CONJOINT COMMITTEE FOR THE RECOGNITION OF TRAINING IN CT CORONARY ANGIOGRAPHY (CTCA)

REPRESENTED BY:

AANMS | CSANZ | RANZCR

Training Requirements for CTCA Specialists

Conjoint Committee for Recognition of Training in Computed Tomography Coronary Angiography

Policy Document

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1. INTRODUCTION

1.1 Purpose and scope

(a) This document sets out training requirements to underpin a consistent model of CTCA training and service delivery in Australia and New Zealand.

(b) These training requirements apply to Cardiologists, Nuclear Medicine Specialists and Radiologists, and support both entry level training, and measures to assure ongoing currency of practice.

1.2 Definitions

In this policy:

AANMS means the Australasian Association of Nuclear Medicine Specialists

Applicant means a Specialist seeking assessment by the Committee for registration on the CTCA Register

Committee means the Conjoint Committee for the Recognition of Training in CT Coronary Angiography

Correlated Cases means cases where correlation is achieved through audit by coronary angiography/stress echo/nuclear MPS and/or through clinical follow-up with referring medical practitioner/multidisciplinary team.

CSANZ means the Cardiac Society of Australia and New Zealand

CT means Computed Tomography

CTCA means CT Coronary Angiography

CTCA Course means a structured course delivering certified training in the performance and interpretation of CTCA examinations (such as SCCT accredited courses). See **Guidelines for Courses Delivering Training in CT Coronary Angiography**

CTCA Specialist means a Specialist who holds current registration on the CTCA Specialist Register (see www.anzctca.org)

CTCA Register means the register of CTCA Specialists who hold current registration based on assessment against Registration criteria (Section 4 in this document) or Recertification criteria (Section 5 in this document).

Fellowship setting means a structured, formally recognised cardiac or cardiothoracic imaging fellowship program which includes didactic education in CTCA. See **Guidelines for Courses Delivering Training in CT Coronary Angiography**

Library Cases *means* blind cases with correlation, worked up on a workstation from raw image data where the CTCA Specialist submits a brief written record of their review of the Library Case with their application for reaccreditation. This record must set out the date the library case is read, the date of the original examination, the Unique ID (Patient initials or ID number) and the relevant findings. A copy of the official examination report should be available for submission in the event of an audit.

Live Cases *means**:***

For initial registration: Cases where the Specialist is physically present for all components of the examination: consulting the patient, observing the acquisition and intervening as required, then personally interpreting the study from raw image data.

For recertification: Cases where the Registered CTCA Specialist is one of up to two reporting registered CTCA specialists, and is readily available to influence the conduct of the examination, by personal attendance if necessary. The CTCA specialist's name must appear on the report for each live case claimed by the CTCA Specialist for recertification.

An eligible cardiac CT case for CTCA logbooks is one where the examination targets the coronary artery tree as part of the study.

The Conjoint Committee does not recognise video / taped (SCCT Category A1) cases as live.

Live cases declared as non-course live cases which are performed contemporaneous to a course will not be accepted.

RACP means the Royal Australasian College of Physicians

JNMCAC means Joint Nuclear Medicine Credentialing & Accreditation Committee

RANZCR means The Royal Australian and New Zealand College of Radiologists.

Specialist means a medical specialist who meets the criteria set out under Section 3 in this document

1.3 The Committee's Mission

The Conjoint Committee for the Recognition of Training in CT Coronary Angiography (CTCA) is composed of three representatives from each of the following organisations:

- The Australasian Association of Nuclear Medicine Specialists - formerly the Australian and New Zealand Association of Physicians in Nuclear Medicine (ANZAPNM)
- The Cardiac Society of Australia and New Zealand (CSANZ)
- The Royal Australian and New Zealand College of Radiologists (RANZCR)

Its aim is to promote a collaborative and consistent model of CTCA training and service delivery in Australia and New Zealand.

