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PERIOPERATIVE NURSES COLLEGE N.Z.N.O

The Dissector

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

January 2024, Volume 51, Number 3

CARDIAC SURGERY

Volunteering with the Friends of Fiji Heart Foundation

50 YEARS

PROFESSIONAL: PNC Award Winners • PNC AGM Reports

MEDICAL IMAGING: Ultrasound-guided Peripheral Access training in a regional hospital

CLINICAL: TAVI: keys to Best Practice Outcomes

FINAL PRINT EDITION: *The Dissector* is going Digital

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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

This is it...

Tēnā koutou katoa. Welcome to the final issue of *The Dissector* of 2023. This is also the final issue in print format. I'm sure you will have noticed that our June and September issues were very late in arriving in your mailboxes. You may have also noticed that they appeared to be significantly smaller, with a lot less advertising. This lack of advertising support is an international trend and we have had to make the difficult decision that publishing and distributing a print journal is no longer sustainable.

Whilst some of you may be disappointed, as I know you look forward to seeing our glossy journal land in your mailbox, please know that we are committed to continuing to bring you a high-quality journal and we are currently finalising what our new digital version will look like. We intend to send these directly to your email address, so please ensure that the College has your correct up-to-date details.

Reports, Awards

We had the Perioperative Nurses College NZNO (PNC) Annual General Meeting via zoom in October, as our conferences are now held biennially. As is usual in the end of year issue, we bring you the annual reports. Four awards were presented at the AGM; *The Dissector* awards for Best Article and the MEDSPEC Novice Writers Award, the Tina Ackland Memorial Education award and the Life Membership award.

It was wonderful to see Shona Matthews (our former Chief Editor who is still on the Editorial Committee) and Leigh Anderson receive these awards in recognition of their services to the perioperative community and College.

Regional reports from Ruahine Egmont, Central North Island and Wellington are also included in this issue.

Friends of Fiji Volunteer work

Rebecca Porton-Whitworth brings us an article about her recent trip to the Mission Colonial War Hospital in Suva with the Friends of Fiji Heart Foundation. Rebecca gives us an insight into being on the mission team that travels yearly to perform free heart surgeries for underprivileged local Fijian people. As well as detailing the processes to make these complex surgeries happen, she also reflects on the impact that the volunteer work has on her life.

Trans-catheter Aortic Valve Implantation best practice outcomes

Murray Hart brings us a follow up article on Trans-catheter Aortic Valve Implantation (TAVI), this time focussing on the 'keys to best practice outcomes'. Murray argues that optimal outcomes post-TAVI includes selecting the most appropriate patients for the procedure, as well as providing pre-procedure patient/whanau education. He adds that the growing experience of TAVI cardiologists, improved valve design and the procedure becoming more minimally invasive are other factors that lead to improved outcomes.

Ultrasound-guided Peripheral Access training

Catherine Freebairn provides us with a review of Hawkes Bay hospital's ultrasound-guided peripheral access training. Catherine describes how Interventional Radiology Nurses provide mixed-method teaching sessions which incorporate ultrasound machine basics, scanning techniques and vein identification, alongside simulated needle practice on phantoms. She argues that this training improves skill level, procedural knowledge, and confidence of participants, encouraging ultrasound use with patients with challenging IV access.

Please don't forget that it's the 50th anniversary of *The Dissector* in 2024 and as such we're re-publishing the first ever editorial in this issue (see page 8). It's clear that many things have not really changed! We'll be celebrating the last half-century of publications throughout the year, so send me your stories to dissector.editor@gmail.com.

I hope you have a safe, restful and happy summer.

Noho ora mai

— Bron Taylor, Chief Editor

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Embracing the future

The past 12 months have been a year to remember, not only for being without the restrictions and remnants of COVID-19 but also for evolving to a different norm of healthcare.

Do we look at our current normal and decide if staying there is worth it? Or do we strive forward together, creating new pathways, new connections and supporting our new nursing professionals to bring out the best of each other, delivering nursing to New Zealand and the world?

The last quarter of 2023 was very busy, with the College's annual general meeting (AGM), 2024 conference planning and upcoming Perioperative Nurses College strategic planning.

The Perioperative Nurses College (PNC) has also spoken loud and hard to the review of the Constitution of the New Zealand Nurses Organisation (NZNO) and we have been getting involved in Maranga Mai workshops at NZNO conference and continuing to provide education to all perioperative professionals.

Going digital

You may have also read that we are moving into the digital world of journal production and this will the last printed journal you receive in your physical letterbox. The advertising world is consciously moving digital and we must move with it to be able to continue to provide you with up-to-date educational information and perioperative standards as well as being sustainable in our delivery of information to you.

The Dissector journal will be at your fingertips in your email Inbox, and wherever you read your emails.

In my first Table Talk I paid tribute to Pam Marley, who, at the first ever conference, the Wellington Seminar in 1973, volunteered to start a New Zealand Perioperative Nurses journal. That is how *The Dissector* was created. Now I would like to honour all the past, present and future contributors of *The Dissector*. You have made the printed journal what it is today and created a magnificent foundation for us to bring it into the digital future and beyond.

Fifty years of *The Dissector* is nothing short of a monumental effort by all writers, all creators of content, all editors and not forgetting the hours upon hours of proofing and adjusting to ensure the standard of content is the highest at all times. Please take a moment to give thanks and appreciation to these people over the last 50 years who have contributed to your practice, your perioperative career and your perioperative patients. And to the readers of this journal, we thank you, that you continue to question, challenge and reflect on your perioperative practice as without you we would not be able to move forward into the next phase of *The Dissector* journal production and celebration.

Cherish this last physical publication and eagerly await our first digital version in 2024.

Twenty twenty-four will bring new challenges to Perioperative Nursing and we must remain focussed on our practice and our patients at all times. Alongside this are our most valuable members and colleagues, the students.

Students are valuable, as, although they are learning from us, they are the next generation of nurses who will be caring for patients in the complex, perioperative environment. Let us remind ourselves of this when we are guiding, supporting and role-modelling for them with best practice, a willingness to share an embracing culture, because to lead

with professionalism and confidence, embraces the future and ensures everything counts.

2024 PNC Conference

Embracing the future brings me to our exciting Perioperative Nurses College conference on October 17-19, 2024. It is going to be a great one. Christchurch kicked us off in style in 2022 and the team in Wellington is looking forward to doing the same. Reggie Williams and her Wellington conference organising committee are working hard to deliver all healthcare professionals interested in perioperative practice a scientific programme with the theme of "Embracing the Future; Everything Counts." The website is live; drop in and register for updates by going to www.perioperativeconference.org/register-for-updates or check out the website at www.perioperativeconference.org/.

The programme will be updated as it is developed and registrations will go live early in 2024. Stay tuned to these websites for more details as they are created and published.

Lastly, I would like to give thanks to our outgoing National Committee members. There have been several changes in the last 14-months and we give thanks to the commitment, effort and time you have given to Perioperative Nurses College National Committee and regional representation. Special mention to Rob Hawke who has maintained the National Treasurer position for five years and kept us in good financial stead. Thank you, Rob we wish you and your family well on your next adventure and journey and hope we can keep the connection for advice every now and then.

Kia Kaha everybody. I trust you had a very Merry Christmas and wish you a safe, sunny summer.

Now, I am going fishing...

— Cassandra Raj, Chair, Perioperative Nurses College

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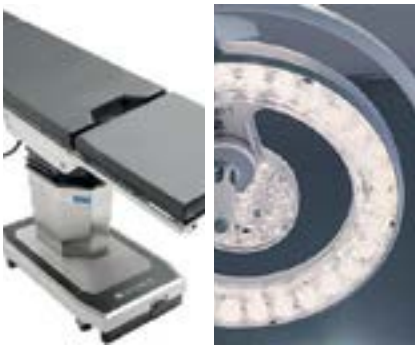

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FIND OUT MORE

Finau Faka'ī joins editorial committee

The Editorial Committee of *The Dissector* has a new member — Finau Faka'ī.

Finau is a Tongan Registered Nurse currently practicing in Level 4 PACU – Te Toka Tumai Auckland. She completed her pre-registration clinical placement in the same department in 2021 and returned as a registered nurse in 2022.

Finau hails from Haveluloto, Tongatapu and Leimatu'a, Vava'u Tonga.

2024 PNC Conference Wellington October 17-19

The 48th Perioperative Nurses College conference is the ideal opportunity for Perioperative Nurses to reconnecting and promote excellence in nursing practice in the pre-, intra- and postoperative care of patients.

The Conference organisers welcome those working in a variety of settings including, but not limited to:

- outpatient departments
- day surgery units
- intervention and investigative units
- radiological departments
- surgical inpatient units
- operating rooms and post anaesthetic care units.

Abstracts

The PNC Conference is in Wellington from **October 17-19** and the organising committee reminds prospective presenters that the Call for Abstracts remains open. The closing date for these is Friday, **March 15.**

Abstracts for concurrent session themes are around pre anaesthesia assessment, post anaesthesia care, medical imagining, interventional radiology, intraoperative care over the four concurrent sessions:

- PACU/perianaesthesia
- Medical imaging
- Perioperative 1
- Perioperative 2

The 2024 Perioperative Nurses Conference marks the 51st Anniversary of the original 'seminar' held in Wellington in October 1973. The 2024 version is running under the theme: "Embracing the Future: Everything Counts" and is being organized by Composition Ltd. The Wellington PNC Regional Organising Committee comprises Reggie Williams (Convenor), Juliet Asbery (Vice convenor), Amber Cox (National Committee Representative), Emma Brooks, Grace Cui and Tim Hill. Also providing very experienced guidance are Karen Hall and Judith de Wilde.

