glucose metabolism.

Insulin stimulates glucose uptake within tissues such as muscle and adipose. It increases glycogen production within the liver and prevents gluconeogenesis (Leung & Ragbir-Toolsie, 2017).

Type 1 diabetes is characterised by pancreatic beta cells destruction, resulting in complete insulin deficiency. Patients with type 1 diabetes are completely insulin dependent. The omission of insulin in these patients leads to decompensation of metabolic processes and death. Common symptoms of type 1 diabetes include polyurea, polyphagia, polydipsia, weight loss, fatigue and blurred vision. Patients may become susceptive to macrovascular disease and microvascular complications (Baynest, 2015).

Diabetic patients are more likely to undergo surgery and are at higher risk of postoperative complications, surgical site infections, transfusion requirement, prolonged hospital stay, pneumonia and mortality (Akiboye & Rayman, 2017).

Surgical procedures and anaesthesia evoke stress responses,

resulting in metabolic disturbances and altering normal glucose homeostasis. The stress response increases cortisol and catecholamines levels within the body, causing reduced insulin sensitivity.

Increases in sympathetic activity cause reduced insulin secretion and increased glucagon and growth hormone secretion. These significant metabolic changes in diabetic patients can induce a catabolic state. Metabolism changes from surgery stress and anaesthesia results in gluconeogenesis, glycogenolysis, lipolysis, proteolysis and ketogenesis ultimately leaving the patient in a state of hyperglycemia and ketosis (Sudhakaran & Surani, 2015).

Metabolism changes from surgery stress and anaesthesia results in gluconeogenesis, glycogenolysis, lipolysis, proteolysis and ketogenesis ultimately leaving the patient in a state of hyperglycemia and ketosis

Type 1 diabetes is a chronic health condition, becoming acute if not assessed and managed appropriately within the perioperative environment. Mendez and Umpierrez (2017) estimated three million American individuals have type 1 diabetes and incidence is increasing four per cent per year in European countries.

Management of type 1 diabetic patients differs from type 2 diabetes due to the patient's complete reliance on insulin therapy. Type 1 diabetics have an increased risk of hypoglycemia and hyperglycemia as a result of preparing for and undergoing anaesthesia and surgery. Patient safety is paramount in perioperative settings, requiring multidisciplinary team awareness of surgical risks and associated comorbidities of type 1 diabetes as well as appropriate assessment and management (Barker et al., 2015).

ME Medical™
SURGICAL CLIPPER

- For pre-operative hair removal, wet or dry
- Unique twistable shaving head
- Easy to use with a non-slip grip

CELEBRATING 40 YEARS JACKSON ALLISON

For further information please contact your Jackson Allison representative on 0800 333 103.

Pre-admission Assessment

Type 1 diabetic patients require pre-admission clinics for full anaesthetic and surgical review. Comprehensive pre-admission assessments of diabetic patients prior to surgery should include glycemic control evaluation and baseline HbA1c levels.

HbA1c levels reflect the patient's mean glycemic control over a three-month period. Studies indicate elevated HbA1c levels are associated with increased postoperative complications, morbidity and mortality rates (Leung & Ragbir-Toolsie, 2017).

A retrospective study by Elghoneimy et al. (2020) concluded that patients with an elevated HbA1c prior to surgery experienced higher mortality. Preoperative guidelines by Cheisson et al. (2018) advocate surgery postponement for HbA1c levels above nine per cent, as this indicates poor glycemic control, exposing the patient to acute metabolic complications perioperatively. HbA1c levels less than five per cent suggest intermittent and/or poor hypoglycemic control, with surgery postponement also recommended.

Zheng et al. (2016) and Yang, Sun, Li and Liu (2017) meta-analysis similarly concluded that high HbA1c levels are associated with unfavorable clinical outcomes. This supports assessment of HbA1c level in diabetic patients undergoing surgical procedures to prevent postoperative complications.

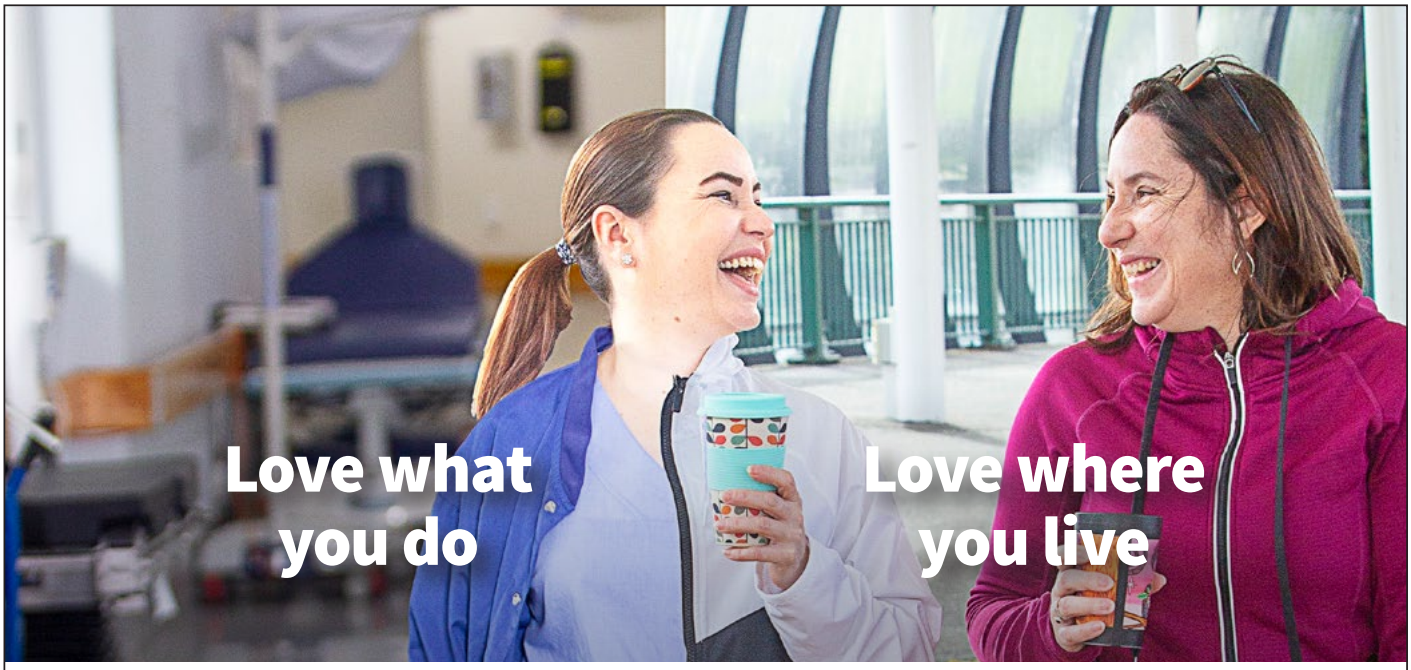
Polderman, van Wilpe, Eshuis, Preckel and Hermanide's (2016), cohort study established diabetes as a risk factor for postoperative complications. Sixty-five per cent of diabetic day stay surgery patients suffered hyperglycemia, suggesting that rather than short term, long term glycemic control is important. However, Rollins, Varadhan, Dhatariya, and Lobo (2016) review found no link between preoperative HbA1c levels and postoperative outcomes. Jackson et al. (2016) believe available studies are retrospective and too small a sample size to be conclusive.

