New Zealand Guidelines for Adult Echocardiography 2015: The Cardiac Society of Australia and New Zealand

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The Cardiac Society in New Zealand seeks to promote best cardiac practice and excellence in patient care. Guidelines covering a range of cardiac practices are therefore provided to the New Zealand cardiology community. This New Zealand echocardiography guideline was ratified on 5 June 2015. It should be read in conjunction with the Australian document Guidelines for Training and Performance in Adult Echocardiography ratified by the Cardiac Society of Australia and New Zealand board on the 30th of November 2012, available at http://www.csanz.edu.au/wp-content/uploads/2014/12/Adult_Echo.pdf.

Echocardiography

Echocardiography is an indispensable tool in modern cardiology. The echocardiographic findings directly impact key management decisions in the large majority of cardiology patients. All New Zealand District Health Boards should provide access to echocardiography for their patients.

Cardiac Sonographers

Image acquisition in echocardiography is highly operator dependent. The skills and training of the sonographer are critical in echocardiography quality. Organisations that register cardiac sonographers in New Zealand are the Medical Radiation Technologists Board and the Clinical Physiologist Registration Board. Currently there are two major post graduate echocardiography qualification pathways in Australia and New Zealand. These are the Queensland University of Technology (QUT) qualification and the Diploma of Medical Ultrasound (DMU) qualification. All trainee sonographers in New Zealand should be working towards one of these or an equivalent recognised post graduate qualification.

All sonographers should be supported in their clinical practice by a physician with a special interest in echocardiography. In instances where this physician is not a cardiologist they should have equivalent training in echocardiography to a cardiologist. All studies performed by sonographers should be archived to a digital archive. The supervision physician should have ready access to this archive to facilitate case discussion and review. Note that the ideal arrangement would have the physician and the sonographer in the same hospital but there may be instances in New Zealand where that cannot always occur. In those instances there should be a formal agreement between sites and a robust digital link providing support for the isolated sonographer.

Echocardiologist training

The current CSANZ/RACP guidelines for training in echocardiography detail two levels of training. Practitioners with level one training are considered competent in transthoracic echocardiography. Practitioners with level two training are considered competent in advanced echocardiography techniques such as transoesophageal and stress echocardiography and in providing echocardiography training to advanced trainees in cardiology. These

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levels are relevant to the New Zealand settings. In New Zealand practitioners with level one training who are practicing outside the scope of that training should be in a collegial relationship with a level two practitioner. In some instances this practitioner may not be working on the same site. When this is the case there should be a formal agreement between sites and a robust digital link to facilitate case review and discussion.

Echocardiography service development

Echocardiograms should be reported by a physician with expertise in echocardiography. As per CSANZ guidelines, level one training is appropriate for transthoracic reporting and level two training for transoesophageal and stress study reporting. In instances where a sonographer's preliminary report is released without consultant review that report should clearly state the consultant who will be ultimately responsible for sign-off. It should also clearly state that it is a provisional report.

There are currently five tertiary cardiology centres in New Zealand providing intervention and cardiac surgery. Well defined pathways exist for the transfer of patients from the regional centres to these tertiary centres. It is expected that parallel relationships will continue to be developed between the echocardiography services such that all regional echocardiography centres are supported by their tertiary centre.

Echocardiogram studies

The CSANZ guidelines list the elements of a satisfactory complete transthoracic echocardiogram. Three dimensional and strain imaging may be added to this.

All echocardiogram images should be archived to a digital medium.

Limited echocardiogram

This is a study performed in the same manner as a standard transthoracic echocardiogram. It is undertaken by a trained or training sonographer working in a supported specialised echocardiography environment. The images are archived digitally and a formal report is issued. However in a limited echocardiogram not all of the standard images are required. The study is typically targeted for left ventricular function in instances such as oncology follow up but there are situations where other targeting is appropriate. It is expected that tertiary centres would offer limited echocardiograms as part of their suite of investigations.

Point of Care Cardiac Ultrasound (POCCUS)

This is a point of care examination of the cardiovascular system using ultrasound that is alternatively named focused ultrasound. It is performed by a physician in an environment where they are directly caring for the patient. The scan is used as an adjunct to their physical examination. Images may not be archived and a formal report is not issued. In New Zealand POCCUS is most commonly performed in emergency departments, intensive care units and in operating theatres. Responsibility for the scan and clinical management rests with the individuals and service providing the scan. Services providing POCCUS should ensure that those undertaking the scans are adequately trained and are working within an appropriate scope of practice. Review of POCCUS needs to be incorporated into routine QA processes. This should include correlation of POCCUS findings with any subsequent diagnostic imaging, operative findings and clinical outcomes. Services should ensure POCCUS will add value and not simply time and costs, for example through duplication with cardiology provided scans or increased referrals related to false positive POCCUS.

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