"We are also networking with our sponsors from the trades, who will be showcasing their innovations," Reggie says.

"Examples of the topics we'd like to present are gender affirmation surgery, hybrid operating theatres, vaping and anaesthesia as well as the advances being made in robotic assisted surgeries."

Unique opportunity

"Our 'Embracing the Future: Everything Counts' conference provides a unique opportunity for nurses, researchers, and healthcare professionals to come together and shape the future of perioperative care. We encourage prospective speakers to join us in this inspiring journey as we explore innovations, share knowledge, and prepare Perioperative Nurses to thrive in an exciting, ever-evolving field while contributing to the betterment of healthcare outcomes. Together, we will ensure everything counts in the pursuit of excellence in perioperative care and equity in healthcare."

For more information on the 2024 PNC Conference in Wellington, contact either Arna Wahl Davies or Nerida Ramsay at Composition Ltd. Contact details are:

Arna Wahl Davies, Composition Ltd, Tel: 03 332-4537 or 021 519-145, E: Arna@composition.co.nz

Nerida Ramsay, Composition Ltd, 332-4537 or 021 519110, E: Nerida@composition.co.nz

from the archives

First Editorial, The Dissector, September 1974

As we enter the 50th year of publication, the Editorial Committee thought it appropriate to repeat the Editorial column from the first issue of The Dissector, *written by founding Editor Pam Marley:*

THE EDITOR WRITES...

FIRST IMPRESSIONS

First impressions are always important and, once formed, are not easily changed.

The success, or otherwise, of this first issue of our own Theatre Nurses' Journal depends very much on your first impression... of its appearance and on the relevance of its substance.

It is being sent, free of charge, to everyone who attended last year's Seminar and, also, to Theatre Supervisors in every hospital, public and private, which was not represented at October's gathering. In this way we hope to reach the personnel in every theatre suite in New Zealand and create a bond between them.

In this journal the dominant theme is education and we make no apology for this. The current changes in our long-accepted patterns of nursing education at all levels affect every area but they have special implications for theatre nurses who, for too long, have 'got by', enduring chronic staffing shortages without ever coming to grips with the problem.

Today the issue is simple! Either we come up with a new, comprehensive concept of a continuing theatre nursing training, from student to post-basic levels, or we are going to find ourselves on the outside looking in... at the non-nursing personnel who have been recruited, trained and introduced to fill the gap.

First impressions are important everywhere and the amount of genuine interest we show in and the quality of the teaching we give to our prospective trained theatre staff of the future, when they first venture into an area totally different to any as yet encountered, are directly related to the responses we can expect from them.

The time for muddling-through is long past. We have an immediate responsibility to produce a well-conceived, flexible and relevant training programme which will complement those evolving beyond the theatre doors.

If we fail to meet this challenge we fail to meet the greater challenge of providing optimum patient care. *Pam Marley*

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Perioperative Nurses College NZNO

2023 Awards

Four awards were presented at the 2023 Perioperative Nurses College NZNO (PNC) Annual General Meeting. There were no nominees for the PNC Education Award or the Catherine Logan Memorial Fund Award, so they were both withheld.

PNC Best Article ($1000) Sponsored by REM Systems.

The finalists were:

Amber Cox, Six-month pilot for ANZCA Guideline on Procedural Sedation, Volume 50 (4), March 2023

Finau Faka'i, Journey of a Pasifika RN into Perioperative Nursing, Volume 50 (4), March 2023

Rey Canoza, Translabyrinthine approach for resection of Vestibular Schwannoma Volume 51 (1), June 2023

Liying Duan, Preparing patients with diabetes mellitus for CT Colonography Volume 51 (1), June 2023

WINNER: Liying Duan

The Editorial Committee agreed that this was a well written, informative, easy to read and relevant article.

MEDSPEC Novice Writers Award ($750) Sponsored by MEDSPEC.

The finalists were:

Finau Faka'i, Journey of a Pasifika RN into Perioperative Nursing, Volume 50 (4), March 2023

Rey Canoza, Translabyrinthine approach for resection of Vestibular Schwannoma (June 2023)

Liying Duan, Preparing patients with diabetes mellitus for CT Colonography (June 2023)

WINNER: Finau Faka'i

The Editorial Committee agreed that Finau's inspiring reflective piece was well written from the heart.

Christina 'Tina' Ackland Memorial Education Award ($1000.00). Sponsored by OBEX MEDICAL.

The 'Tina' Ackland Memorial Education Award acknowledges an individual PNC member for their outstanding service to the perioperative community.

WINNER: Shona Matthews (Auckland/Northland).

If anyone deserves this award, Shona does. Over the years she has, and continues to, work tirelessly to promote high standards of nursing practice for all Perioperative Nurses through education and support. This award acknowledges Shona's outstanding service to the perioperative community of New Zealand.

Shona has played an active part in the professional group supporting and advancing the role of Radiology Nurses for many years, firstly with the CRISP Nurses group (Cardiology, Radiology & Imaging Specialist Nurses) and then when this group became an integral part of the Perioperative Nurses College (PNC). Shona is still an active member of the Auckland & Northland Regional Committee. She spent six years as Chief Editor of the College's journal *The Dissector*, and continues to be a member of the Editorial Committee.

Services to Perioperative Nurses College NZNO (Paid Membership & Journal Subscription as a Life Member) Sponsored by PNC.

This award enables PNC to acknowledge the contribution of individual members to the work of the College at a national level. The nominee must be a current or past PNC member who has/had a commitment to PNC and who has made a superior contribution to the national work of PNC. Contribution could be made in any area of PNC activities at a national and/or international level.

WINNER: Leigh Anderson (Auckland/Northland) (see separate article).

Left to right: Dissector Editor Bron Taylor (left) with PNC Best Article award winner Liyang Duan (centre) and long serving Dissector Committee member and past editor Shona Matthews. Finau Fakai with her the MEDSPEC Award for the best article from a first time writer published in The Dissector. Shona Matthews was a very well-deserved winner of the Christina 'Tina' Ackland Memorial Education. Here she is presented with the award by OBEX Medical Team Lader David Ching.

Life Membership

Leigh Anderson RN, MN

Leigh Anderson was presented a Life Membership at the 2023 Annual General Meeting for her service to the Perioperative Nurses College NZNO.

Leigh joined PNC more than 20 years ago as a perioperative registered nurse. She has worked as a perioperative nurse in many specialties, including both adults and paediatrics, and was the OR Manager of Women's Health Operating Rooms prior to her current role of Nurse Director for Āhua Tohu Pōkangia |Perioperative Directorate at Te Toka Tumai | Auckland.

Leigh continues to advocate for perioperative nursing at a national level and ensures that the national PNC and NZNO professional advisor are kept informed on matters of national significance.

Leigh is passionate about education. She sat on (and chaired) the education committee between 2006 and 2008, during which time the development of national policy and guidelines were created and published online. She also organised numerous study days and evenings throughout her tenure in the Auckland regional PNC.

Leigh has contributed several articles to *The Dissector*, most recently her three-article series on the Ngawari kaimahi / Flexible Workforce at Te Toka Tumai (*The Dissector* Vol. 48, No. 4, March 2021; Vol. 49, No. 3, December 2021; Vol. 50, No. 1, June 2022).

She also has a background in clinical teaching and performance improvement.

Some of Leigh's contributions to the College are:

National Committee

- Chair elect/ Vice Chair 2007-2008;
- Chair 2008 – 2013;
- 2008 – 2013 Membership of IFPN council;
- Facilitated PNC standards made available online for members;
- Key contributor to Development of a level 8 perioperative paper at AUT;
- Navigated the College through the exceedingly difficult times of the Christchurch earthquakes;
- Oversaw the change of Auckland PNC Region to Auckland/Northland;
- Facilitated the invitation and hosting of IFPN to PNC conference in 2014;
- Negotiated and facilitated for PNC Membership to have access to AORN online as part of membership package;
- Regulation of anaesthetic technicians under the HPCAA – successfully advocating for the smooth transition of nurses who were working within the anaesthetic assist role without formal qualification.

Leigh Anderson's five-year tenure as National Chair of the Perioperative Nurses College of the New Zealand Nurses Organisation was celebrated with this shot (left), which featured on the cover of the September 2013 edition of The Dissector.

Post-National Committee

- Represented PNC on workforce forums in Wellington 2019;
- Remains an active participant on working groups that will advance perioperative nursing in Aotearoa NZ;
- Publications within *The Dissector.* ■

PNC Wellington Report

The Wellington PNC Region held its 2023 AGM on Saturday July 29. Only the Chair, Secretary, Treasurer and National Committee representative were physically present. Invites were emailed to all Wellington members so that they could participate by Zoom. Wellington has a stable chair until after the PNC Conference. Our secretary indicated that she is standing down. This has been communicated to National Committee.

Chair: Jenny Kendall EN (previously held chair position)
Vice Chair: Remains vacant, proposed to disestablish this but contested by treasurer. The position remains open for succession planning purposes. It was noted that no other region has vice chair.
Secretary: Vacant
Treasurer: Judith de Wilde
National Committee Representative: Amber Cox

Activities of the Wellington PNC Region, 2023

The number one priority is organising the national PNC Conference, October 17-19. Make sure you register!