A comprehensive evaluation of comorbidities during patient assessment prior to surgery is recommended by Leung and Ragibir-Toolsie (2017). In addition to testing HbA1c levels, cardiac evaluation of baseline serum creatinine for chronic kidney disease, and patient history including diabetes type, medication, home management, hypoglycemia and hyperglycemia episodes are important preoperative considerations.

Hypoglycemia risk increases in patients with kidney disease due to delayed insulin clearance (Arthur et al., 2018). Diabetes can cause autonomic nervous system dysfunction, leading to cardiovascular disorders; tachycardia, postural hypotension, asymptomatic myocardial infarction and perioperative instability (Balcioglu & Muderrisoglu, 2015).

Preoperative fasting

Many studies highlight the importance of minimising preoperative fasting



Registered Nurses – Operating Theatres

From study support and professional development, through to growing new services and facilities, the future at Northland DHB is bright. Here, you'll be doing what matters to your career, all whilst enjoying a flexible and healthy work-life balance. We've always been known for our 'can do' culture. It's time to spread the word about where that innovation is taking us.

With two new operating theatres open now is the time to see what theatre nursing is all about. We have full time and part time positions available.

Here in operating theatres we're looking for that special someone to join our friendly, sociable team. We can offer you a challenging environment with plenty of variety. Also because it's important to us that you reach your potential we'll encourage and support your professional development.

Northland DHB is committed to Te Tiriti o Waitangi and holds stewardship for equitable health outcomes for Māori as Tāngata Whenua as the highest priority.

The successful applicant will preferably have theatre nursing experience. You will need excellent communication skills and be able to manage your time effectively. You will be required to use your initiative, problem-solving skills and be pro-active.

Team work is key in the operating theatre; you will need to be a team-player with a collaborative attitude towards patient care.

Surgical specialties covered include General Surgery, Orthopaedics, Gynaecology, Urology, ENT, Plastics, Ophthalmology, Dental and Acute/trauma.

A career with Northland DHB will see you action meaningful change in the region we love, and in your professional development - all whilst enjoying everything the stunning North has to offer. You really can enjoy the best of both.

Our people live our Values:
Tangata I te tuatahi **People First** - People are central to all we do
Whakaute (tuku mana) **Respect** - We treat others as they would like to be treated
Manaaki **Caring** - We nurture those around us, and treat all with dignity and compassion
Whakawhitiwhiti korero **Communication** - We communicate safely, openly and with respect to promote clear understanding
Taumata teitei (hirangi) **Excellence** - Our attitude of excellence inspires success, competence, confidence and innovation

Contact our team today on jobs@northlanddhb.org.nz

Vacancy No: NS21-045e

Enjoy the best of both.

northlanddhb.org.nz

NORTHLAND DISTRICT HEALTH BOARD
Te Poari Hauora Ā Rohe O Te Tai Tokerau

times in patients with type 1 diabetes. Akiboye and Rayman (2017) express concern that prolonged fasting increases insulin resistance. Higher insulin resistance can impair wound healing, increase complication risk, and prolonged hospital stay. Preoperative glucose administration and reduced fasting time for diabetic patients is recommended.

Jackson et al. (2016) also recommend reduced fasting times to improve intraoperative glycemic control. Their audit revealed mean fasting times over ten hours with more than one missed meal resulted in insulin infusions for diabetic patients. They propose operating lists should accommodate diabetic patients first to avoid medication time disruption and missing more than one meal.

Polderman et al. (2016) also advise scheduling diabetic patients first on operating lists, minimising fasting time to reduce hypoglycaemia risk and ensuring patient education of diabetic medication management on the day of surgery. To avoid surgery cancellation, diabetic patients should bring a form of glucose to avoid hypoglycemia during preoperative fasting (Barker et al, 2015).

Intraoperative Insulin

Appropriate use of insulin for glycemic control is important intraoperative consideration for diabetic patient management. Arthur et al. (2018) state intravenous insulin infusions are the favoured method for intraoperative glycemic management, as opposed to subcutaneous insulin injection or intravenous bolus. Rapid titration of intravenous insulin infusion facilitates glycemic control during times of malabsorption and insulin resistance.

Cheisson et al. (2018) guidelines recommend use of patient's insulin pumps be discontinued before surgery with rapid short-acting insulin infusion administered intraoperatively. Copanitsanou, Dafogianni and Iraklianou (2016) prefer intravenous insulin due to shorter intraoperative monitoring time. They found various perioperative factors affect the absorption of subcutaneous insulin and intravenous insulin administered concomitantly with glucose avoids hypoglycemia risk (Copanitsanou, Dafogianni & Iraklianou, 2016).

Type 1 diabetics have an increased risk of hypoglycemia and hyperglycemia as a result of preparing for and undergoing anaesthesia and surgery.

Palermo and Garg (2019) concur intravenous insulin infusion provides the safest most efficient glycemic control intraoperatively.

In contrast, Polderman et al.'s (2016) review suggests patients self-manage using sliding scale insulin regimens to avoid intravenous infusion within the perioperative environment. Sliding scale regimens provide specific insulin doses for different blood glucose levels above 10 mmol L-1, with regular blood glucose measurement and an insulin bolus given to treat hyperglycemia. Thompson, Stearns, Apsey, Schlinkert and Cook (2016) found intravenous insulin infusion best for long surgical procedures, with intermittent fast-acting subcutaneous insulin sufficient for shorter procedures.

Increasingly, patients with type 1 diabetes are using continuous subcutaneous insulin infusion (CSII) pump therapy for treatment, however, data on perioperative effectiveness and safety is limited (Sobel et al., 2015) and further research is required.

Mackey et al's (2015) review of 45 type 1 diabetic patients using CSII perioperatively argue that a standardised approach of CSII pump use in perioperative environments is safe, though they recommend alternative insulin therapy for surgery longer than three hours (Mackey et al., 2015).

After reviewing 57 surgical cases, Sobel et al. (2015) developed

References

Akiboye, F., & Rayman, G. (2017). Management of hyperglycemia and diabetes in orthopedic surgery. *Curr Diab Rep, 17*(13), 1-11.

American Diabetes Association. (2016). 2. Classification and diagnosis of diabetes. *Diabetes Care, 39*(1), 512-522.

Arthur, C., Mejia, O., Lapenna, G., Brandao, C., Lisboa, L., Dias, R., ... Jatene, F. B. (2018). Perioperative management of the diabetic patient referred to cardiac surgery. *Brazilian Journal of Cardiovascular Surgery, 33*(6), 618-625.

Balcioglu, A., & Muderrisoglu, H. (2015). Diabetes and cardiac autonomic neuropathy: clinical manifestations, cardiovascular consequences, diagnosis and treatment. *World J Diabetes, 6*(1), 80-91.

Barker, P., Creasey, P. E., Dhatariya, K., Levy, N., Lipp, A., Nathanson, M. H., ... Woodcock, T. (2015). Peri-operative management of the surgical patient with diabetes 2015. *Anaesthesia, 70*, 1427-1440.

Baynest, H. W. (2015). Classification, pathophysiology, diagnosis and management of diabetes mellitus. *Journal of Diabetes and Metabolism, 6*(5), 1-9.

Benner, P. (1982). From novice to expert. *American Journal of nursing*, 402-407.

Chan, E., Glass, G. F., & Phang, K. N. (2020). Evaluation of a hospital-based nursing research and evidence-based practice mentorship programme on improving nurses' knowledge, attitudes and evidence-based practice. *The Journal of Continuing Education in Nursing, 51*(1), 46-52.