The Committee operates under legally binding regulations which ensure that decisions are made on a consensus basis across the three professional bodies.

The Committee's role is to:

- Formulate and review guidelines for training in CT Coronary Angiography
- Formulate and review guidelines for training courses in CT Coronary Angiography
- Provide certification of satisfactory completion of training in CT Coronary Angiography (or the withdrawal of such certification)
- Maintain and publish a web-based register of recognised CTCA specialists; and
- Establish quality assurance benchmarks in relation to the performance of CT Coronary Angiography

2. DEVELOPMENT OF THIS POLICY FOR TRAINING IN CTCA

This policy document was initially developed in 2009 on a consensus basis by the Committee. The Committee comprises three nominated representatives from each of the AANMS, the CSANZ and the

RANZCR. The principles underpinning the development of the training requirements were that the training requirements must:

- support the delivery of safe, quality CTCA services to the people of Australia and New Zealand; and
- be consistent for Cardiologists, Nuclear medicine Specialists and Radiologists and recognise that each specialty would bring different pre-existing competencies and experience.

In order to assemble the available evidence to direct recommendations on training requirements, the Committee undertook a review of existing international publications setting out training requirements for CTCA and reporting on diagnostic accuracy according to varying levels of reader experience[i, ii,iii, iv,v]. However, in the absence of studies providing high level evidence to support an appropriate level of training in CTCA across the three Specialties, the Committee agreed to adopt a consensus basis in setting training and credentialing criteria appropriate to Australia and New Zealand.

It concluded that in order to provide an appropriate framework for specialists in Australia and New Zealand, there should be two levels of specialist recognition:

- Level A: recognition of training that enables the CTCA Specialist to provide CTCA services independently and without supervision
- Level B: recognition of training that enables the CTCA Specialist to both provide CTCA services independently and without supervision, and to supervise Specialists and other CTCA Specialists in their CTCA training or CTCA Recertification activity.

The Committee also considered a range of currency of practice measures in the literature[i, ii, iii, iv, v] which, despite some variation in approach, recommend regular performance and interpretation of CTCA as well as ongoing continuing education specifically related to CTCA. The Committee determined that any effort to measure currency of practice in CTCA through regular performance and interpretation of CTCA would require an individual to perform and interpret an average minimum of 2 cases per week for provision of service, and 4 cases per week for provision of service and training and supervision of others. It also considered that in the early stages of a certification program for the three specialties across Australia and New Zealand that a uniform continuing education measure would be difficult to establish.

The Committee developed a comprehensive set of recommendations for minimum training in CTCA, including a time-limited grandfathering period (which concluded on 30 November 2010), which were reviewed and endorsed by the respective Councils of the AANMS, CSANZ and RANZCR in 2009.

These criteria were subject to review in 2013. In undertaking this review, the Committee gave careful consideration to international approaches[iii, iv, vi, vii] and the differing CTCA practice models across Australia and New Zealand, and identified the need for an additional pathway for demonstrating currency of practice which allows CTCA Specialists to use a measure of continuing professional development to supplement a lower CTCA case volume. Accordingly, while training requirements for initial Registration remain the same, this revised policy document now makes provision for two pathways for CTCA Specialists to demonstrate their currency of practice in CTCA. The revised criteria were subject to a public consultation and were endorsed by the respective Councils of the AANMS, CSANZ and RANZCR in (subject to final approval date). These criteria are set out in Sections 3 and 4 in this document.

3. PREREQUISITE CREDENTIALS FOR TRAINING IN CTCA

Each specialist seeking recognition as a CTCA Specialist must be able to demonstrate evidence of one of the following pre-requisites:

3.1 Cardiologists:

1. Evidence of Fellowship of the Royal Australasian College of Physicians (RACP); AND

2. Evidence of Ordinary Membership / Fellowship of CSANZ, OR proof of completion of Cardiology Training from RACP / CSANZ.