We have a conference organising committee of five: Reggie Williams (Bowen), Emma Brookes (Wellington), Amber Cox (Wairarapa), Tim Hill (Boulcott), Grace Cui (Boulcott).

We have great support from Karen Hall, Judith de Wilde, Jenny Kendall and Juliet Asbery guiding our relatively inexperienced team. The conference theme is Embracing the future; everything counts. This will incorporate how the future of perioperative nursing is changing in New Zealand, Te Tiriti Waitangi with a perioperative nursing focus, patient diversity within four streams: Surgical scrub/scout, perianaesthesia/PACU/Anaesthetics, Medical Imaging and Preassessment.

Study days

We held a six-hour Introduction to PACU nursing study day at Hutt Hospital in March. Free PD for PNC members and a $50 fee for non-members. Funds raised contributed to paying speakers and providing lunch. It was noted that the membership for the Wellington Region has increased, with some previous PNC members signing up again due to the study day.

We held a laparoscopic study day scheduled in September and PNC PACU Basics Course in November.

Current Wellington membership: 68

Amber Cox, Wellington National Rep

Ruahine Egmont

Active members of our PNC Region have kept in contact via email and phone calls, while all being very busy in their own work spaces and environments. Palmerston North, Whanganui and Taranaki active members have all been working on engaging and encouraging new membership and existing members to become more involved with the College.

Diane in Whanganui represented our Region presenting her education session in June on My Health Hub "Caring for your sterile set up."

As the Regional Representative on the national Committee, I attended the June face to face national committee meeting in Wellington as well as Zoom meetings.

Our Regional Networking was Palmerston North on September 16, 2023, and included education sessions on "Gender Affirmation Surgery," and "Care of your Instruments. Then "RN Presentation," "Nursing Council RN Competencies" support of the development of your portfolio.

Taranaki hosted the Rauhine Egmont Christmas function and organised a fun outing and dinner in New Plymouth on December 2.

The final quarter of 2023 was another challenging 12 months of staffing shortages, position vacancies, and staff sickness over the winter months. Then the ongoing struggles with high hospital occupancy rates and demands on our emergency departments, resulting in postponed and cancelled elective surgeries, causing longer wait times for patients. But as always, we all continue to provide the best care possible for our patients and work hard to support our College in our place of work.

Karen Prendiville, Rauhine Egmont PNC Regional Representative

Central North Island

It is with pleasure that I detail the activities of the Central North Island PNC Region over the past year.

My previous report discussed being stretched in all areas of health, held together by the resonant and strong web of nurses and health professionals throughout the perioperative workforce. I feel that 2023 also had its share of battles, negotiations, and important decisions to be made individually and collectively.

I thank all who took part in these battles and have stood up for their career, their passion and what they believe in, including the hard mahi that went with it.

National Committee is working hard as a group and Regionally supporting individual member requests, promoting perioperative excellence through *The Dissector* Journal and creating educational perioperative content through our webinars and regional study days.

We have submitted several submissions during the year, including our next piece of work involving the Medical Sciences Council review of the Anaesthetic Technician Scope of Practice.

The Central North Island PNC Region has 44 members, including one Life Member from the Bay of Plenty.

I am aware of the exodus in recent years but now and going forward, we as perioperative nurses need to ensure the value of our profession is noticed, voiced and discussed everywhere.

How we can do that as members? Encourage peers to join the College, create dialogue and ensure we keep our feet on the floor in perioperative environments. It is up to us to move our profession forward, actively participating together.

The Central North Island regional committee is currently run via two members, Secretary and Regional Representative covering Treasurer role also. We need more on this committee and invite members to join us to ensure we can support, guide and provide education regionally together for our membership. These committee roles are rewarding and provide opportunities for conference attendance, educational hours and regional networking with your peers. If you have been in any of these positions before, I welcome you back and to motivate others to step up.

If you are thinking of being a part of this rewarding committee, bring a friend/fellow PNC member and support each other.

Being part of the committee can bring positive change in your workplace, motivation for the perioperative patients and yourself and most importantly connections and networking together with perioperative peers. The committee works best when they originate from the same location within the Central North Island, for example, Waikato, Bay of Plenty, Lakes, and the rural hospitals, so tap your peers on the shoulder and let me see those nominations.

I look forward to seeing you all in 2024 at our monthly education webinars and also, at the national PNC Conference in Wellington.

Nga mihi

Cassandra Raj, Regional Rep/Treasurer, Central North Island

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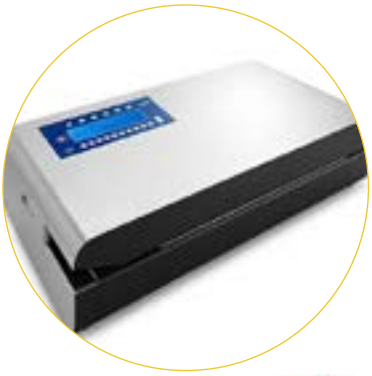

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The following reports were presented at the 50th Annual General Meeting of the Perioperative Nurses College of the New Zealand Nurses Organisation (PNC NZNO), held on September23, 2023, in Christchurch

Perioperative Nurses College NZNO

CHAIRPERSON'S ANNUAL REPORT 2022-23

presented at AGM September 23, 2023

It is with much delight that I deliver my first Chairpersons report for the Perioperative Nurses College, New Zealand Nurses Organisation 2022-2023.

I started this tenure as Chairperson at the well-attended Christchurch conference, totally excited to represent Perioperative Nurses of New Zealand, albeit slightly nervous about the big shoes I was filling as Juliet Asbury handed over the role.

The last several years have been busy as we roll out from the restrictions of world-wide pandemics and natural disasters. We then rolled into battles for equity in the workplace, negotiations and raising the value and role of the nurse within New Zealand. If it feels like we have had no seasonal ebbs, it is true. What is also true is the spirit of nursing and our ability to continually deliver and protect our patients for safe surgery and safe practice. I wish to thank all of you who have been a part of these actions, including the National Committee who have persevered to deliver our strategic plan and dedicated their time and effort to the profession of perioperative practice.

I would also like to acknowledge their achievements over the last year.

National Committee has had several ZOOM meetings and two face-to-face meetings in the last 12 months. We have contributed to discussions on and made contributions to several guidelines/submissions (but not limited to):

- Surgical Smoke plume within the Occupational Diseases Act;
- Crate Weight standard update with NZSSA – early 2024;
- PG09 Procedural Sedation 2022 – Pilot submission;
- Continue to deliver free perioperative Webinars to all perioperative professionals;
- NZNO Constitutional review;
- MSC review of AT Scope of practice.

This work also coincides with our strategic aims of providing excellence in patient care, ensuring PNC is a healthy and sustainable organisation, with a strong perioperative nursing workforce contributing to the on-going professional development of perioperative nurses. Some of the ways we do this is:

- Providing access for members to online educational content specific to perioperative practice;
- Remunerating educational presenters and journal article writers sharing and improving nursing practice;
- Utilising cost-effective technology for meetings and communication within our membership;
- Using social media to increase avenues of connectivity and engagement for members;
- Regular Journal publications celebrating perioperative nurses.

I would like to thank the National Committee for their support and work throughout this year.

Professional Practice Committee

Within the National Committee is the Professional Practice Committee lead by Gillian Martin. Gill and her team continue to review, develop and update documents on the PNC website.

Next year most of the PNC perioperative standards and documents are up for review. I encourage you to be a part of this large remit of work as these reflect your professional standards in your perioperative departments. Be a part of the standards in your workplace, which you walk past, and accept. Thank you to the Professional Practice Committee for your achievements over the last year.

The Dissector

Closely linked to the Professional practice committee is *The Dissector* team who tirelessly work to deliver the journal to us. This is no small feat, to edit, proof-read and support writers who contribute to our cherished journal. I encourage you all to submit your quality projects, your quantitative research, your surveys and any improvements big or small to *The Dissector* team to celebrate excellence in perioperative care.

The editorial team is amazing but they need your articles and content to sustain *The Dissector*. Thank you Editorial Team for your accomplishments and efforts this year.

Regional membership

That brings me to our largest group, the Regions and our membership. You can see from previous remits and discussions that member participation is declining and some regions have already amalgamated due to the low activity, attendance and recruitment to regional roles and committees.

As previous chairs have mentioned, fatigue, loss of face-to-face connections and networking has evidently led to this decline. I encourage you now and going forward that if you want PNC to continue to be supportive to your practice, have the ability to provide ongoing professional development and educational opportunities, there must be active participation. PNC needs more members to be an affective College and move forward as a "College and Section" of NZNO.

I return to the concept of rolling out from previous restrictions, increasing our ability to connect with each other and kick start the networking again.

Perioperative Nurses are fantastic at having fun and socialising, whilst educating each other, supporting each other to be the best versions of themselves and providing safe evidenced based practice.

I challenge you, Perioperative Nurses of New Zealand, rise up, connect, and be the change you wish to see in your workplace.

Nga mihi

Cassandra Raj, Chairperson
Perioperative Nurses College NZNO

The Dissector annual report

It is with pleasure that I present the annual report of *The Dissector* Editorial Committee to the National Committee at its annual general meeting. I wish to thank committee members Shona Matthews, Catherine Freebairn, Rebecca Porten-Whitworth, Gillian Martin, Olivia Bradshaw and Eby Eapen-Mathew for their ongoing support and input throughout the year.

Shona Matthews tenure, which was temporarily extended, was due to finish in October, as was Rebecca's. Catherine has requested to step down but has agreed to stay on the Committee in the interim, her availability is however reduced. Her tenure is due to finish in December 2023. This means there is an urgent need for more Committee members, especially those with a medical imaging background.