Cheisson, G., Jacqueminet, S., Cosson, E., Ichai, C., Leguerrier, A., Nicolescu-Catagi, B., ...Benhamou, D. (2018). Perioperative management of adult diabetic patients perioperative period. *Anaesth Crit Care Pain Med, 37*, 9-19.

Copanitsanou, P., Dafogianni, C., & Iraklianou, S. (2016). Perioperative management of adult patients with diabetes mellitus. *International Journal of Caring Sciences, 9*(2), 687-696.

Dhatariya, K., & Levy, N. (2019). Perioperative diabetes care. *Clinical Medicine, 19*(6), 437-440.

Elghoneimy, Y., Nashy, M., Othman, S., Almarri, N., Alruwaii, A., Altoaibi, A., & Alshammari, F. (2020). Which level of perioperative glycated haemoglobin (HbA1c) affect early morbidity and mortality after cardiac surgery. *Australasian Medical Journal, 13*(1), 32-40.

Horntvedt, M., Nordsteien, A., Fermann, T & Severinsson, E. (2018). Strategies for teaching evidence-based practice in nursing education: a thematic literature review. *BMC Medical Education, 18*(172), 1-11.

Jackson, M. J., Patvardhan, C., Wallace, F., Martin, A., Yusuff, H., Briggs, G., & Malik, R. A. (2016). Perioperative management of diabetes in elective patients: a region wide audit. *British Journal of Anaesthesia, 35*(2), 308-316.

Leung, V., & Ragbir-Toolsie, K. (2017). Perioperative management of patients with diabetes. *Health Service Insights, 10*, 1-5.

Mackey, A., & Bassendowski, S. (2017). The History of Evidence Based Practice In Nursing Education And Practice. *Journal of Professional Nursing, 33*(1). 51-55.

Mackey, P., Thompson, B., Boyle, M., Apsey, H., Seifert, K., Schlinkert, R, ... Cook, C. (2015). Update on a quality initiative to standardize perioperative care for continuous subcutaneous insulin infusion therapy. *Journal of Diabetes Science and Technology, 9*(6), 1299-1306.

Mendez, C., & Umpierrez, G. (2017). Management of type 1 diabetes in the hospital setting. *Curr Diab Rep, 17*(98), 1-13.

Ministry of Health. (2015). *Living Well with Diabetes: A plan for people at high risk of or living with diabetes 2015–2020*. Wellington: Ministry of Health. Retrieved from https://www.health.govt.nz/system/files/documents/publications/living-well-with-diabetes-oct15.pdf

Palermo, N., & Garg, R. (2019). Perioperative management of diabetes mellitus: novel approaches. *Current Diabetes Reports, 19*(14), 1-7.

protocols for perioperative CSII use, successfully utilising CSII pumps for glycemic control.

Leung and Ragbir-Toolsie (2017) also found patient self-management of pumps acceptable form of perioperative glycemic management for procedures less than two hours. However, Dhatariya and Levy (2019) discuss safety concerns CSII pumps pose around diathermy within the operating room, arguing more testing of this technology is required.

Conclusion

Type 1 diabetes is a chronic health condition affecting a large percentage of the population. These patients are more likely to require surgery due to complications and comorbidities associated with the condition. Nurses and healthcare professionals should use best practice research to guide the assessment and management of these patients. Pre-admission assessment of the diabetic patient, with consideration of lowered HbA1c levels before surgery, are important in reducing postoperative infection and complications that increase morbidity and mortality. A reduced fasting time to manage hypoglycemia risk is required, and intravenous insulin infusion the safest method for intraoperative glycemic management. Best practice is the core of nursing and needs implementation into daily practice. Nurses should have a clear understanding of diabetes and its implications during the assessment and management of diabetic patients through the perioperative environment.

About the Author *Olivia Talyancich is 25-years-old and completed her Bachelor's Degree in nursing in 2016. She began her NetP position at Christchurch Public Hospital in the operating theatre. Over the last four years she has worked within the vascular, general surgery and cardiothoracic specialties. She works on an after-hours team which she enjoys as she gets exposure and experience across all theatre specialities. Olivia is passionate about Perioperative Nursing and sees her career progressing within this department*

Pippitt, K., Li, M., & Gurgle, H. E. (2016). Diabetes mellitus: screening and diagnosis. *American Family Physician*, *93*(2), 103-109.

Polderman, J., van Wilpe, R., Eshuis, J., Preckel, B., & Hermanides, J. (2016). Ambulatory anesthesia: optimal perioperative management of the diabetic patient. *Ambulatory Anaesthesia*, *3*, 13-22.

Rollins, K., Varadhan, K., Dhatariya, K., & Lobo, D. (2016). Systematic review of the impact of HbA1c on outcomes following surgery in patients with diabetes mellitus. *Clinical Nutrition*, *35*(2), 308-316.

Sobel, S., Augustine, M., Donihi, A., Reider, J., Forte, P., & Korytkowski, M. (2015). Safety and efficacy of a peri-operative protocol for patients with diabetes treated with continuous subcutaneous insulin infusion who are admitted for same-day surgery. *Endocrine Practice*, *21*(11), 1269-1276.

Sudhakaran, S., & Surani, S. R. (2015). Guidelines for perioperative management of the diabetic patient. *Surgery Research and Practice*, 1-8.

Thompson, B., Stearns, J., D. Apsey, H., Schlinkert, R., & Cook, C. (2016). Perioperative management of patients with diabetes and hyperglycemia undergoing elective surgery. *Curr Diab Rep*, *16*(2), 1-9.

Yang, L., Sun, Y., Li, G., & Liu, J. (2017). Is hemoglobin A1c and perioperative hyperglycemia predictive of periprosthetic joint infection following total joint arthroplasty?: a systematic review and meta-analysis. *Medicine*, *96*(51), 1-7.

Yoo, J. Y., Kim, J. H., Kim, J. S., Kim, H. L., & Ki, J. S. (2019). Clinical nurses' beliefs, knowledge, organizational readiness and level of implementation of evidence-based practice: the first step to creating an evidenced-based practice culture. *Plos One*, *14*(12), 1-15.

Zheng, J., Cheng, J., Zhang, Q., Qi, C., Wang, T., & Xiao, X. (2016). Association between glycosylated hemoglobin level and cardiovascular outcomes in diabetic patients after percutaneous coronary intervention. *Medicine*, *95*(19), 1-7.

sharpsafe®

DESIGNED **TO PROTECT**

A **Safer, Smarter**, More **Economical** Solution for Sharps Waste Disposal

- Plascare Containers comply with AS4031-1992
- Protective Access Sharps Containers
- Nestable Storage Design with Secure Temporary and Final Closure
- Internal Safety Valve for extra protection.
- Innovative mounting and storage options.