3.2 Nuclear Medicine Physicians:

1. A copy of their Medicare / HIC letter of recognition as a consultant physician in nuclear medicine or "confirmation of status" letter; OR

2. A copy of their letter of credentialing (or re-credentialing) for nuclear medicine by the Joint Nuclear Medicine Credentialing & Accreditation Committee (JNMCAC) of the RACP and the RANZCR.

3.3 Radiologists:

Evidence of RANZCR certification by way of:

1. Fellowship; OR

2. Educational Affiliate Membership (or eligibility for Education Affiliate Membership)

3. Successful Area of Need or Overseas Trained Specialist assessment.

4. TRAINING REQUIREMENTS

4.1 CTCA Specialist Competencies

All Specialists seeking to establish proficiency in CTCA are required to achieve the following cognitive skills performed within the previous 3 years during their training program:

- CT cardiac anatomy
- CT Physics and Reconstruction techniques
- Use of iodinated contrast, including contraindications and management of adverse events
- Radiation protection
- Dose optimisation
- Cardiac Workstation Processing
- Coronary and cardiac pathology, and non-cardiac and chest pathology
- Recognition of artefacts
- Patient selection and preparation including heart rate management
- Understanding of the clinical relevance of CTCA

The CTCA training program must comprise a mix of both didactic and supervised clinical practice where:

- Cases are worked up from raw image data with direct expert supervision / demonstration
- Cases with non-coronary cardiac and non-cardiac findings are included
- Library cases should be correlated*, and should include documentation of patient history
- Expert reports +/- invasive angiographic correlation are available by way of reference
- A minimum of 15 minutes is allowed for workup of each case
- A live case component is included (see *1.2 Definitions*
- above)

*Correlated cases are those where Correlation is provided through audit by coronary angiography/stress echo/nuclear MPS and/or through clinical follow-up with referring medical practitioner/multidisciplinary team.

4.2 Level A CTCA Specialist – Training requirements for independent supervision and reporting of CTCA examinations

Such training shall comprise coursework and supervised clinical practice being:

A. Coursework - 40 hours, including a minimum period of 20 hours of interactive ('hands on') training performed within the previous 3 years, at either a training course or carried out in a structured CTCA fellowship setting under the supervision of a Level B CTCA Specialist; and

B. Logbook of 150 CTCA cases performed within the previous 3 years, verified by a Level B CTCA Specialist including:

- A minimum of 50 live cases. A maximum of 25 live cases can be achieved at accredited courses
- 50 correlated cases
- 25 cases with non-coronary cardiac findings
- 25 cases with non-cardiac findings

For the purpose of registration as a CTCA Specialist, logbook cases must be entered into the Conjoint Committee approved CTCA certification logbook template which must be downloaded from the ANZCTCA website. This logbook must be submitted in Excel file format and not as a PDF document. Cases entered in the logbook will be subject to random audit.

4.3 Level B CTCA Specialist – Training requirements for provision of CTCA training

Such training shall comprise:

A. Level A training requirements; and

B. Logbook of 300 cases

The Level B applicant must demonstrate an additional 150 CTCA cases performed to those provided for Level A recognition within the previous 3 years, verified by a Level B CTCA Specialist.

- 30 of these cases must be correlated
- 50 of these cases must be live cases

For the purpose of registration as a CTCA Specialist, logbook cases must be entered into the Conjoint Committee approved CTCA certification logbook template which must be downloaded from the ANZCTCA website. This logbook must be submitted in Excel file format and not as a PDF document. Cases entered in the logbook will be subject to random audit.

4.4 Level B CTCA Specialist Supervision

All cases in the applicant's logbook must have been supervised by a Level B CTCA Specialist and applicants are advised to confirm that their Level B CTCA Specialist supervisor's name appears on the Conjoint Committee's CTCA Specialist Register before embarking on training. When such training is undertaken internationally, applicants are advised to ensure that their supervisor is accredited by SCCT as a Level 3 CTCA Specialist or equivalent and that there is a mechanism by which their case work can be certified by the training facility.

