SCT Newsletter

May / June / July 2018

Hello and welcome to the SCT newsletter. In Addition to the SCT newsletter you will also have a copy of Connexin, the first newsletter from the SCT education team which outlines some changes to the CPM and CCP courses with an opportunity to give some feedback.

SCT Annual General Meeting

The AGM date has been set this year for the 19th of September. If any members have an item that they would like raised, then please e-mail the council.

CSANZ conference report from Susan Brady

Firstly, I would like to thank the SCT CSANZ Fellowship for sponsoring me to attend the 2018 CSANZ conference in Christchurch.
Christchurch is a city I haven't travelled to since before the earthquakes and was surprised at the state of progress with the rebuild. In saying that, the service and hospitality I received was impressive and my stay was enjoyable.
The venue for the conference was a great location and in between some of the talks I got to look around at the Airforce Museum. I found this particularly interesting because my father was based at Wigram for Airforce training in WWII.
I come from an Echo Department, so the Imaging and Echo topics were the main interest to me.

The Young Investigators Finalists winner was Shakiya Ershad.
She spoke extremely well; her talk was about RV 3D Reconstruction to assist in defining RV dysfunction.
She took us through the steps of the TOMTEC software which are used to obtain the required views for offline RV reconstruction. The Echo focus views will take an additional 5-8 mins in scanning time to complete. This is interesting because for us, this raises the question of scanning and appointment times, as to whether we attempt to fit this into our protocol or not.

TAVI:
TAVI was a big topic covering the first 2 days of conference.
AOV replacement with TAVI is a growing procedure.
If you live near a tertiary centre, you are more likely to receive a TAVI.
At present more male than female patients have received TAVI.
NYHA class 3, 4.
TAVI valve durability: How long do they last?
Over a 5-year data on outcomes, the TAVI valve does better with gradients and durability than a SAVI valve (fact: considering that the valve completes about 800 million cycles over 20 years).
Imaging for TAVI - A baseline echo is part of the workup.
Sizing of the annulus is important (CT preferred method, due to the risk of coronary occlusion).

Benefits of TAVI:
Improvement in QOL within the 1st year of the procedure.
Done with conscious sedation.
If you only need an AOV (rather than a Bentall's or a CABG) then TAVI is the way to go.
Most are performed electively.
There is considerable cost savings -
1/3 of the cost of AVR
hospital stay 24-48 hours v SAVR IP stay approximately 15 days.
The incidence of stroke or PPM are reduced.

Risks of TAVI:
Patients with low flow / high gradient severe AS (with low SV) don't do so well post-surgery.
Patients who score lower on the Frailty score also do less well.

Comparing to SAVR.
Complications include:
Often there are readmissions with sternal infections.
Congestive Heart failure.
Graft harvest debridement.

Patient selection is important:
Intermediate to high risk patients are selected.
Excluded are high risk patients.
They need to pass a frailty / cognitive assessment.
Expected life expectancy needs to be > 2 years.

TAVI data through the centres.
Wellington is new to the TAVI scene, having performed 27 in the first year with no deaths.
The average age of our patients is 81 yrs.
Auckland are leading with numbers, having started in 2011 with a total of 284 cases, 66 so far this last year (with 2 deaths)
Dunedin has completed 39 cases this last year with 1 death.

Post Procedure following TAVI:
Evaluation of Anticoagulation management post procedure is important.
Follow up echo is necessary to check gradients.

Sean Galvin our local Cardiac surgeon talked about TAVI v Surgical AVR.