Plascare

CELEBRATING 40 YEARS JACKSON ALLISON

For further information please contact your Jackson Allison representative on 0800 333 103.
www.plascare.com.au

BAMFORD

ALEX BAMFORD
General Manager

E alex@bamford.co.nz
M 022 385 9441
P 0800 226 3673
W bamford.co.nz

12 Victoria St, Lower Hutt, 5010
New Zealand

BAMFORD

CAMERON WEITZ
Dip. Applied Science (Anaesthesia)
Clinical Manager

E cam@bamford.co.nz
M 021 764 009
P 0800 226 3673
W bamford.co.nz

12 Victoria St, Lower Hutt, 5010
New Zealand

BAMFORD

CATHY CHIRNSIDE
RGON
Territory Manager

E cathy@bamford.co.nz
M 027 218 3186
P 0800 226 3673
W bamford.co.nz

12 Victoria St, Lower Hutt, 5010
New Zealand

BAMFORD

KATHERINE VENN-BROWN
BSc. Dual Hons, Dip.M
Business Development Manager

E katherine@bamford.co.nz
M 027 442 1014
P 0800 226 3673
W bamford.co.nz

12 Victoria St, Lower Hutt, 5010
New Zealand

DefriesIndustries
New Zealand

Wayne Titmus
New Zealand Sales Manager
m: +61 448 043 275
e: wayne.titmus@defries.com.au
www.defries.co.nz

Air Purifiers help limit virus spread

The effect of chronic allergies resulting in breathing difficulty led French electronics engineer Thierry Ricci to develop an air-purifying technology that has since been used in car manufacturing plants as well as by European aircraft manufacturer Airbus.

Now it is being offered to hospitals, clinics, medical offices and nursing homes to reduce the airborne spread of micro-organisms, including viruses such as SARS-CoV-2, and is available in New Zealand through Opritech.

NatéoSanté, designer and manufacturer of the EOLIS Air Purifiers, is referenced by the French Healthcare Association in the treatment/disinfection of hospital air category. Thanks to its indoor air purification solutions, designed to meet complex and difficult sanitary requirements, NatéoSanté helps limit the spread of the virus by air.

"Healthy air is of utmost importance in healthcare facilities, where many patients are in constant contact with each other," the French company says. "It is important to protect them and the nursing staff, while preventing the spread of viruses and bacteria."

The EOLIS Air Manager combines a unique medical grade filtration system with controllable and activatable UV-C lamps. Each unit is equipped with state-of-the-art technology that continuously measures and analyses indoor air quality, allowing you to monitor air quality and filter wear in real time.

It is the four-step filtration system that is the key to the EOLIS Air Manager. First there is a virucidal, bactericidal and acaricidal pre-filter barrier (Total Science™ TS-010 Disinfecting solution, CertifiedEN1276 and EN14675).

Then there is a very high density (VHD) carbon activated filter. After passing through this, the air is filtered by a medical grade high-efficiency particulate air (HEPA) filter which can catch particles as small as 0.1 micronmeters (Certified EN1822).

Finally, the finely filtered air passes through a photocatalysis filter + UV-C lamps. This is a combination of catalyst with UV-C germicidal lamps.

High intensity pulsed Ultraviolet C or UV-C light is an effective way to kill most bacteria, viruses and fungi in the air and on surfaces and requires a significantly reduced exposure time and greatly improved usable distance when compared to other methods using UVA and UVB light. UV disinfection can be applied in many situations and as part of a well-prepared plan to improve health and safety in a range of both public and private situations.

Ultraviolet disinfection technology eliminates a high percentage of pathogens both in the air and on surfaces and unlike other methods, leaves no chemical residue.

The EOLIS Air Manager comes in two versions, the 600S which has a maximum airflow of 500 cubic metres per hour and the 1200S which provides 850 cubic metres of airflow an hour.

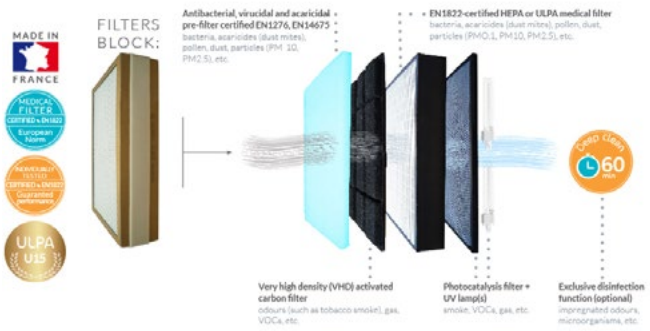
The EOLIS Air Managers protect patients and nursing staff, avoiding cross-contamination and nosocomial infections (micro-organisms); purify the air in consulting rooms, waiting rooms, laboratories, and hospital rooms; destroy bad odours and remove volatile organic compounds.

EOLIS Air Managers offer:

- an active oxygen function for deep cleaning;
- Live air quality indicator;
- Filter service indicator;
- Touchscreen control;
- Smartphone remote control (IOS and Android);
- Optional monitoring software available for the simple management of several units.

NatéoSanté EOLIS Air Managers are available in New Zealand from Opritech. For full information, call 0800 32 40 32; email: sales@opritech.co.nz — or visit www.opritech.co.nz

The full range of Opritech medical supplies may also be searched at www.medspec.co.nz



Jackson Allison offers Sharpsafe®

Jackson Allison Medical & Surgical has added Plascare's range of Sharpsafe® purpose-designed disposable plastic sharps containers to its product portfolio.

Plascare is a family owned and operated business dedicated to health and environmental protection for the past 30 years. It is the licensed manufacturer and distributor of the Sharpsafe range throughout Australia. High quality and continuity of supply is what sets Sharpsafe apart from others, providing clinicians peace of mind with a dependable and safe sharps disposal solution.

Continued on page 40

OPRITECH
THEATRE EQUIPMENT SPECIALISTS

Brett McLean
General Manager
0800 32 40 32 Ext. 240
brett.mclean@opritech.co.nz

Customer Care 0800 32 40 32
Follow us: opritech.co.nz

OPRITECH
THEATRE EQUIPMENT SPECIALISTS

Annette Moffatt
Account Manager
021 587 031
annette.moffatt@opritech.co.nz

Customer Care 0800 32 40 32
Follow us: opritech.co.nz

OPRITECH
THEATRE EQUIPMENT SPECIALISTS

Stuart Marryatt
Account Manager
021 562 519
stuart.marryatt@opritech.co.nz

Customer Care 0800 32 40 32
Follow us: opritech.co.nz

CUBRO

Rick Clare
Account Manager
0800 452 273 ext. 8542
021 427 409
rick.clare@cubro.co.nz

Customer Care 0800 656 527
Follow us: cubro.co.nz

CUBRO

Arne Moxham
Account Manager
0800 452 273 ext. 8940
0212 216 214
arne.moxham@cubro.co.nz

Customer Care 0800 656 527
Follow us: cubro.co.nz

business card directory

DEVICE TECHNOLOGIES

Haines® MEDICAL AUSTRALIA

AMBER MCLEOD

PRODUCT SPECIALIST, HOSPITAL CONSUMABLES

AMCLEOD@DEVICE.CO.NZ
M +64 21 589 881 | P +64 9 913 2000 | D +64 9 215 0975
47 ARRENWAY DR, ALBANY, AUCKLAND, NEW ZEALAND

DEVICE.CO.NZ

DEVICE TECHNOLOGIES

CHRIS WILLIAMS

PRODUCT SPECIALIST - THEATRE CAPITAL

CHRIS.WILLIAMS@DEVICE.CO.NZ
M +64 21 589 887 | P +64 9 913 2000 | D +64 9 215 0982
47 ARRENWAY DR, ALBANY, AUCKLAND, NEW ZEALAND

DEVICE.CO.NZ

DEVICE TECHNOLOGIES

MIKE SIDDELLS

COUNTRY MANAGER NZ

MSIDDELLS@DEVICE.CO.NZ
M +64 21 589 889 | P +64 9 913 2000 | D +64 9 215 0989 | F +64 9 913 2009
47 ARRENWAY DR, ALBANY, AUCKLAND, NEW ZEALAND

DEVICE.CO.NZ

DEVICE TECHNOLOGIES

TIM MESSENGER

SALE AND SERVICE SPECIALIST – SOUTH ISLAND

TMESSENGER@DEVICE.CO.NZ
M +64 21 197 2472 | P +64 3 925 8567
47 ARRENWAY DR, ALBANY, AUCKLAND, NEW ZEALAND

DEVICE.CO.NZ

schülke

Anna Page RN
Product Specialist - NZ

Schulke New Zealand Ltd
PO Box 95, Auckland 1140
Mob 021 978 849
Orders & Enquiries 0800 724 855
anna.page@schuelke.com | www.schuelke.co.nz

industry news

In 1982 Sharpsafe was awarded the Design Council Award for excellence in design. Since then, Sharpsafe has consistently led the health industry in improving safety standards of disposable sharps containers.

