



Conjoint Committee Guidelines for Recognition of Training in Interventional Neuroradiology (INR)

1. Introduction

1.1. Interventional Neuroradiology (INR) uses percutaneous and endovascular procedures to treat patients with diseases of the brain, sensory organs, head and neck, spinal cord, vertebral column and adjacent structures and the peripheral nervous system in adults and children.

1.2. The Conjoint Committee for Recognition of Training in INR (Conjoint Committee) is an Australian and New Zealand body comprising equal representation from the Australian and New Zealand Society for Neuroradiology (ANZSNR), the Australian and New Zealand Association of Neurologists (ANZAN) and the Neurosurgical Society of Australasia (NSA).

1.3. The Conjoint Committee has responsibility for the provision of these Guidelines relevant to certification of training in INR, the assessment of applicants from the ANZSNR, ANZAN and NSA seeking certification of relevant training and experience, and the maintenance of the Register of members who have been certified under these Guidelines. The Conjoint Committee is not an accrediting or credentialing body, but rather recognises training and experience.

1.4. These Guidelines provide a benchmark for the training that is required to safely perform INR. Although percutaneous spinal procedures are usually included in interventional neuroradiology, these procedures will not be dealt with in these Guidelines. In these Guidelines, the term INR refers to endovascular interventional neuroradiology only. Endovascular approaches represent the most complex and potentially high-risk aspects of interventional neuroradiology.

2. Application eligibility requirements

2.1. The Conjoint Committee recognises training of INR specialists who are, or are about to commence, practising in INR in Australia or New Zealand.

2.2. The applicant must be admitted to:

- Fellowship of the Royal Australian and New Zealand College of Radiologists or have an educational affiliate membership and specialist medical registration and/or vocational scope of practice in New Zealand or,
- Fellowship of the Royal Australasian College of Surgeons (Neurosurgery) or
- Fellowship of the Royal Australasian College of Physicians (Neurology)

before commencing INR training.

2.3. Applicants must have completed an INR training program in the three years prior to application and must satisfy the requirements in sections 3 to 5 inclusive.

2.4. All applicants must submit their application, with the appropriate fee, in accordance with any published instructions of the Conjoint Committee. Incomplete applications will not be considered.

2.5. All applicants must have a current radiation license or equivalent as required in the jurisdiction in which they practice.



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2.6. Applicants who have completed the entirety of their training overseas OR who have completed training overseas more than 3-years ago and have been practicing as an independent INR specialist since then should present equivalent proof of training and experience requirements as set out in Sections 2, 3, 4 and 5 of this document inclusive, including; a cover letter to summarise their training and experience; a completed logbook in the CCINR format; references from two clinical supervisors; fellowship with the appropriate College and a radiation license (if required).

3. Training Service requirements

3.1. To be eligible for consideration, INR training must have been completed in one or more training centres, or network of training centres (the Training Service), each with appropriately credentialed INR teams and appropriate neuroscience support services. To ensure appropriate standards of clinical governance and patient safety and quality, the Conjoint Committee recommends that INR services do not operate under solo practitioner arrangements.

3.2. The applicant must demonstrate that the Training Service has been performing a minimum of 100 neurointerventional procedures per year, including a minimum of 50 aneurysms, and a comprehensive mix of procedures, including the endovascular management of ischaemic stroke, cranial and spinal vascular malformations and arteriovenous fistulas.

3.3. The applicant must demonstrate that their training position was an integral part of the Training Service. This includes participation in emergency department assessment, preoperative clinic and postoperative clinic follow up, as well as in patient care.

3.4. The applicant must demonstrate that the Training Service has regular audit and morbidity and mortality meetings, with all members of the INR team actively participating.

4. Training and Experience requirements

4.1. The applicant must have undertaken a formal INR training program in one or more appropriate Training Services (see section 3) of not less than 2 years' duration. It is recommended that a minimum period of one year is spent in at least one of the Training Services.

4.2. The applicant must provide evidence of formal teaching sessions attended as part of the INR training program. The Conjoint Committee would expect the formal teaching program to include as a minimum:

- (a) the anatomy and physiology of the brain, head and neck and spine;
- (b) pathology and clinical management of disorders amenable to neuroendovascular techniques;
- (c) coagulation pathophysiology and the use of anticoagulant, antiplatelet and procoagulant medications in the clinical setting;
- (d) complication assessment, avoidance and management in the neurointerventional setting;
- (e) attitude and ethics in INR; and (f) research in INR.