He discussed the pros and cons of both.
The trend is for bioprosthetic valves / mechanical valves (for future TAVI).
There are lots of decisions around the approach chosen:
Bioprosthetic valves fail sooner in younger patients and last longer in older patients.
For a 20-year-old it may last 10-15 years.
For a 65-year-old it will last them out (because they are more sedentary).
Mechanical valves have a lower risk of reoperation and may have a survival benefit in some patient groups.
The risk of 1st reoperation is low but rises dramatically at re-op 2 > 3.
There is morbidity associated with warfarin and young patients who will eventually become old patients.
Valve in valve TAVI may not be an option when the risk of PPM exists, or in young patients < 65 years, where the durability / outcomes of valve in valve TAVI not clear.
He pointed out to the audience and TAVI Cardiologists that everyone wants the best for their patient.
NZ is doing well with both approaches:
TAVI will expand.
Surgery will never go away.
Some patients will do better with a mechanical valve, although volumes of the surgery are likely to dip.
The Cardiac surgeons want to help and support the growth of TAVI, saying that they can be useful.
TAVI won't be able to treat everyone, he said jokingly (at least not in his working lifetime)!
Other valve interventions discussed included the Melody valve, for Pulmonary valve.
Mitraclip for MV is still the current preference because the clip can be removed or repositioned.
MV replacement would be difficult, via transfemoral or transapical due to the approach and the risk of LVOT obstruction. Also, the MV is an irregular shape. You would also need a 40 French catheter!

He discussed Cardioembolic stroke prevention, and stated that:
PFO closure, LAA closure and cerebral protection during TAVR have been approved by the FDA for clinical usage.
Clinical trials have convincing proof of the benefit of PFO closure in prevention of recurrant cryptogenic strokes.
LAA closure is an important alternative to long term anticoags in patients with non-valvular AF.

His conclusions were that Transcatheter treatment of structural heart disease is a rapidly evolving field.
It is more appealing to patients and their referring physicians.
The improvement in technology will further improve the scope of percutaneous approaches.
Percutaneous approach may be associated with lower morbidity than surgery.

Sean also refreshed us with the surgical view of the MV and the positioning of the Scallops, which I found helpful.
I found his talk really interesting because he spoke without bias and with an understanding that times are changing, and his perspective appeared to embrace this.

Congenital Heart Disease.
This was an interesting talk about the role of imaging adults with CHD.

Why are we imaging them?

- There is a growing population of CHD survivors, that range in severity from simple to complex.
- They have a longer life expectancy than previously.
- Now there is the interaction between their congenital stuff with newly acquired diseases / disorders.

Role of Scanning:

- To identify the anatomical and functional abnormalities and assess their severity.
- To understand the expected anatomy, the interventions that have taken place, and the residual disease.

Things we look for when scanning:

- To quantify ventricular volumes and ventricular function.
- Check the anatomy and structure.
- Check connections, baffles, conduits, valves, ventricles, great vessels and arteries.
- Calculate flows and shunts.
- Check the myocardium
- Look for extracardiac abnormalities.

We use non-invasive techniques, mainly Echo, CT, MRI.
Often, they are used in conjunction with one another to get the best results.
There are pros and cons for each modality used.
This is due to lots of different reasons, e.g. difference between temporal and spatial resolution, and acoustic windows.
The ability to highlight certain things will influence whether Echo / CMR / Cardiac CT are used.
There were slides showing case studies with beautiful examples of:
Coarctation of Aorta
ASD
TOF
Arterial switch of TGA
Mustard for TGA
Extracardiac Fontan

CONCLUSION:
Non-invasive modalities are complimentary in imaging CHD.
MRI is the mainstay
Role of CT is increasing as scanners become more capable with reduced doses.

There was a lot of discussion and presentations on Friday afternoon about Heart Transplant.
I found these really interesting, because I didn't know or understand the complexities about the history, referrals, availability, and who can and cannot have a heart transplant.

Other topics I found of interest were about heart failure and the heart failure service, including Palliative care.

Saibal Khan was definitely the Star of the Imaging session on Saturday morning.

Once again, Thanks CSANZ for giving me this opportunity to attend the 2018 conference. I learnt a lot and found renewed enthusiasm in my workplace.