Features:

- Welded construction for added strength and safety;
- Single hand operated portable sharps containers;
- Nestable containers for efficient storage and transport
- Flip top lid for temporary and final closure;
- In-mould label which cannot be removed, even by autoclaving;
- Puncture resistant base;
- Autoclavable to 135°C for 20 minutes for an empty, open container;
- Conforms to Australian, British and European standards;
- Available in a range of sizes — 200ml to 24 litre.

Plascare's Sharpsafe range is available from Jackson Allison, 0800 333 103, or email: enquiries@jackson-allison.co.nz

Surgical Clippers from JAMS

The world`s first surgical clipper with twistable shaving head is now available in New Zealand through Jackson Allison Medical & Surgical (JAMS).

The ME Medical™ Surgical Clipper is designed for safe operation in hard-to-reach areas of the body. It offers the right blade for the right type of clipping: a Universal blade and a Neuro blade. It also minimises risk of injury with a non-slip grip and the single blade can be easily inserted with two fingers on the shaving head. The disposable blade is easily removed by pressing the eject button.

ME Medical's Surgical Clipper offers low noise level, high efficiency, thorough shaving and are easy to clean and disinfect. They also offer high battery performance and short charging time. They are also safe to use: the guide strip to the skin-side of the single blade ensures a smooth sliding on the skin.

ME Medical™ Surgical Clippers are available from Jackson Allison, 0800 333 103, or email: enquiries@jackson-allison.co.nz

Defries offers cane-based hollowware

In its quest to provide environmentally friendly products in its portfolio, Defries Industries is now offering the NewGen Surgical range of hollowware and needle-counters.

These are designed to replace single-use plastic medical products with plant-based product lines, clinically developed for use in the operating room and custom procedure packs.

NewGen takes an agricultural sugar-cane by-product and upcycles it into a plastic-free healthcare product. These environmentally friendly and biodegradable products are made with 100 per cent plant-based materials and contain no BPA, mercury, phthalates or PVC. They are coated with a biocompatible film.

"The Defries team is really excited to introduce this new plant-based product range," says New Zealand company representative Wayne Titmus.

"We are introducing them as components in our Custom Packs and then in the coming months, will offer them as a single sterile option."

The NewGen hollowware range comprises:

- 700ml kidney dishes
- 6L splash bowls
- 1L bowls

The needle counters from NewGen comprise 40 Count Foam Block and Double Magnet and 40-80 Count with Double Foam Block and Double Magnet. They are 95 per cent plastic-free

The outer box is made with bagasse, a post-agricultural by-product from sugarcane production, upcycled to create the fibre pulp. The hinges, latch, EPP foam and magnet are similar to those found in existing needle counters and made from medical grade materials.

For full details on the NewGen range of biodegradable products contact Wayne Titmus, telephone: +61 448 043 275 or email him at: wayne.titmus@defries.com.au

Also check the full Defries Industries product range at www.medspec.co.nz

NewGen's environmentally friendly sugar-cane bowls and needle counters are now available from Defries Industries.

Fisher & Paykel HEALTHCARE
www.fphcare.com

Luda Kozlova
SALES MANAGER - SURGICAL HUMIDIFICATION
luda.kozlova@fphcare.co.nz

DD 09 574 0123 EXT 8835
M 021 849 109 T 0800 503 553 F 0800 658 923
Fisher & Paykel Healthcare Limited, O'Hare Building,
15 Maurice Paykel Place, East Tamaki, Auckland 2013
PO Box 14 348, Panmure, Auckland 1741, New Zealand

Fisher & Paykel HEALTHCARE
www.fphcare.com

Carolina Simic
PRODUCT SPECIALIST - SURGICAL HUMIDIFICATION
carolina.simic@fphcare.co.nz

DD 09 574 0123 **EXT** 8112
M 021 546 992 **T** 0800 503 553 **F** 0800 658 923
Fisher & Paykel Healthcare Limited, O'Hare Building,
15 Maurice Paykel Place, East Tamaki, Auckland 2013
PO Box 14 348, Panmure, Auckland 1741, New Zealand

EBOS HEALTHCARE

Philippa Williams NZRN, PG DipBus - Marketing
Senior Brand Manager

DDI: +64 9 447 2864
Fax: +64 9 415 4004
Mob: +64 21 835 239
Email: pwilliams@ebos.co.nz
www.ebosonline.co.nz

14 - 18 Lovell Court,
Rosedale, Auckland 0632.
PO Box 302 161,
North Harbour, Auckland 0751,
New Zealand.

EBOS HEALTHCARE

Anne McSkimming
Regional Account Manager- Southern
EBOS Healthcare

Freephone: 0800 18 17 16
Freefax: 0800 502 883
Mob: + 64 21 305 887
Email: AMcSkimming@ebos.co.nz
www.eboshealthcare.co.nz

108 Wrights Road, Addington,
Christchurch 8024 | PO Box 411,
Christchurch 8140, New Zealand

bravura EDUCATION

Adj A/Professor
Elissa O'Keefe RN NP
Managing Director

p: +61 423 091 829 I 1300 001 808
e: elissa.okeefe@bravura.edu.au
w: www.bravura.edu.au

@bravura.edu.au Bravura Education

Jackson Allison turns 40

In September 1981, successful merchant bankers Hamish Allison and Warwick Jackson established the medical products importing and distribution business Jackson Allison Medical & Surgical Ltd. at 48 Fort Street, Auckland.

Their first product was Mediconsult instruments from the UK.

Hamish Allison explains how that came about: "I was also a Territorial Force officer and went on an exercise in Singapore. I shared a table in Bugis Street, with the Export Director of Mediconsult."

"I wrote to him shortly afterwards and told him that he was NOW represented in New Zealand. That, in a nutshell, was how we got into the medical supply business," Allison explains.

Warwick Jackson went his own way in early 1982 leaving Allison at the helm, shortly joined by John Bell as General Manager.

"Our business model is based on CONSUMABLES to the hospital system. We will never be out of stock and leave a hospital with a product shortfall that someone else can slip into. In this pandemic time, our PPE range has been instrumental in helping the Government meets its PPE requirements. We have moved heaven and earth to buy

PPE — that is the value of contacts built up over 40 years in business. Not once did our suppliers let us down and not once did we let our customers down," Allison says.

Now celebrating 40 years in the healthcare supply industry, Jackson Allison's product portfolio has swelled considerably since its founding. It now offers a very diverse product range - from airway management to smoke evacuation to lymphoedema garments.

Jackson Allison distributes throughout New Zealand and has branches in Auckland (head office), Wellington and Christchurch.

It also has a footprint in Australia following the 2006 purchase of Bosco Medical Australia Pty Ltd.