The Committee has had two meetings via Zoom this year and had a face-to-face meeting on September 16. As usual we have communicated by email and through the use of Dropbox.

Binding of 'The Dissector'

All the 2006 -2017 editions of the journal have been bound. Now the Editorial Committee looks forward to an update on binding the 2017-2023 issues.

Content

Most years, the PNC Conference is a great source for sourcing articles for publication in the journal. However, last year's conference did not have the same response so sourcing articles has continued to be difficult. A big thank you to members who have supported *The Dissector* by providing copy (articles) for publication and we look forward to seeing articles from those who have promised to provide content.

The quality of articles provided has continued to be high and again in 2023 we managed to publish a clinical article in most issues. We have tried to include both medical imaging and post anaesthesia care unit related articles; however that content has not always been available.

The March issue featured two articles related to the 2023 PNC Conference, a report on the draft ANZCA sedation guideline PG-09 (G) and a reflection from a Pasifika new graduate nurse in PACU, as well as three regional reports and a report from the IVNNZ conference.

The June issue was delayed due to a lack of revenue from advertising. The Editorial Committee would like to express its gratitude to National Committee for making up the shortfall so the issue could be published. This issue featured three clinical articles and one from Mercy Ships. The clinical articles were: Pre-op Pregnancy testing, Translabyrinthine approach for resection of Vestibular Schwannoma, and Preparing patients with diabetesmellitus for CT Colonography. The Mercy Ships article was about their new hospital ship Global Mercy whose Operating Theatre Clinical Supervisor is a New Zealand nurse. Just one regional report was received for this issue.

The September issue was being compiled as this report was being written. We were hoping to receive articles from presenters from the 2023 PNC Conference. At this stage we have received just two articles which are currently being edited.

The January issue will include reports and awards recognition as well as articles, in a similar format to the December 2021 issue when there was no conference.

Article re-printed in Kai Tiaki

The editors of *Kai Tiaki Nursing New Zealand* were given permission to re-publish Rangi Blackmoore-Tufi's award-winning article titled: 'A safe environment for Māori patients starts with a safe environment for Māori nurses'. Kai Tiaki also republished the co-written companion article 'Culturally Safe Care in the Aotearoa Perioperative Environment'. These articles were originally published in *The Dissector*, Vol 50 (1), June 2022.

Circulation

The latest circulation data for *The Dissector* is as follows: Advertising agencies (12); Te Whatu Ora districts & Govt. departments (46); Dissector Complimentary (11); Dissector International (4); Dissector Paid Subs (3); Hospital & Medical Libraries (16); International perioperative nurses (38); Medical company reps NZ (126); NZNO Offices (10); PNC Life Members (31); PNC members (528); Theatre Managers (135); Tertiary and nurse training institutions (22).

Incentive to Publish

The Dissector publishes articles with a strong focus on education, research within perioperative nursing, evidence-based practice and news items of special interest. The scheme was instigated in 2009 by then Editor Kathryn Fraser, with the support of Advantage Publishing. It is essential to ensure ongoing generation of original articles as this assists PNC in meeting our professional obligation of maintaining our College status.

The Incentive to Publish payment continues to see College members benefit from writing. PNC provides $100 and Advantage Publishing provides matching funds. Four authors have received this incentive this year.

Awards 2023

Two *Dissector* awards for contributing authors will be announced at the 2023 College AGM; MEDSPEC's First-Time Writer Award worth $750 and the Best Article published in *The Dissector* Award, worth $1000 and sponsored by the Hawkes Bay PNC Region Committee.

Dissector online

The Dissector continues to be available to a wide international audience through which the College benefits as being the voice of perioperative nursing within New Zealand. Access to the articles published since 2011 is available through:

- Gale: Academic OneFile – 2011 onwards
- Gale: Nursing Resource Center – 2011 onwards
- Gale: Nursing and Allied Health Collection – 2011 onwards
- Gale: Health Reference Center Academic – 2011 onwards
- Ebsco: CINAHL Complete – 2012 onwards
- Proquest: Nursing and Allied Health – 2013 onwards

NZNO members can also access *The Dissector* electronically in the Academic OneFile database via the NZNO website.

PDF copies of past issues of *The Dissector* will soon also be available to members on the PNC website.

Digital Journal

Given the concerns regarding advertising support for *The Dissector*, the publisher (Advantage Publishing) suggested consideration be given to publication of a digital version of *The Dissector*. The Committee supports exploration of a digital journal but initially did not want to stop producing a print copy of the journal.

Future Plans

The Committee welcomes more articles featuring clinical practice, quality

and/or innovation initiates, case studies or other articles of interest to members. We would also appreciate any ideas for themes and articles. The Committee is always willing to assist, so please contact one of us with your ideas. Regular feedback from Regions on their activities will continue to be actively pursued.

Thank you once again to Michael Esdaile and his team at Advantage Publishing for their support and valuable sponsorship of the Journal and membership.

Bron Taylor
Chief Editor, The Dissector

Professional Practice Committee report

As lead of the Professional Practice Committee (PPC), I would like to thank all the committee members for their hard work during the past year.

The PPC has been developing additional content to be included in the Knowledge and Skills Framework Document. This is "Responsiveness to Māori Health", though the title may change as the document progresses.

It was felt by National Committee and the Professional Practice Committee that the current content relating to Te Tiriti o Waitangi does not reflect our commitment to the emergent and acute healthcare needs of Māori.

This work was delayed due to the committee's involvement in presenting feedback on the review of the New Zealand Nurses Organisation (NZNO) Constitution and feedback on the development of the role of Anaesthetic Technicians in the Perioperative environment.

Other PNC standards and documents need to be reviewed for their content related to Māori Health, which will be done in due course throughout the coming year.

We are also planning to develop a new standard for the handling of specimens.

Gillian Martin
Lead for Professional Practice Committee.

Membership Report 2023

This concludes my first year on the National Committee and it is with pleasure I present the annual PNC Membership Report for the period of 2022-2023. The total membership for this period is 527. This is a slight decline from the previous year but an increase from 2021.

In this report I have included data from the 2021-'22 report to better illustrate where we are seeing the changes in membership. I have not included ethnicity comparisons due to a lack of data from the previous year.

The majority of changes in membership are unremarkable, in that membership has declined across all regions — apart from Hawke's Bay, which has maintained its membership numbers across the consecutive years.

Although membership appears to be on the decline, it is exciting to note that our 'new to college membership' is at an increase from 86 to 106.

There has also been a slight increase in student membership from two to six. It is refreshing to know that PNC is attracting new people to the College.

Going forward into 2023-2024, we need to continue our membership drive and encourage our colleagues to join PNC. I hope that with all the hard work put into the College, at both a national and regional level, we can increase membership for the upcoming year.

I would like to thank the National Committee for its continued support as I navigate this portfolio.

A special thanks to Sharyne Gordon, Sally Chapman and Rob Hawker for their assistance in maintaining the membership database.

Thank you.

April-lily Sule
Otago Regional Delegate

Submissions Report 2023

Surgical Plume

A submission was made to the Ministry of Business and Innovation (MBIE) for diseases related to surgical smoke plume to be added to the list of occupational diseases under the Accident Compensation Act, Schedule 2. There has been no further update on this.

The literature is saying there is a need for more staff education when it comes to surgical smoke plume. There is no guidance from OSHA, but the recommendation is to wear a face mask such as an N95 to reduce the exposure to the individual.

Crate Weights

I have had contact with the Treasurer of the New Zealand Sterile Science Association (NZSSA) regarding the updated standard for the crate weights. This document is going into its second round of public comment so cannot be shared yet. The standard currently states that no pack should weigh more than 7kg. This is unlikely to be changed.

The standard will be published at the end of 2023, if not then, it will be published early 2024.

PS09 Sedation Guideline

The two-year consultation process for PS09, now known as PG09, has resulted in the pilot PG09 (G) Guideline on Procedural sedation 2022. The pilot has since finished and the Document Development Group is finalising the final amendments before it is published

The New Zealand Nurses Organisation (NZNO) was consulted as a stakeholder in both the background paper and the Guideline development process. Many of our PNC members are involved in the process of procedural sedation and need to be informed and kept up to date with the new guideline.

Budley and Findlay- Therapeutic Goods Act

Currently, medical devices used in New Zealand are not regulated in New Zealand. They are and only approved once, by the United States Food and Drug Administration (FDA). There has been no update regarding this.

Emma Lineham, Submissions Coordinator and
PNC representative Canterbury/West Coast/Nelson/Marlborough

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Friends of Fiji H
(FOFHF) Mission Colonial W

By Rebecca Porton-Whitworth

Abstract Every year since 2006, more than 80 specialists including heart surgeons, cardiologists, anaesthetists, perfusionists, specialised nurses and more travel to Fiji as part of the Friends of Fiji Heart Foundation (FOFHF) to perform free cardiac surgery. Over 15 tons of medical equipment and medical supplies is shipped to Fiji where the team sets up a cardiac unit within the hospital. Over 20 heart surgeries were performed, 25 pacemakers were implanted, with 200 pacemaker patients reviewed.

Key words Heart surgery, volunteer work, Friends of Fiji Heart Foundation, rheumatic valve disease

Introduction

Every year since 2006, the Friends of Fiji Heart Foundation (FOFHF) sends a mission team to Fiji to perform free heart surgeries that are not available for underprivileged local Fijian people. It is estimated there are hundreds of patients in Fiji suffering from valvular heart disease requiring surgical intervention which is not available in Fiji. Without adequate funds, these patients cannot travel oversees for the surgery.