Yours truly
Susan Brady

Current vacancies

Cardiac Physiologist

LAKES DISTRICT HEALTH BOARD

Permanent, full time

The Clinical Physiology service at Lakes DHB provides a diagnostic service for patients requiring Cardiology, Respiratory and Neurological investigation. Tests performed include ECG, ambulatory blood pressure, exercise stress testing, echocardiography, cardiac monitoring (Holter and Event), lung function tests, EEG, Pacemaker and ICD follow up. We are a small, passionate and fun team with close, supportive working relationships with our SMOs.

Applications are invited from registered Cardiac Physiologists with experience in Cardiac Device follow up. The position is full time; however part time applicants may be considered.

Rotorua is the ideal place to live for professional couples and families that have a passion for the outdoors. Easy access to the region's natural features provides ample opportunity to enjoy Rotorua's scenic beauty and outdoor environment. Less than an hour from the beach and snow, it's an ideal central adventure playground.

We look forward to your application if you are passionate about patient care; have excellent attention to detail, and great communication skills.

Apply online via our website www.lakesdhb.govt.nz

Specialist Clinical Physiologist

- Cardiac Implantable Electronic Devices (CIED)

Cardiology Service

Bay of Plenty District Health Board

1.0FTE (80 hours per fortnight)

An exciting opportunity has arisen within our Cardiology Service for a full time well motivated Specialist Clinical Physiologist with at least 6 years' experience in the sub specialty area of CIED. Our DHB serves a population of 220,900 and our population has the second fastest growth rate of all New Zealand's DHB's. The Cardiology Service is made up of a multidisciplinary team who are committed to delivering the best possible care to our patients.

The service in general provides a comprehensive range of invasive and non-invasive procedures including cardiac angiography, PCI, pacemaker/ICD implantation and follow up encompassing CRT & ICD devices, echocardiography including TTE, TOE, bubble contrast studies, contrast echo's and stress echo's, exercise ECG testing, Chest Pain Clinics ambulatory ECG and BP monitoring. We also carry out a range of lung function tests, full lung function, spirometry, challenge testing, sleep studies and CPET.

We are looking for applicants who are motivated and have a flexible and approachable attitude to work. You will be joining a committed, experienced and enthusiastic team. You must be able to demonstrate good interpersonal, organisational, and communication skills. In return, we are committed to developing our workforce and will continue to support your professional development.

You will have experience of the techniques in the position description and be willing to learn. You will be able to demonstrate audited competencies in the essential requirements of the person specification.

BOPDHB comprises of two hospitals: Tauranga Hospital and Whakatane Hospital and Cardiology services The Cardio-Respiratory department covers both hospitals. The post holder will be expected to be flexible and may be required to work at any of the DHB sites.

At BOPDHB, our values of Compassion, All-one-team, Responsive and Excellence are at the centre of everything we do. We use values-based recruitment to help us recruit people who share our values, as we know this makes a positive difference to job satisfaction and the experience of our patients and their families/whānau. For more information about our values and working at BOPDHB, please visit our website www.bopdhb.govt.nz

All positions at the BOPDHB are subject to safety checks; in addition the candidate may be required to supply evidence of Transmissible Disease Immunity at their own cost.

This is classified as a children's worker role, therefore subject to the safety check requirements of the Vulnerable Children Act 2014

Please click here to view position description

Applications close : Open

Connexin

Bi-annual SCT Educational update
ISSUE 01 July 2018

Welcome to Connexin

The newsletter from the SCT education team. Why connexin? Well, connexion is a protein in the heart that allows for communication and signalling between cells. You know them better as gap junctions. Like these proteins we need to communicate what's happens, when and why. The education team have a lot of changes occurring and it is important we share and discuss them

Nelson Mandela said "***Education is the most powerful weapon which you can use to change the world***" and we all know what he was able to achieve. We are not looking to change the world, but we do strongly believe that our training systems needs to change and evolve with the professions requirements. With that in mind, we are looking to re-develop the CPM and CCP training systems.