Bosco Medical Australia was established in 1984 in Wynnum, Queensland. Since then, it has consistently grown, moving to its current location at Morningside in Brisbane where it services all states and territories across Australia.

Bosco shares a significant number of agencies with Jackson Allison.

In New Zealand, Jackson Allison now employs 29 staff and has become an industry leader representing many highly-respected brands such as Buffalo Filter, Fairmont Medical, Pennine Healthcare, DeRoyal Industries, Haddenham Healthcare, PAJUNK, Nissha / Vermed and many more.

It has recently added the ME Medical surgical clipper range to its portfolio, along with the Plascare range of sharps containers.

The full range of Jackson Allison products can be seen in the product listings section of www.medspec.co.nz

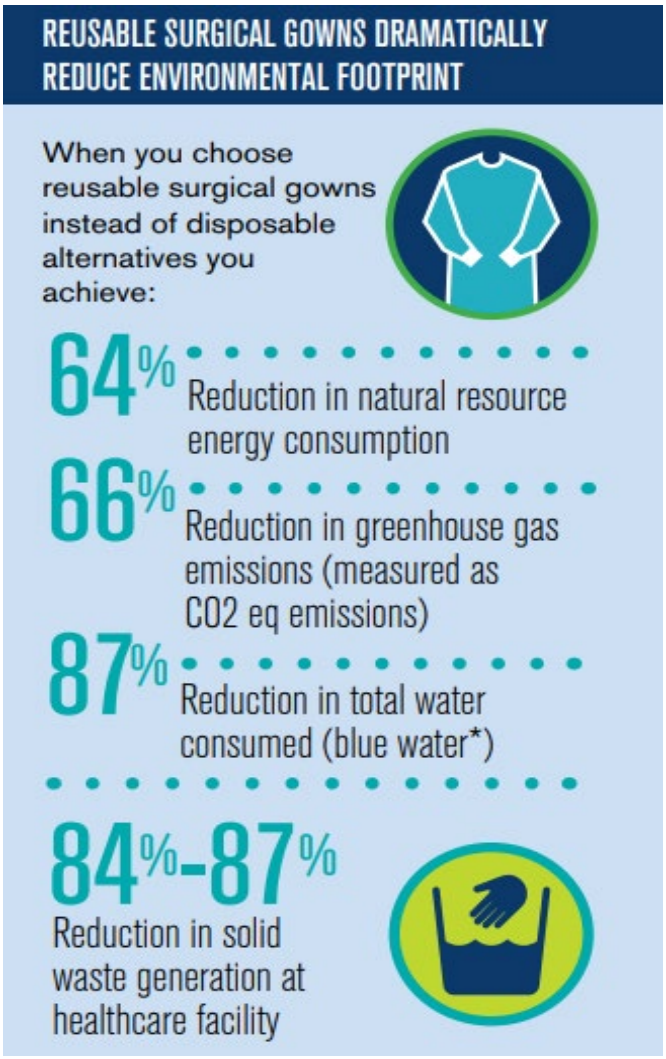
The movement towards reusables

Over the last few years, New Zealand has embraced the change to reusable shopping bags, reusable coffee cups and even alternatives to how we pack our lunches, using wax-coated material wraps and reusable plastic containers. It is a natural progression then, to consider how to choose 'reusable' in other areas of our lives, and particularly in the work environment where meaningful improvements towards environmental sustainability can be made.

With the Covid-19 pandemic, we only need to consider the environmental impact of the millions of disposable gowns, gloves and facemasks, to start to think that there must be a better way.

Even before the pandemic, the New Zealand healthcare sector was the largest emitter of greenhouse gases in the public sector, with procurement being responsible for 61 per cent of all carbon emissions relative to healthcare (Ministry of Health. 2019.)

In terms of waste, operating rooms are estimated to generate between 20 per cent and 33 per cent of the total waste produced in hospitals. (Kagoma, Stall, Rubinstein & Naudie, 2012).



industry news

With the impacts of Covid-19 stretching supply chains to breaking point, the case for reusable products becomes even more compelling. It is much easier to stock one product you can use 100 times, rather than trying to firstly source and then ship 100 items. Extrapolate that logic to thousands or millions, and the scale of environmental benefits becomes obvious, not to mention the risk mitigation, which could be achieved by choosing reusable.

In fact, a recent Life Cycle Assessment (Vozzola, Overcash, & Griffing, 2020) found dramatic environmental benefits from using reusable surgical gowns instead of disposable, including an over 80 per cent reduction in solid waste generation.

Allied Laundry Services Limited (ALSL) is at the forefront of the charge towards reusable surgical gowns, precaution/isolation gowns, surgical drapes and reusable sterilisation wrappers. Already providing these items to several district health boards (DHBs), ALSL is committed to championing the use of reusable barrier linen within the healthcare sector. There is a fantastic opportunity for 'the right person' to be involved in that crusade.

ALSL is searching for a 'Product Champion' – someone with clinical knowledge (preferably OR experience) who is passionate about environmental sustainability, to join the team promoting reusable surgical textiles. A flexible, part-time position, the role is to educate, support, and work with clinicians to promote best practice. (See page 11 for job description.)

Kathy O'Neill, ALSL Business Operations Manager says, "It is an ideal opportunity for someone to really make a difference, to be on the leading edge of promoting quality clinical practice, whilst also improving environmental outcomes".

References

1. Ministry of Health. 2019. Sustainability & The Health Sector: A Guide to Getting Started.
2. Kagoma, Y., Stall, N., Rubinstein, E., & Naudie, D. 2012. People, planet and profits: the case for greening operating rooms. Canadian Medical Association Journal, 184(17), 1905-11.
3. Vozzola, E., Overcash, M., & Griffing, E. 2020. An environmental analysis of reusable and disposable surgical gowns. AORN Journal, 111(3), 315-325.

business card directory

Mölnlycke®

Craig Smith
Sales Manager NZ
craig.smith@molnlycke.com
Mobile +64 21 804 885

Georgina Shadbolt
Territory Manager NZ
Wound Care
georgina.shadbolt@molnlycke.com
Mobile +64 27 468 8748

Megan Greggains
Territory Manager NZ
Wound Care
megan.greggains@molnlycke.com
Mobile +64 21 862 283

Stephanie Fitzgibbon
Territory Manager NZ
Wound Care
stephanie.fitzgibbon@molnlycke.com
Mobile +64 21 455 322

Alice Hardie
Territory Manager NZ
ORS
alice.hardie@molnlycke.com
Mobile +64 27 239 5663

Devon Du Preez
Territory Manager NZ
ORS
devon.dupreez@molnlycke.com
Mobile +64 21 678 250

Samantha McInnes
Territory Manager NZ
Gloves
samantha.mcinnes@molnlycke.com
Mobile +64 21 859 113

Toni McDowell
Territory Manager NZ
ORS
toni.mcdowell@molnlycke.com
Mobile +64 27 122 9371

Find out more: www.molnlycke.co.nz
Customer Service Tel +0800 005 231 Customer Service Fax +09 918 5101
Mölnlycke Health Care, PO Box 62027, Mt Wellington 1641

Mel Slattery
Sales Manager
New Zealand

essity

BSN medical Limited
Suite 2-8, 72 Dominion Road
Mt Eden 1024
Auckland New Zealand
M +64 21 678 341
Mel.Slattery@essity.com
www.bsnmedical.co.nz

Customer Service
T 0508 276 111
F 0508 998 830

Joanne Macdonald
Business Development Manager, Hospital
New Zealand

essity

BSN medical Limited
Suite 2-8, 72 Dominion Road
Mt Eden 1024
Auckland New Zealand
M +64 21 678 338
Joanne.Macdonald@essity.com
www.bsnmedical.co.nz