The FOFHF was established in New Zealand in 2006 and registered as a charitable trust (FOFHF, 2023). In 2013, the FOFHF was registered as a charitable trust in Fiji with a group of dedicated volunteers providing financial and operational support for the New Zealand trust and medical mission (FOFHF, 2023).

The 2023 mission was the first since travel was restricted in 2020 due to the COVID pandemic. I have been fortunate to be involved with the Foundation since 2009, with the 2023 trip being my fifth.

For the first trip in 2006, the team operated at Suva Hospital but successive trips have operated at either Lautoka or Suva Hospital.

For two to three weeks the team performs open heart surgery, pacemaker insertions and conducts clinics. In more recent years, the focus has expanded to include coronary angiography, angioplasty and stenting (FOFHF, 2023).

Between 60 to 80 volunteers work as a team, with medical equipment and supplies flown or shipped to Fiji. Each year the treatment provided is worth more than $NZ2.5 million but is provided for in excess of $NZ250,000. The cost does not include the volunteer time from the skilled medical team, the trustees and the administration team (FOFHF, 2023).

Friends of Fiji Heart Foundation

FOFHF mission gives people a second chance of life with the mission's objectives being:

"To undertake open heart surgery of heart valve replacement or repair and heart birth defects closures. To provide intensive care treatment and post-operative care until the patient is discharged from the hospital." (FOFHF, 2021).

The trustees consist of a group of Fiji-born medical practitioners, professionals and business people who identified the need to help the people of Fiji by sharing their knowledge and expertise.

Patient Selection

Patient selection is an important part of the process and preparation for surgery. A team of cardiologists travel to Lautoka, Labasa and Suva assessing and screening more than 200 patients. From that, 40-50 patients are shortlisted with approximately 25 finally selected for surgery and operated on (FOFHF, 2023).

The Medical and Surgical team

The medical team comprises volunteers from all over New Zealand working within the NZ healthcare system, or previous Fiji citizens and some overseas medical teams. It includes cardiothoracic surgeons, cardiologists, anaesthetists, intensivists, perfusionists, specialist theatre nurses, anaesthetic technicians, sterile services staff,

Operating Theatre – set up and ready to go.

eart Foundation
ar Hospital, Suva – 2023

intensive care (ICU) and ward nurses and physiotherapists.

Parma Nand, Fiji's first and only open-heart cardiac surgeon, leads the team and there are team leaders and mission managers who coordinate the different specialities. The entire team provides their services and time free of charge. The FOFHF covers accommodation, food, medical and nursing registration and travel costs (FOFHF, 2023). All volunteers are required to obtain nursing or medical registration with the appropriate Fijian medical authority prior to arriving.

Transporting Medical Equipment and Materials

Each year 15 tons of medical equipment and medical supplies is flown to Fiji with the help of Fiji Air and Air New Zealand. This involves the trustees and department leads overseeing the process of receiving supplies, packaging and arranging custom clearance in both New Zealand and Fiji and ensuring the return of medical equipment back to New Zealand (FOFHF, 2023).

Once in Fiji the team sets up a cardiac surgery unit including an intensive care unit, recovery ward within the hospital.

Procedures

CPR training is provided to the local public and medical staff. Surgical valve replacement surgeries are performed on patients with damaged heart valves and replaced with either a mechanical or bio prosthetic valve using the heart-lung perfusion machine. Some patients may have an atrial or ventricular septal defect – hole between the left and right side of the heart which is closed using a pericardial patch (FOFHF, 2023).

Coronary angiography is performed to assess the condition of the arteries of the heart that supply the myocardium. Percutaneous coronary intervention is performed where a coronary stent is inserted in a narrowed coronary artery (FOFHF, 2023).

Pacemaker teams insert a pacemaker through a small incision in the chest to help control abnormal heart rhythms. They then follow-up with annual clinics to ensure optimal function of the device and any abnormalities diagnosed and corrected by reprogramming (FOFHF, 2023).

First day – operating theatre: Jo Yu-Hoi (centre) and Rebecca Porton-Whitworth.

Personal experience

My first volunteer experience with the FOFHF began in September 2009. I was fortunate to join the cardiac team and work at Lautoka Hospital. I then joined the team again in 2014, 2015 and 2017.

In 2015, we worked in Suva at the Colonial War Memorial Hospital and then back to Lautoka in 2017, working in their brand-new theatres. My most recent trip in October 2023 was the first time the team had been back since the COVID travel restrictions were lifted. We again worked in Suva.

The usual format is meeting up with the team for the first time in Auckland and travelling to Fiji. The first day is spent unpacking and sorting out equipment, valves, consumables and then sorting out instruments and sterilising the sets.

The FOFHF has its own sets of instruments, but Barbara Roberts, the previous team leader for the nursing team, would also bring lots of extra equipment such as bowls and valve towels, Steripeel and Kimguard wraps.

Some of the equipment is donated and others provided at cost.

Everything we require for a case in NZ is shipped over. All the anaesthetic equipment and machines, perfusion equipment and perfusion pumps, post anaesthetic care unit equipment and intensive care monitoring and ventilators are put together in a day and checked they are working.

It is a full-on day and we have had issues with the perfusion pump not working and equipment flown out from NZ the following day. As you can imagine, it is very delicate machinery and it is very hot and sticky work.

Last year Jo Yuhoi, the theatre nurse team leader from Dunedin Hospital, and I travelled together from Christchurch on the Saturday prior to work commencing on the Monday. We spent the Sunday setting up theatres. This involved locating and unpacking our boxes of consumables, setting up a storage cupboard for our heart valves and sutures and extra stock, ensuring surgical headlights and batteries for the sternal saw were charged, setting up the theatre, including locating trollies, beds, diathermy machines. We also set up a scrub bay and helped sterile services make up sets, Steripeel, valve sizer sets and sternal retractors. We also set up emergency chest reopen equipment and instruments in the intensive care unit.

On previous trips I have been involved with we did not have sterile service staff, so we would wash our own instruments, pack up and wrap our own sets. But in 2023 we had two team members from Waikato Hospital. They were allocated a theatre that was not in use and had a clean and dirty area with Kimguard wraps and a Steripeel machine. They would then utilise the local steam sterilising machines and drying racks.

One of the challenges faced was that the steam would be turned off at certain times of the day. Because of limited resources, we had to negotiate to keep the steam on. As soon as a set was able to be removed from theatre, it was re-sterilised for the next case. We had four instrument sets but limited valve sizers, cosgrove chest retractors, wire sets and sternal saws. In performing large volumes of surgery, our turn around time in between was very fast and everyone had to ensure we had set and instruments available.

Over the years the hospital environment and the conditions of the operating theatres has improved. Originally in Lautoka it was a very basic set up with no fancy air conditioning. It was very hot standing scrubbed with sweat running down your back. The pigeons would rung along the edge of the windows which were not completely sealed shut. In Lautoka and Suva there are newer theatres and the setup is like working at home in NZ. The main difference is you are working with a variety of health professionals from around NZ, surgeons, anaesthetists, anaesthetic technicians, perfusionists, theatre, intensive care, ward nurses, intensivists, physiotherapists and company representatives.

Supplies ready to be unpacked.

We also involve the local nursing teams. They scrub with us and we share our knowledge and involve them in the cases.

Last year we had a mixture of nurses from around NZ and Australia. We had three from Auckland, and one from Waikato, Australia, Christchurch and Dunedin. We also had a mixture of surgeons from Auckland, Waikato and America. It was great having someone who worked with the surgeons who shared their knowledge about each surgeons' preferences.

We had laminated cards which we updated and used to help with set ups and scrubbing. The surgeons and the nursing team also had to adapt with what products and equipment were available.

The days can be long. We are usually up at 5.00am to catch our bus to work which leaves at 6.30am and patients begin arriving for sign in at 7.00am. Depending on perfusionists, we have two theatres working either simultaneously or go from one to the other, piggy-backing our cases. We work anywhere between eight and 12 hours. The theatre team works hard as we are not rostered, like the ward or intensive care nurses, and we also take turns at covering on call. However, we also have down time at the end of the day. The team aims to do three to four cases a day, with a goal of 20-25 operations performed throughout the week.

The theatre team performs operations over six days and then we have one day off before beginning the tidy up and packing of equipment for

Left: Maureen Kearny, Jo Yu-Hoi and Bipbin Thomas – Sterile services. Right: The autoclaves used for sterilising instruments

return to NZ. Some of our unused consumables, such as gowns and gloves, we donate to the local team.

The 2023 trip was no exception. We worked 12-15-hour days. We completed 25 surgeries over six days. Five operations were performed each day with surgery taking four to six hours and 54 heart valves were implanted, comprising of five triple heart valve operations. In addition, we did 13 double valves and seven single valve replacements.

Most of the patients also had their left atrial appendage occluded or removed to help prevent blood clot formation due to their enlarged hearts or atrial fibrillation. This trip was a particularly emotional as it was the first time since 2019 due to COVID and there were many young patients requiring surgery. It was very sobering operating on young adults, the same age as my own children.

Outside of the operating theatre, 119 medical staff were taught CPR with 51 attending a five-hour intensive training course. Thirty-nine pacemakers were implanted, and 352 pacing checks performed. Local staff were also trained in the operating theatre, ICU and ward. Preventative education was broadcast through media, on the radio and television, with many newspaper articles written involving the team, the patients and their families.