We had to think carefully about how the current system serves its members and what we needed for the future of the profession.

So . . . we are looking at the following areas

- Integrating CPM and CCP
- Re-developing the course content
- Modularising all the content
- Developing E learning systems to enhance delivery and accessibility
- Adding additional content to promote new learning
- Ultimately rebranding the educational systems

Content

Acknowledgements

Congratulations to those who have completed their CCP Accreditation

Caitlin Wright

Samuel Zander

Laura Ward

Unesu Chikavhanga

How are we making these changes?

There is a lot of overlap between CCP and CPM, with a doubling up of information and processes. Furthermore, in the first year of training, the physiology technician and the cardiac physiologist role in the various departments throughout the country are essentially the same. With the same degree of knowledge and experience required . Therefore, we feel integrating the education for these roles is important for consistency and efficiency.

This is where a modular based system will work well. You can choose a module to complete and work toward completing it in your own time and in your own way. This will tie in more succinctly with the practical assessments. Part of the content re-design is to bring the theory and practical components closer together for a better learning experience.

This will require a new delivery approach, in the form of E learning. We will be launching e learning environment, which will allow you to access materials, tools and content, via an app or computer or tablet any time, anywhere. You will be able to complete a quiz or a module on line at your own pace.

This also means that enrolments and exams are not limited to specific dates and time in the year. We will be able to offer you more flexible enrolment times, electronic materials and far more flexibility in final exams.

With the integration of the course, there will need to be a means to recognise and understand the qualification the learner achieves. With this in mind we are looking to re-brand the course, but also retain the terminology that you are already familiar with. We would like the re-branding to accommodate future changes and additional learning modules, to keep you current in your profession and to keep you interested. Life long learning is an integral part of scientific and medical investigation. One in which we continue to grow and enrich our working environments.

We would invite you all to suggest a change in the name of the course, one that maintains the identity of the profession yet allows us to expand and promote the profession and its education. Please send any suggestions or ideas to education.sct@gmail.com

In the January newsletter we will show you some of the changes to the course and discuss how it will affect you .

MTEC Update

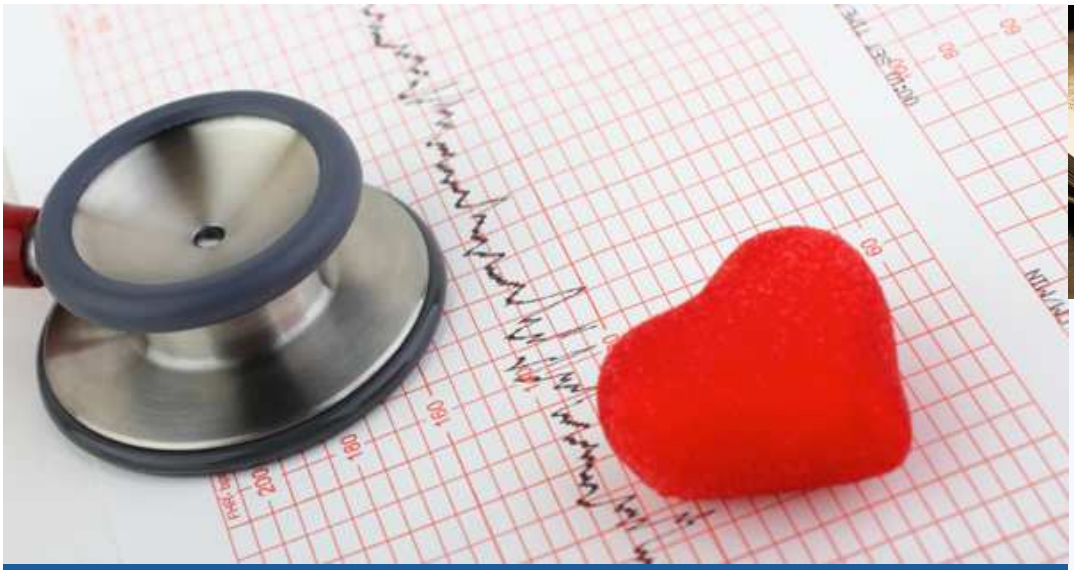
MTEC has been running now for eleven years. During that time we have had over 100 students through the program. There have been constant updates and improvements to the course.