Customer Service
T 0508 276 111
F 0508 998 830

JACKSON ALLISON

Aaron-Paul Swales
(DipExSc)
Product Specialist

Phone: +64 9 622 2277
Fax: +64 9 622 1234
Mobile: +64 21 459 933
Freephone: 0800 333 103

PO Box 4261, Shortland Street,
Auckland 1140, New Zealand

Email: aaron@jackson-allison.co.nz
www.jackson-allison.co.nz

Jackson Allison Medical & Surgical Ltd

JACKSON ALLISON

Lisa Rendell MSc
Product Specialist

Ph: +64 9 622 2277
Fax: +64 9 622 1234
Mobile: +64 21 2411 437
Freephone: 0800 333 103

56 Lunn Avenue,
Mt Wellington, Auckland 1072

PO Box 4261, Shortland Street,
Auckland 1140, New Zealand

Email: lisa.rendell@jackson-allison.co.nz
www.jackson-allison.co.nz

Jackson Allison Medical & Surgical Ltd

YOUR CARD COULD BE HERE!

Enquiries: ads@advantagepublishing.co.nz

Telephone: 027 495 4510 or 09 416 5013

Just supply a print-ready PDF of your Business Card

The Challenge

Each year at the annual conference of the Perioperative Nurses College, there is a Challenge, with a trophy awarded to the regional team which performs best in whatever task is set at the annual dinner. Michael Esdaile brings us the history of this annual event…

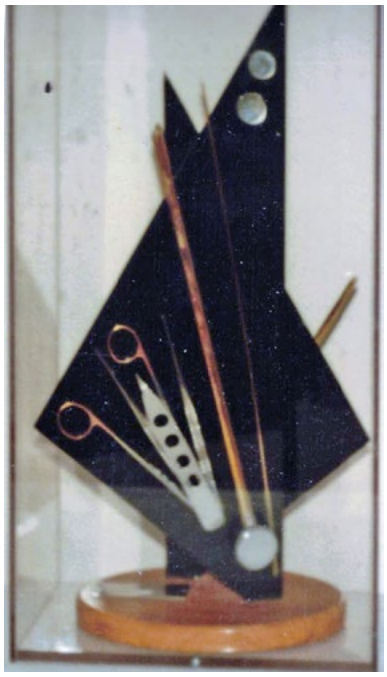
In its 40-plus year history, the annual Challenge has evolved considerably. Originally it was a contest between the Otago and Auckland Regions of the then Theatre Nurses Special Interest Section of the New Zealand Nurses Association, forerunner to today's Perioperative Nurses College (PNC) of the New Zealand Nurses Organisation (NZNO).

The Challenge stemmed from the friendly rivalry between Otago, led by Gordon Elliot, and Auckland's Brenda Miles, the first Chair of what would become the PNC, to see which region could raise the most funds toward hosting the annual Conference and help regional delegates to attend.

In 1978 Auckland bagged and sold chicken and horse manure as a fund-raising exercise so the competition (Challenge) that year was held at the racecourse, where sand was substituted for the manure in the interest of the continuation of the Conference without olfactory insult.

There is a delightful report about this from Brenda Miles in *The Dissector*. Vol 5, No 2, August 1978**:** *From Auckland to Otago… A Gauntlet!*

"At this stage we would like to issue a challenge to Dunedin Hospital Theatres, under the leadership of Gordon (Elliot), to enter a team of ten, to compete against our Auckland team, to decide who are the fastest shovelers, this side of the black stump. We are prepared to meet you on your own ground. If, on the other hand, you do not feel as if you are as experienced as we are and require more time to perfect your techniques, we are prepared to wait until the Auckland Seminar in 1979. Just name the time and place, Gordon!"



Left: After the Challenge was opened up to regions outside Auckland and Otago, Nelson Perioperative Nurses led by Berice Beach embarked on an apple-pie baking contest. That is about half the output the Nelson team produced each year. Back row, left to right: Berice Beach, Maree Mazure and Edith Hamson. Front row: Dorothy Hambly and Pauline Hamson. (Photo courtesy Berice Beach).
Right: The first Challenge Trophy was created by Wanganui's Anne Johnston using broken and disused instruments from a box of discards at her work. These were glued onto black plastic and mounted on a wooden stand, then fitted into a Perspex box. (Photo courtesy Berice Beach).

Left: Brenda Miles was one of the strongest advocates for the establishment of a New Zealand operating theatre nurses organisation. On October 18, 1974, she was elected first National Chair of the 'Theatre Nurses Special Interest Section' of the New Zealand Nurses Association, forerunner of today's College. The annual Challenge provided an opportunity for levity... (Photo courtesy The Dissector archives).
Right: Gordon Elliot of the Otago region, Brenda Miles' friend and colleague, was the perfect foil for whatever Challenge the Auckland region came up with. (Photo courtesy Anne Johnston).

This was to see which region had the most brawn.

Otago threw down the gauntlet or should it have been "the shovel' and the Challenge was on. The winner – well let's just say a 'truly political decision' was made with all contestants receiving a bottle of wine. Otago issued an invitation to gather in Dunedin for the 1980 Seminar.

The 1980 Challenge from Otago was to see which of the two regions had the most hot-air – by having a bagpipe playing competition. Needless to say, Otago won this, hands down.

In Napier the following year, the now annual Otago vs Auckland Challenge was in honour of The Year of the Disabled, with team members dressed in theatre garb either blindfolded or reduced to one leg being guided or hopping across the road to the beach where they had to build a sandcastle, decorate it and then run back across the road. The result was said to be a draw but on inspection of the photo finish, it was declared Auckland had won "because Dunedin won in 1980!"

At the annual conference in 1982 a "get even" Challenge saw Gordon Elliot dressed in Brenda's skirt. This was the 10th anniversary of The Challenge, so Wanganui's Anne Johnston made the first Challenge Trophy which was presented by the host region, Palmerston North.

At this point it was decided to open the Challenge to all regions — with the theme to be set by the region hosting the annual conference.

Well known sales representatives from the medical supply industry in each region were co-opted into the teams on the night of the Challenge. This always added to the hilarity of whatever diabolical challenge was thought up by the host nurses.

The Nelson Region, led by Berice Beach, today's College Secretary, raised a lot of funds through apple pie-making, leading a team of fellow Perioperative Nurses.

"We made pies for several years, used our own kitchens, peeled and cooked the apples, made the pastry and then once cooked they were usually left to cool on a table or the spare bed, then bagged. The next day I would spend the day delivering the orders to surgeons, anaesthetists and colleagues - $5 per pie!" she recalls.

"They were huge in comparison to what you would buy today."

The days of fund-raising Challenges are now long gone: the Challenge

By 1984 the Nelson apple pie baking team with a table laden from their efforts. Left to right: Pauline Hamson, Edith Hamson, Doreen Service and Berice Beach. Berice is the only team member still with us. (Photo courtesy Berice Beach).

Trophy is awarded to the regional team which performs best in whatever Challenge task is set at the annual dinner.

In 1983 the annual conference was held in Tauranga, with the Wellington Region winning the Challenge, which was "eating Pavlova with chopsticks."

At some point the original Challenge Trophy was lost so a new one was commissioned. The replacement trophy was inspired by the huge interest shown by Perioperative Nurses in a work entitled 'Randy the Rooster' on display on the Cooper Medical stand at the annual conference in Wellington in 2003.