5. RECERTIFICATION OF REGISTRATION

Registered CTCA Specialists are required to demonstrate currency of practice on a three yearly basis using one of the recertification pathways appropriate to their registration status which are set below.

5.1 Recertification: Pathway 1

5.1.1 Level A CTCA Specialist re-certification of registration

The Level A CTCA Specialist must maintain clinical experience in CTCA by performing a minimum of 300 examinations within the 3-year Recertification period that is substantiated in the CTCA recertification logbook template:

- 30 of these cases must be correlated.
- A maximum of 100 of these 300 cases may be achieved via library cases or accredited courses.
- Submitted cases will be subject to random audit

5.1.2 Level B CTCA Specialist re-certification of registration

The Level B CTCA Specialist must maintain clinical experience in CTCA by performing a minimum of 600 examinations within the 3-year Recertification period that is substantiated in the CTCA recertification logbook template:

- 50 of these cases must be correlated.
- A maximum of 200 of these 600 cases may be achieved via library cases or courses.
- Submitted cases will be subject to random audit.

It is expected that candidates who maintain a Level B accreditation will also be actively participating in courses, conferences and publications to demonstrate on-going competency in Cardiac CT.

Further information on Recertification lodgement requirements is available from the Conjoint Committee's website[viii].

5.1.3 Recertification Pathway 1: Logbooks for recertification

Electronic (Excel) logbooks are required to be maintained to support recertification of registration and are available at www.anzctca.org. All recertification logbooks must be received as an electronic Excel file not in PDF or other image file format). The following information is required:

- Case types eligible for Recertification logbooks are those where the examination targets the coronary artery tree as part of the study.
- Date of examination
- Unique Episode identifier OR Patient Initials AND Date of Birth
- Site where examination was performed
- Name of Reporting Doctor
- Correlation (yes/no)
- Dose Length Product (DLP) for a minimum of 50% of Live cases
  - DLP records have been included as a recertification criterion to raise dose optimisation awareness. CTCA recertification applicants who do not provide DLP records will be required to submit an interim logbook at the 12 month anniversary of their recertification. This logbook must set out DLP records for all Live cases completed during this 12 month period.
  - If unable to comply with the request, the registration status of the CTCA Specialist will be cancelled as dose awareness is considered to be fundamental to CTCA practice.
- Live or Library case (yes/no)
- Logbook cases claimed as live cases can be double read, but only if both readers' names appear on the patient's report.
- Submitted cases will be subject to random audit.
- Calcium scoring cases will not be accepted.

5.2 Recertification: Pathway 2

5.2.1 Level A

Level A CTCA Specialists shall complete 150 Live cases and 20 hours of dedicated Cardiac CT (conferences, meetings or refresher courses that solely pertain to Cardiac CT) within a three year timeframe.

- 30 of these cases must be correlated.
- Cases achieved via library cases or courses are not eligible.
- Submitted cases will be subject to random audit

Proof of attendance at courses shall be demonstrated preferably by provision of certification of participation, but as a minimum the candidate shall provide proof of registration accompanied by the program with identification of which sessions were attended.

This equates to approximately 1 case per week or 4 cases per month, however all of these cases must be live cases (see *1.2 Definitions*)

5.2.2 Level B

Level B CTCA Specialists shall complete 400 Live cases and 40 hours of dedicated Cardiac CT (conferences, meetings or refresher courses that solely pertain to Cardiac CT) within a three year timeframe.

- 50 of these cases must be correlated.
- Cases achieved via library cases or courses are not eligible.
- Submitted cases will be subject to random audit

Proof of attendance at courses shall be demonstrated preferably by provision of certification of participation, but as a minimum the candidate shall provide proof of registration accompanied by the program with identification of which sessions were attended.