This year we have ten students completing 703 and 704 from around the country. These students come from Wellington, Dunedin, Invercargill, Auckland .

At CSANZ this year we were invited to present and discuss the masters program. This program has been discussed for quite some time and Otago University is close to finalising the process. The masters will be a papers based, taught program, open to a very wide range of learners.

The program will be specific to Cardiac Implantable Electronic Devices (CIED's) and will be run over 2—4 years. If you have any questions or comments, please contact Graham at

graham.orsbourn@otago.ac.nz



Who are we?

The education team are represented by trainers from around the country.

Chairperson

Ellen Woodcock — Cardiac Sonographer — Christchurch Hospital

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Site Accreditation

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CCP Administration

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CCP/CPM Redesign

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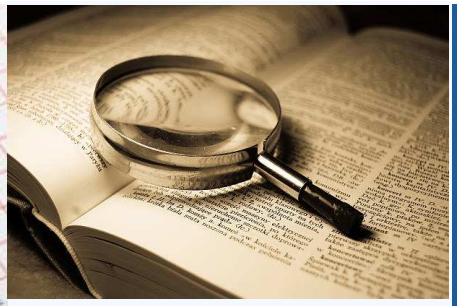

Continuing Professional Development

This year the CPRB implemented new *CPD guidelines*. This process and recording change will almost certainly improve our learning and development going forward.

The main change is the way with in which we learn. Reflective learning has been demonstrated time and again to provide the most benefit in learning.

What is reflective learning?

Simply, this is the process where we look back on an event or practice or process and ask ourselves. What could we do better? We read about it and seek evidence based ideas, we discuss them with colleagues and key participants. As part of this process we look to find evidence based solutions that improve the outcomes of an event or practice or process.

How do we implement this into our work?

This is relatively simple to do.

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Important dates

CCP Exam

The CCP exam is held in June and November each year. Those that are sitting the exam should check with their supervisors that all relevant paperwork has been completed. The certified practical assessments must be submitted before the end of May for the June exam and end of October for the November exam.

CPM Block Weekend

The CPM block weekend is getting closer. In order to attend the weekend you will have needed to have completed all relevant assessments. The block weekend is held on the ***1st and 2nd of September 2018***. CPM Workshops and teaching will occur on Saturday 1st September and the practical audit and ECG theory test will occur on Sunday the 2nd September.

CPM Practical Assessment Deadlines

ECG, ETT, Holter monitoring assessment plus ECG portfolio must be submitted ***Friday 10th August 2018—1700***

CPM Final Exam

To be eligible to sit the final exam, you should have completed the three practical assessments and attended the block weekend. The exam date is ***Wednesday 14th November 2018***

SCT Education Contact

education.sct@gmail.com

When we have a case where we didn't understand how something worked or why it behaved in that way. We can try to find out why and how

Example:

31 years old Asian male with a structurally normal heart and a family history of SCD, came to have an ECG. ECG looked odd but essentially normal. Later on we found out the patient had Brugada syndrome and we missed some subtle changes in the ECG

Reflective learning in this setting is to understand what we could have looked for and what we could have done to potentially help with the rapid diagnosis of this patient. We could look for journal articles on what different patterns of Brugada could look like. We could look to see if modified ECG lead placements are of value in this patient group.

Along with looking for publications we could engage with our colleagues. They may have had some experience with this and may have ECG recording we could look at and analyze..

In your reading you discover the CSANZ Guidelines for the diagnosis and management of Brugada Syndrome which give you a lot of information and mandates using 2nd and 3rd intercostal spacing for ECG on patients with suspected Brugada Syndrome.