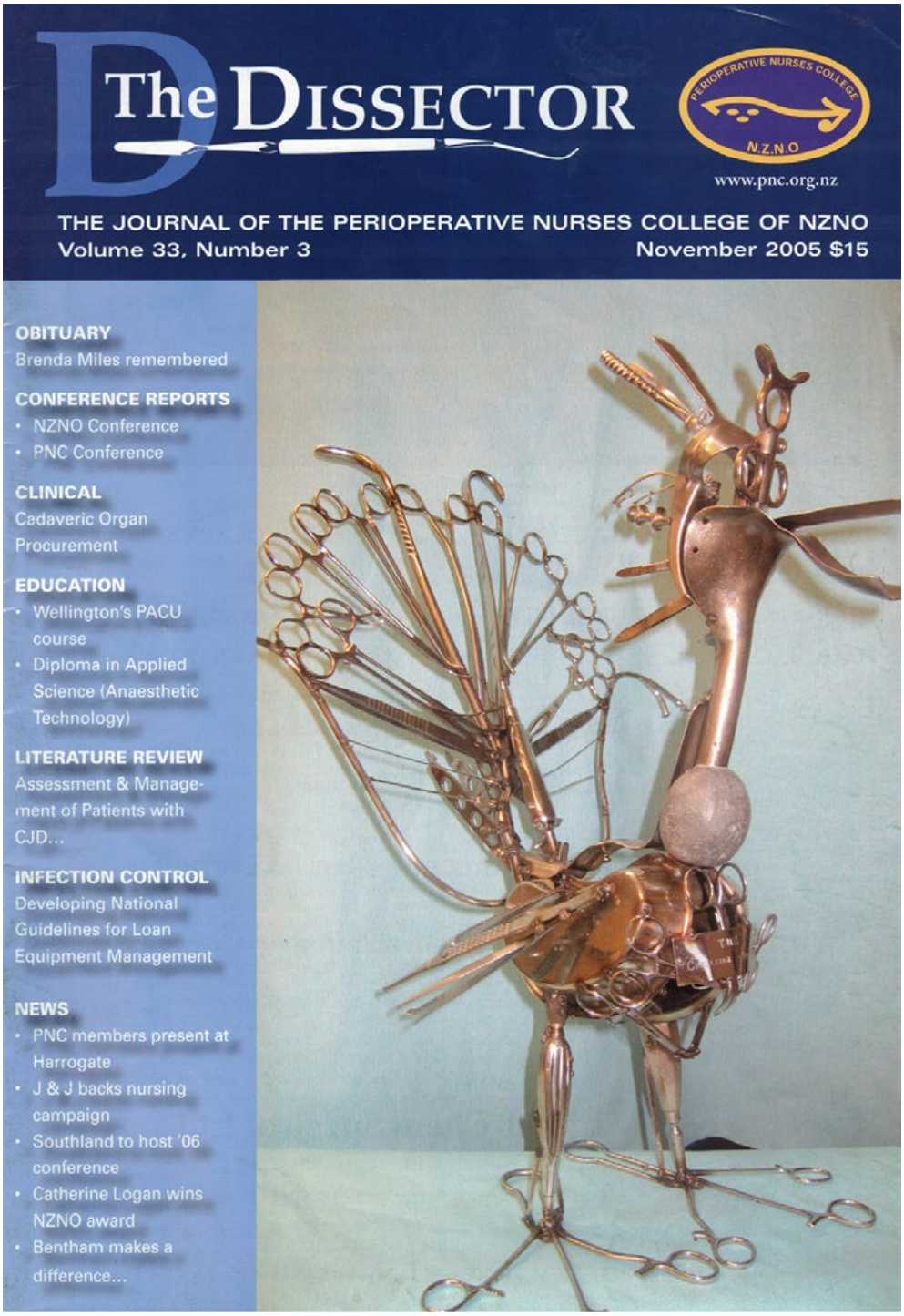
'Randy' was the work of Murray Cooper's daughter, Methven-based artist Hannah Kidd,

Ruahine-Egmont Region Chair Dianne McClelland was so taken by Randy that she commissioned Kidd to produce a similar work as a new Challenge Trophy.

Using old equipment and instruments donated by Good Health Wanganui and Taranaki Base Hospitals, Ms Kidd came up with 'Percy the Peacock', and on September 1, 2005 Murray Cooper presented him to the PNC at the opening of the medical industry exhibition at that year's conference in Palmerston North.

This impressive trophy graced the cover of the November 2005 issue of *The Dissector* and is highly prized by each regional team good enough to win the annual Challenge.

The Challenge Trophy is currently held by the Canterbury-West Coast Region, the team who came closest to completing the Challenge of describing the PNC logo at the 2019 Conference in Hamilton.



The current Challenge Trophy was made by Hannah Kidd and presented to the College at the 2005 PNC Conference in Palmerston North by Copper Medical's Murray Cooper. It graced the cover of The Dissector in November 2005, the same issue that carried an obituary to Brenda Miles, one of the founders of the Challenge.

For those still puzzling, here is the description of the logo designed by the Central North Island Region's Tia O'Rielly and unveiled at the 2002 annual conference in Rotorua:

Gold – letters and detail signifies Quality and Qualification

Blue – background represents New Zealand

The three theatre lights – represents knowledge, skills and care and the three aspects of Perioperative Nursing: PreOp, IntraOp and PACU care

Line with arrow and koru represents moving forward in partnership.

As there was no PNC Conference in 2020 or 2021, the next opportunity regional teams will have to take part in the Challenge will be at next year's conference in Christchurch in October 2022.

SIMEON MEDICAL

PUSHING TECHNOLOGY TO EXCELLENCE

Keyport

Specialist Medical Equipment and Services

www.keyport.co.nz

Tel: 0800 Keyport Email: sales@keyport.co.nz

Sim.MOVE 800

Business-class with high-end characteristics

A table for all occasions: SIMEON presents a mobile operating table for maximum OR flexibility.

Combining SIMEON's 20 years' in manufacturing medical technology products for the OR, the all new Sim.MOVE 800 is a true multi-functional operating room table.

Developed in close cooperation with surgeons, the Sim. MOVE 800 is a practical user-friendly product that makes working in the OR easier while helping increase patient safety.

Universally applicable for all common applications and specialist areas with an extremely durable 454 kg (static) maximum load.

- General Surgery
- Neurosurgery
- Thoracic surgery
- Minimally Invasive surgery
- Gynecology and urology
- ENT/CMF/Ophthalmology

SIMEON MEDICAL your OR solution provider

SIMEON MEDICAL

PUSHING TECHNOLOGY TO EXCELLENCE

HIGHLINE SURGICAL LIGHTS

CUTTING-EDGE LED TECHNOLOGY • REVOLUTIONARY DESIGN

The latest single-colour and multi-colour LEDs, the patented reflector technology, and the arrangement of the LEDs in a unique design provide more light without shadows. Simeon HighLine lights provide optimal illumination for conducting operations.

CLEAR ADVANTAGES:

Shadow-free light • Single or multi-colour
High-end materials • Wireless solution
Highest hygiene levels • Innovative solutions
Long life time • Cost effective
Patented reflector technology • User friendly

Keyport

Specialist Medical Equipment and Services

P O Box 466 Hamilton 3240

Tel: 07 849-3766 Mobile: 0274 939 046
Fax: 07 849-3767 sales@keyport.co.nz
www.keyport.co.nz