For me, volunteering is so rewarding, working with people you don't know, building very close relationships with your colleagues, and performing complex surgeries in a foreign environment with people and equipment you don't normally work with.

The thing I enjoy the most is the common goal of the team, working together to perform as many surgeries as possible. There is none of the usual day to day politics.

The networking and connections I have made have been invaluable over the years. I have made lifelong friendship with people throughout the cardiac centres within NZ. Although we work very hard, there is also some down-time for group formal and informal dinners that we attend, for example a fund-raising dinner organised by the Fiji Friends of Fiji group where we got to meet the Fijian President and other sponsors of the trip.

There have been lots of challenges over the years but that is part of the experience and the fun of having to come up with an alternative solution. For example, equipment not turning up or missing items, having no oscillating saw to perform a reoperation, organising surgical preferences with suture and valve options that a surgeon may not be familiar with. Fortunately, we are only a flight away and often there are different team members coming that can collect what we require and deliver the next day.

The best part is meeting the patients at the end of a long hard week. This was especially special in 2017 and this last trip as we had performed some very complicated procedures, including lots of double and triple valves and some patients were complex reoperations.

It was so nice talking to the patients and meeting their families. The families are heavily involved in supporting their family members. That is a side of nursing that we miss out on at home daily.

As with any mission there is a group of people not only in theatre but across the intensive care unit and cardiac ward who contribute to the patient journey. Long after the theatre team leaves there is still nursing, and medical support offered to the patients until they are discharged.

Conclusion

I cannot put into words the feelings that you have when you leave Fiji. I thought I was doing an amazing thing being able to utilise my skills to help people, but our patients also have made a massive impact on my experience and life. If I could, I would love to volunteer more, and I thoroughly recommend the experience. This mission requires skilled cardiothoracic trained nurses due to the complexity of the surgery, rapid turnover of cases and having to be adaptable and learn unfamiliar surgeons' preferences for every case you scrub for.

About the Author: ***Rebecca Porton-Whitworth*** *RComp, BHSc, MNurs (Hons) has worked extensively for 30 years within the perioperative environment in a variety of specialties and roles. Her favourite specialty is cardiothoracic where she has worked in both the paediatric and adult acute and acquired congenital. She is currently working as a RNFSA and Clinical Nurse Specialist of Cardiothoracic and Vascular Theatres at Christchurch Public Hospital. She has been a member of The Dissector Editorial Committee since 2019.*

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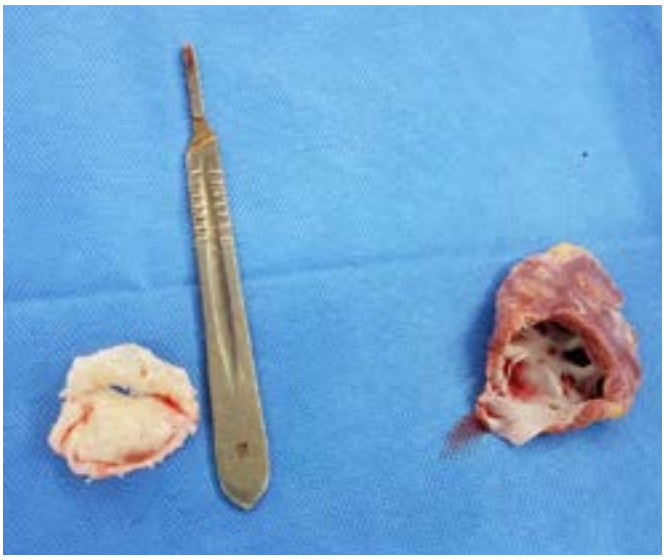
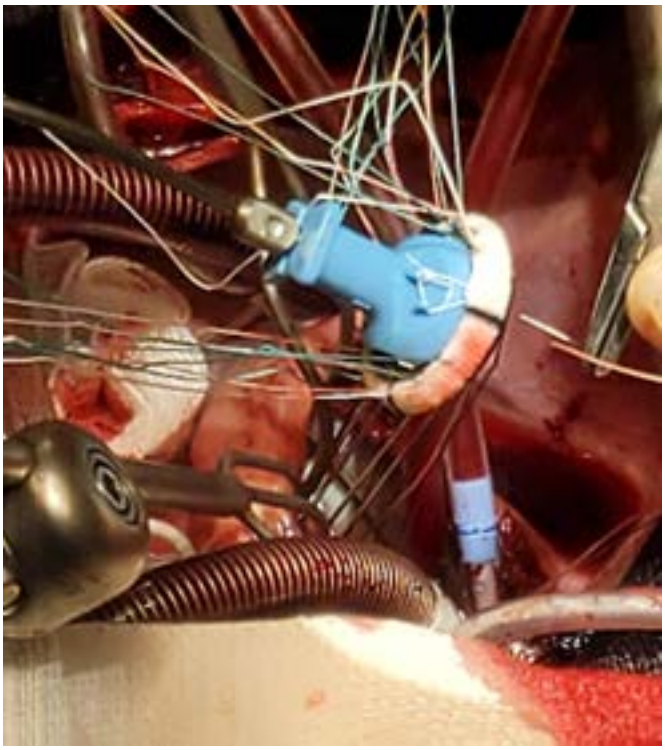


Above: Rheumatic mitral valve and atrial appendage.
Below: Mechanical valve being implanted



Trans-catheter AORTIC VALVE IMPLANTATION

the keys to Best Practice Outcomes

By Murray Hart

Abstract: Trans-catheter Aortic Valve Implantation (TAVI) is a well-accepted alternative to open aortic valve replacement with recent developments improving patient outcomes. Optimal outcomes post-TAVI are based on selecting the most appropriate patients for the procedure, recognising frailty and serum albumin as important determinants. Pre-procedure patient/whanau education is also key in promoting the expectation of next day discharge post-procedure. Other factors in improved patient outcomes include the growing experience of TAVI cardiologists, improved valve design and the procedure becoming more minimally invasive. The current pathway means the procedure is performed under conscious sedation with no central venous access or urinary catheter required and an expected Coronary Care Unit (CCU) stay of three to four hours, with most patients discharged home the following day. The less is best approach has decreased complications and morbidity.
New advances in other transcatheter valve procedures is outlined.
Keywords: Transcatheter Aortic Valve Implantation (TAVI), aortic stenosis, frailty, perioperative nursing

Introduction

Aortic stenosis is the most common heart valve disease and the prevalence of it is increasing due to an ageing population (Otto & Prendergast, 2014). The underlying pathophysiology of aortic stenosis is degeneration and calcification of the aortic valve. This leads to restriction of blood flow due to a narrowed aortic valve opening.

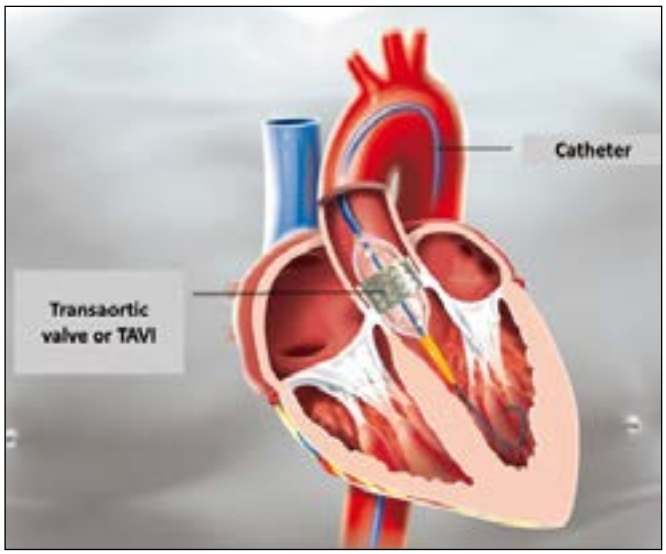
The gold standard for treatment of symptomatic severe aortic stenosis has for many years been surgical aortic valve replacement. However, for patients over the age of 75 years, the morbidity and mortality associated with surgery increases significantly (Adams et al., 2019).

Transcatheter aortic valve implantation (TAVI) offers a less invasive treatment option with reduced risk, especially for those patients in the high-risk or inoperable risk group (Otto & Prendergast, 2014). With technological advancements in valve design and evolution of practice over the years, TAVI has become minimally invasive with improved outcomes. Appropriate patient selection is a key factor in achieving optimal patient outcomes for TAVI programmes (Ha, Bissland, Mandrawa & Palmer, 2021). Patient selection and other keys to best practice outcomes are reflected on in this article.

Select the best

Frailty is an important predictor of death and disability following surgery. Just as there is awareness of the importance of frailty on post-operative recovery, frailty likewise negatively impacts on outcomes post-TAVI (Afilalo, 2017). The presence of frailty means that an aortic valve intervention is less likely to improve quality of life or mortality. A component of patient selection for TAVI is therefore assessment of the patient's frailty status. Selecting the best through frailty assessment contributes to achieving optimal outcomes post-TAVI.

Changes associated with normal aging and comorbidity frequently manifest themselves as a decline in the functional status and quality of life in older adults. Aortic stenosis also typically becomes symptomatic in older age. The progressive pathophysiology associated with aortic stenosis produces symptoms of shortness of breath on exertion, fatigue, pre-syncope, and angina. These symptoms usually get worse over time, causing an increase in physical limitation, and a decrease in functional ability to perform activities of daily living. These symptoms can be



interpreted by the patient, their whanau, and health professionals as primarily associated with aging and frailty, rather than secondary to aortic stenosis pathophysiology which can be treatable.