This equates to approximately 3 cases per week or 12 cases per month, however all of these cases must be Live cases (see *1.2 Definitions*

5.2.3 Recertification Pathway 2: Logbooks for Recertification

Electronic (Excel) logbooks are required to be maintained to support recertification of registration and are available at www.anzctca.org. The following information is required:

- Case types eligible for Recertification logbooks are those where the examination targets the coronary artery tree as part of the study.
- Date of examination
- Unique Episode identifier OR Patient Initials AND Date of Birth
- Site where examination was performed
- Name of Reporting Doctor
- Correlation (yes/no)
- DLP for a minimum of 50% of Live cases
  - DLP records have been included as a recertification criterion to raise dose optimisation awareness. CTCA recertification applicants who do not provide DLP records will be required to submit an interim logbook at the 12 month anniversary of their recertification. This logbook must set out DLP records for all Live cases completed during this 12 month period.
  - If unable to comply with the request, the registration status of the CTCA Specialist will be cancelled as dose awareness is considered to be fundamental to CTCA practice.
- Logbook cases claimed as live cases can be double read, but only if both readers' names appear on the patient's report.
- Submitted cases will be subject to random audit.
- Calcium scoring cases will not be accepted.

6. APPLICATION PROCESS

Upon completion of training in CTCA, applicants must:

1. Compile their documentation to demonstrate evidence of their training according to these guidelines;

2. Complete the application form and attach their evidence of training, and make their application fee payment.

- Applicants are advised to submit applications only after careful consideration of the requirements.

- Applications that fail to satisfy the requirements will be subject to a resubmission fee of $330.00.
- Applications that fail random audit will not be considered for resubmission for a period of twelve months, at which time the full application fee will apply.
- All recertification timelines remain the same, unless a suspension period is applied.
- Please note that applications will not be processed until payment is received.
- Further information is available from www.anzctca.org.
- The application fee for recognition of training (Level A or Level B) is $605.00 (incl. GST).
- Triennial re-certification will attract a fee-for-service, which is $330.00 (incl. GST).

7. CHANGES TO THIS POLICY

This policy is subject to a three yearly review; however the Committee may amend this Policy at any time.

8. RELATED POLICY DOCUMENTS

- Conjoint Committee for Recognition of CT Coronary Angiography, *Guidelines for the Conversion from Level A CTCA Specialist Recognition to Level B CTCA Specialist Recognition*, Version 3.0, Sydney, 2012. Available from www.anzctca.org
- Conjoint Committee for Recognition of CT Coronary Angiography, *Statement Relating to Online or Hard Drive Courses and Cases*, Sydney 2011. Available from www.anzctca.org
- Conjoint Committee for Recognition of CT Coronary Angiography, *Guidelines for Courses Delivering Training in CT Coronary Angiography*, Sydney 2009. Available from www.anzctca.org
- *CTCA Recertification Pathway 2 Implementation Policy*. Available from www.anzctca.org

9. REFERENCES

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[ii] Weinreb, Jeffrey C., et al. "American College of Radiology Clinical Statement on Noninvasive Cardiac Imaging." *Radiology* 235.3 (2005): 723-727.

[iii] "Verification of Cardiovascular CT Experience Program for Level 2", Society of Cardiovascular Computed Tomography,

[iv] "Verification of Cardiovascular CT Experience Program for Level 3", Society of Cardiovascular Computed Tomography,

[v] Pugliese, Francesca, et al. "Learning Curve for Coronary CT Angiography: What Constitutes Sufficient Training?" *Radiology* 251.2 (2009): 359-368.

[vi] *ACR–NASCI–SPR Practice Guidelines for the Performance and Interpretation of Cardiac Computed Tomography*, American College of Radiology, October 2011. Available from: http://www.acr.org/~/media/ACR/Documents/PGTS/guidelines/CT_Cardiac.pdf

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