TAVI has evolved as a treatment option offering lower procedural and post-procedural risk compared to open cardiac surgery. The lower risk associated with TAVI makes some frail, comorbid patients eligible for TAVI, while they may not meet criteria to be a surgical candidate. TAVI may be offered to patients in whom cardiac surgery is deemed to be too high risk. Therefore, many TAVI patients have more comorbidities and frailty than cardiac surgical patients (Goel & Holmes,2018).

One of the best ways to evaluate the health status of older adults is through a functional assessment tool which provides objective data and scoring. The results may indicate potential for either future improvement or decline in health status, functional independence, and quality life.

In Christchurch we use the Edmonton Frailty Score and GP Cognition Test to routinely assess frailty and cognitive function. Serum albumin is part of routine pre-procedure blood tests as it is a validated maker of frailty (Afilalo et al., 2017).

A multidisciplinary Structural Heart Team Meeting is the forum to review patients to ensure they meet eligibility criteria. This includes echocardiogram (ECHO) assessment and anatomical suitability criteria based on CT scan. Eligibility is also based on whether the patient is likely to derive significant functional and prognostic benefit from the procedure. Frailty assessment is therefore a tool which allows the Heart Team to make patient selection decisions appropriately and select the best, focusing on post-procedure outcomes.

Less is best

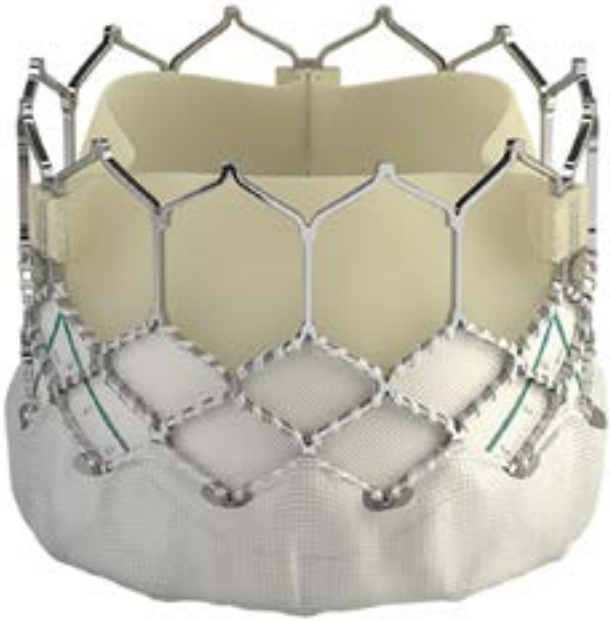
Patient outcomes have improved through a combination of TAVI cardiologists gaining experience, improved valve design, and the procedure becoming more minimally invasive. In the early years of TAVI, the pathway was modelled on the cardiac surgery experience and so all procedures were done under general anaesthetic to enable transoesophageal guidance. Central venous lines, arterial lines, urinary catheters, and admission to intensive care were standard practice. A minimally invasive approach over recent years has now resulted in a pathway where patients are operated on under conscious sedation, with or without an anaesthetist. There are no central venous lines, no urinary catheters, CCU length of stay is three-four hours, and the majority of patients discharge the day following TAVI procedure (Hart, 2021).

For patients who live locally within Christchurch, they may be admitted to the Cardiology Day Unit on the day of procedure. The patient pathway is possible with just one night in hospital, and the patient may be discharged within a 24-hour period of the procedure.

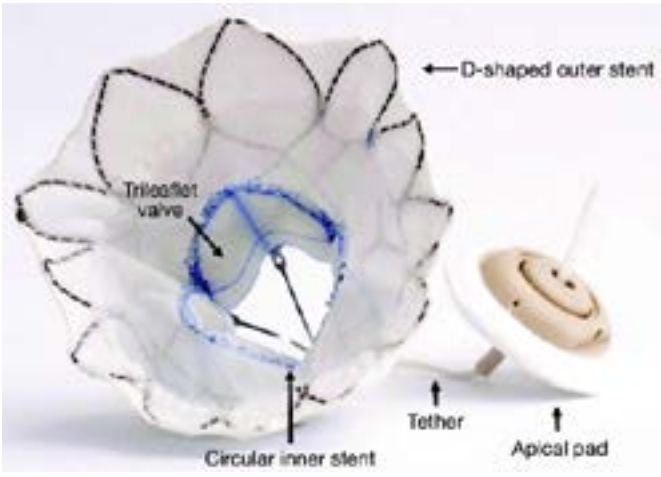
TAVI has proved to be a revolutionary treatment option that offers the patient a less invasive treatment strategy with no surgical wounds, avoidance of intensive care, and a short length of hospital stay. Vascular closure devices (Proglide and Angioseal) allow early mobilisation at four to six-hours post-TAVI. Post-discharge, patients are advised to avoid strenuous exercise due to groin arterial closure devices, and not to drive for a two-week period. This short recovery period has major advantage, especially for elderly patients, but also for those patients who are younger and have significant comorbidity.

In the majority of cases, a percutaneous approach can be used to access the femoral arteries without performing a surgical 'cut-down' procedure with a vascular surgeon. Use of the transfemoral route enables the procedure to be carried out under conscious sedation in the Cardiac Cath Lab.

In Christchurch, an innovation to the patient pathway this year has been the introduction of low-risk patients having the procedure performed without an anaesthetic team. Conscious sedation (IV Fentanyl and IV Midazolam) is administered by a Cath Lab registered nurse, whose primary role is medication administration, under cardiologist supervision. An anaesthetic team is still utilised to manage conscious sedation in the higher-risk TAVI patients. In some centres in New Zealand and



Above: Edwards TAVI Aortic Valve, Sapien 3 Ultra.
Below: Tendyne transcatheter mitral bioprosthesis



Australia, TAVI procedure is done under local anaesthesia, without the use of intravenous conscious sedation. In part, a nation-wide shortage of anaesthetic technicians has contributed to the introduction of this innovation.

Expect the best

TAVI pre-admission clinic is a pivotal time to communicate to the patient and their family/whanau, expectations that influence achievement of the best outcomes. Clinical or social 'red flags' which have the potential to impact on risk associated with the peri-operative or post-procedure period are identified at pre-admission. Discharge planning therefore begins at pre-admission clinic where expectations are set. An example of this is communicating early the expectation of discharge the day following procedure after multidisciplinary review.

Pre-admission clinic is the best opportunity to provide patient/whanau education and give an overview of the patient pathway. Frailty and cognitive assessment are performed at this time to identify specific discharge planning needs and social red flags. There is an established TAVI clinical pathway and identification of risks prior to admission and the communication of these to the ward-based and Cath Lab teams ensures mitigation of risk factors.

Research findings of TAVI being superior to open surgery short-term in the low-risk group of patients has huge implications and challenges for heart teams (Mack et al., 2019).

Patients who would previously have been routinely referred for open surgery are now being considered for TAVI. The expectations and preference of patients for a less invasive treatment option is frequently evident in clinic discussion with patients.

Integral to expecting and achieving the best patient outcomes post-TAVI, is a Heart Team approach to optimise the management of the patient's comorbidities and treatments. Patients who are frail and have comorbidity pre-TAVI are more likely to develop progressive functional limitations following their valve intervention. This has led to an awareness that cardiac rehabilitation may be especially beneficial to this group of frail and deconditioned patients.

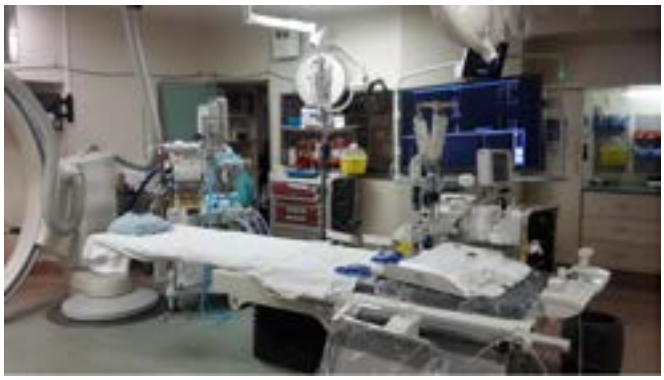
The benefits of cardiac rehabilitation after surgical valve replacement are well known, and there is now evidence that cardiac rehabilitation participation post-TAVI is associated with an improvement in functional status, six-minute walk test time, and quality of life (Goel & Holmes, 2018). In our Christchurch TAVI programme, all local patients are contacted by our cardiac rehabilitation team and invited to participate in a rehabilitation programme.

The best is yet ahead

Since the first successful implantation of a transcatheter aortic valve in 2002, a percutaneous approach to aortic valve replacement has been innovative and revolutionary in the management of severe aortic stenosis. Transcatheter options for mitral valve repair and mitral valve replacement have advanced more slowly and ongoing research will identify the best patient selection criteria and longer-term survival data (Kang, Bozso, El-Andari, Adams, & Nagendran, 2020). The 'Heart Team' has evolved to become the 'Structural Heart Team' to incorporate advances in percutaneous treatment options for not only the aortic valve, but the mitral, tricuspid, and pulmonic valve.

Transcatheter mitral valve replacement technology has been much slower to advance because the mitral valve has much more complex anatomy compared to the aortic valve.

The mitral valve has an asymmetrical opening, it has large dimensions, and less calcium compared to the aortic valve. The Tendyne mitral valve replacement device is an example of one currently being researched. The results of early trials of mitral valve replacement are promising but



Cardiac cath lab at Christchurch Hospital set up for TAVI.

commercial devices being available in New Zealand are still in the future (Kang et al., 2020). For those patients who are too high risk to undergo mitral valve replacement surgery, there remains an unmet treatment gap. Heart valve disease will remain at the forefront of scientific research. With new technology and innovation in practice, the best is always ahead.

Conclusion

TAVI is a revolutionary technology for patients who previously would have been considered inoperable or high risk for open valve surgery. It is now an established, researched, less invasive treatment option in clinical practice. Frailty is a major risk factor in determining the older patient's potential for recovery following a TAVI or surgical aortic valve replacement. Frailty assessment is a pivotal component in determining patient selection for the best treatment option. It guides heart teams to objectively select the best, based on desired patient outcomes. Advancements in transcatheter technology has allowed expansion to treatment options for the mitral valve, both in repair and replacement.

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Providing Ultrasound-guided PERIPHERAL ACCESS TRAINING in a regional hospital

By Catherine Freebairn

Introduction

Ultrasound-guided peripheral intravenous cannulation (USGPIVC) is a technical skill that can be challenging and time consuming to perform. Demand for skilled health professionals to use ultrasound-guidance in the workplace is growing but limited access to ultrasound equipment and experienced clinical supervision is often a barrier to medical and nursing staff attempting or progressing USGPIVC skills (Rothwell, Kehoe, Farook & Illing 2021).

Providing ultrasound guided training sessions or skill stations as part of a study day or course and/or a separate workshop for nurses, technicians and clinicians is a valuable component to learning this skill and building confidence (Keleekai et al 2013). At Hawkes Bay Hospital, Interventional Radiology Nurses provide mixed-method teaching sessions incorporating ultrasound machine basics, scanning techniques and vein identification, along-side simulated needle practice on phantoms. The interactive educational sessions have been received with positive feedback from health professionals attempting to meet demand and develop the skill for their practice.

Background

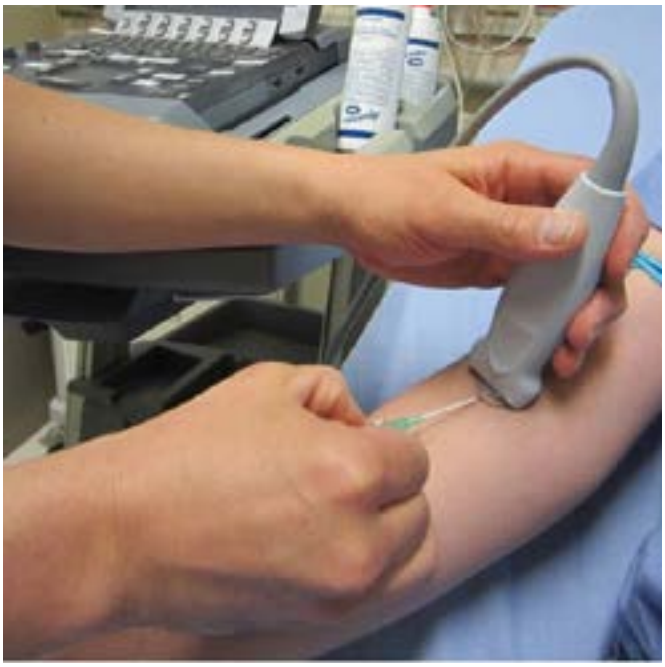
Intravenous (IV) cannulation for most patients is straightforward and necessary for treatment and diagnosis in the healthcare setting. Difficult intravenous access (DIVA) occurs in patients with poor vessel palpability and vessel visibility.

In Australia and New Zealand, DIVA occurs in 30-50 per cent of hospital patients (Witting 2012). Obesity, history of intravenous drug use, diabetes, chemotherapy, hypovolaemia and patients with complex and chronic medical needs are some of the contributing factors that make IV canulation challenging. This can contribute to poor healthcare experiences for the patient (Nye, Watkins, Ingold & Sharwood 2020).

Ultrasound guidance has been shown to be a safe option to obtaining peripheral IV access in challenging patients (Stolz, Stolz, Howe, Farrell and Adhikari 2015). Ultrasound for needle guidance using high-frequency sound waves began in 1991 and has developed to become the standard approach for IV access in complex patients (Sippel, Muruganandan, Levine and Shah 2011). It has shown to improve positive patient outcomes especially when offered to DIVA patients (Stolz et al 2015).

Growing evidence indicates USGPIVC benefits DIVA patients and increases first-time cannulation success with better visualisation and identification of non-palpable, non-visible veins and other obstructing factors (Van Loon, Buise, Classen, Dierick-van Daele, Bouwman 2018).

A competent inserter with the ultrasound probe can identify the best



Ultrasound guidance peripheral intravenous access of DIVA>

vessel to cannulate, track the needle tip through soft tissue towards the target vein, and successfully puncture and cannulate the vein. With early identification of a DIVA patient, quick progression to USGPIVC can improve patient experience and comfort by preventing multiple puncture sites and delays in diagnosis and treatment (Van Loon et al., 2018).

Traditionally, ultrasound use has developed from self-motivated health professionals taking the opportunity when presented in the healthcare setting. Providing ultrasound guidance teaching sessions and a simulation-based educational programme promotes safe and appropriate use of ultrasound devices, improves first attempt success rates among novice health professionals, and increases the confidence, knowledge and skills of the inserter (Stolz et al., 2015).

Characteristics & delivery of the Hawkes Bay Radiology nurses teaching programme

Ultrasound needle guided peripheral access training is provided as a half-day teaching session, designed to help provide ultrasound novices the practical skill of using ultrasound prior to and during IV cannulation. The session is delivered by two or three Radiology Nurses experienced in the skill of ultrasound guided vascular access.

The ultrasound teaching uses a mixed-modality approach comprising theoretical discussions around ultrasound basics and vascular assessment for the purpose of identifying suitable blood vessels, combined with simulation sessions of ultrasound guided needle practice on phantoms and ultrasound probe scanning practice on each other. The teaching session is modified to fit the course goals and time allocation adjusted for the number of participants on the course.

Above: Diadic teaching session – upper arm vascular anatomy identification and ultrasound probe scanning techniques.
Below: Simulation ultrasound vascular scanning on phantoms.

Over the past five years there has been growing demand for USGPIVC training on specialised courses with a regular skill station on the Basic Assessment and Support in Intensive Care (BASIC) course and teaching sessions on the Anaesthetic technician's and Dialysis nurses study days emerging.

Participants on the training session are divided between two set-up workstations areas of ultrasound equipment and phantoms, with each station including both face-to-face didactic and practical content.

Didactic content includes:

- Basic ultrasound physics and orientation of the machine;
- Knobology and optimisation of images for the purpose of vascular access cannulation;
- Creating a sterile environment and selection of appropriate intravenous device;
- Upper arm vascular anatomy, differentiating vein from artery, identifying nerve, and other structures;
- Selection of appropriate vein and the different needle technique for performing cannulation on a transverse or longitudinal approach.

Practical content includes:

- Room set-up including preparation and comfortable positioning of patient, the inserter with the ultrasound machine and IV equipment;
- Upper arm scanning practice on group members, identifying and tracking the target vessel;
- optimising the image and alternating the probe on the target vein from a transverse to longitudinal axis;
- Ultrasound needle guidance on phantoms, focussing on needle tip positioning and dynamic guidance on both the transverse and longitudinal axis.

Conclusion

Incorporating USGPIVC teaching programmes for healthcare workers is beneficial for patient care by reducing treatment delays, multiple puncture cannulation attempts and patient complications. The mixed-modality approach by Hastings Hospital radiology nurses, using both didactic and simulation delivery, improves skill level, procedural knowledge, and confidence of participants, and encourages ultrasound use with DIVA's in the workplace. Simple teaching interventions can increase first attempt success rates and lead to competent ultrasound guided peripheral IV cannulation with improved positive patient outcomes.

About the author: ***Catherine Freebairn's*** *(RN BN Post Grad Cert.) involvement in research hails back to earlier days working as a research nurse at the Prince of Wales Hospital and Chinese University of Hong Kong in Shatin Hong Kong. Collecting data for research projects, contributing to journal articles and conducting literature searches laid the foundation for her future involvement with* The Dissector *journal. Catherine is a Medical Imaging Nurse at Hawke's Bay Hospital Radiology Department, a position she has held for the last 15 years. She is part of a motivated team of six nurses that organise and assist with interventional image-guided procedures for out-patient and acute hospital in-patients. The medical imaging team provides a valuable nurse-led peripherally inserted central catheter (PICC) service and image-guided ascites and pleural drain insertion for the hospital and regularly contribute work for The Dissector journal and present at the National Perioperative Conferences. Catherine has previous experience in operating theatres (OT) and recovery nursing having completed a post graduate course in Wellington theatres in the early*

Ultrasound guided needle cannulation on DIVA patient.

1990s, followed by OT and recovery work experience at a Johannesburg hospital in South Africa. This background in perioperative nursing has been valuable for her procedural work in interventional radiology and her editing commitment to The Dissector. Over the past five years Catherine has received awards for two articles published in The Dissector and won two awards for her presentations at the National Perioperative Nurses conference. Most recently Catherine has become involved in teaching, regularly managing an image-guided vascular access skill station for the BASIC courses held at Hawke's Bay hospital and then joining a small team of nurses delivering critical care nursing for the BASIC DHS (Developing Health Systems) course, which took her to Pakistan in December 2022.

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