4.3. The applicant must provide a supervisor-certified logbook of procedural experience. The Conjoint Committee expects the logbook to demonstrate that the INR training program provided the applicant with exposure to and participation in:

- (a) selective intra and extracranial vessel cannulation with microcatheters;
- (b) deployment of detachable coils in intracranial aneurysms;



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- (c) embolisation with particulate and non-particulate material of the head, neck, brain and spine;
- (d) extracranial and intracranial balloon angioplasty, remodelling and stenting;
- (e) neurophysiological testing, either through chemical means or temporary occlusion; (f) 20 cases of vascular reconstruction or angioplasty using balloons or stents for ischaemic disease or vasospasm, including 10 as primary operator;
- (g) knowledge of the use of particulate embolisation material;
- (h) 10 cases of liquid embolisation, including 5 as primary operator
- (i) 60 cases of coil embolisation of aneurysm including 20 cases of advanced aneurysm embolisation techniques either with remodelling or stenting, including 30 as primary operator;
- (j) knowledge of the practice of neurophysiological testing (temporary balloon occlusion, super selective lignocaine or amytal infusion);
- (k) 50 cases of endovascular treatment of acute ischaemic stroke, including 10 as primary operator

NB. None of items (f) to (k) inclusive may be considered in isolation as satisfactory training in that particular procedure. For example, satisfactory completion of item (h) alone does not mean that a physician is competent to perform liquid agent neuroembolisation. Items (f) to (k) are considered mutually and inclusively necessary for safe practice in INR.

5. Supervisor confirmation of training and experience

- 5.1. The applicant must provide reports on INR Training and Experience Reports (Reports) from two Supervisors, in such a form as required by the Conjoint Committee.
- 5.2. The Supervisors must be appropriately credentialed senior INR specialists (i.e. on the Conjoint Committee register of INR specialists, or adjudged by the Conjoint Committee to be substantially equivalent) in the Training Service where the INR training program was undertaken and must have had direct personal supervision of the applicant during their INR training program.
- 5.3. The Supervisors, in completing the Reports, must confirm that:
- (a) the Training Service satisfies the requirements in section 3 of these Guidelines;
 - (b) the applicant satisfies the requirements in section 4 of these Guidelines;
 - (c) the applicant competently performs the procedures safely and expeditiously;
 - (d) the applicant competently integrates indications for other procedures and therapy into patient management;
 - (e) the applicant recognises and manages complication appropriately; and
 - (f) the applicant understands risk factors and is able to recognise personal and procedural limits.

6. Inclusion in the CCINR Register

- 6.1. The Register is a list of members who have been certified by the Conjoint Committee as having appropriate training and experience in INR, as indicated by these guidelines.
- 6.2. To remain on the Register, an INR specialist with recognition from the Conjoint Committee must perform no fewer than 100 INR procedures every three years as primary operator or trainer, including at least 20 cases in the preceding year.
- 6.3. The INR specialist must work in a health care facility, hospital or network that has access to:
- (a) multidisciplinary care with neurosurgery/vascular surgery/neurology/ICU cover;
 - (b) readily accessible CT, MRI and ultrasound facilities; and



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(c) ongoing evidence of audit.

- 6.4. The INR specialist must participate in INR continuing professional development activities and satisfy the continuing professional development program of the Royal Australian and New Zealand College of Radiologists, the Royal Australasian College of Surgeons (Neurosurgery) or the Royal Australasian College of Physicians (Neurology).
- 6.5. The Conjoint Committee will write to each member in the Register after two and a half years, or at any time where an issue of sufficient concern is raised, requesting documentation to substantiate satisfaction of the requirements in this section. The onus is on the member to provide the requested documentation.
- 6.6. Where a member in the Register fails to provide this information or is unable to substantiate satisfaction of the requirements in this section their name will be removed from the Register.
- 6.7. The CCINR will publish the Register on its website.

7. Fees

- 7.1. An initial application fee is payable at the time of application as determined by the Conjoint Committee.
- 7.2. An administration fee is payable at the time of reassessment (every three years) as determined by the Conjoint Committee.
- 7.3. The fees will be used to cover administrative costs associated with these Guidelines.

8. Conduct of the conjoint committee meetings

- 8.1. ANZSNR, ANZAN and NSA will each nominate three representatives for inclusion in the membership of the Conjoint Committee.
- 8.2. The Conjoint Committee will meet twice yearly to assess applications for recognition and continuation in the Register. The Conjoint Committee may meet more frequently at their discretion as required.
- 8.3. The Conjoint Committee will elect, from amongst their membership, the Chair. The Chair will serve for a term of three years.
- 8.4. Decisions will be made by majority vote.



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8.5. Agendas will be circulated at least 5 business days prior to meetings. Minutes will be circulated within 5 business days of meetings.

8.6. A quorum will be four members, provided this includes at least one member from each of ANZSNR, ANZAN and NSA.

8.7. The Conjoint Committee will have responsibility for:

- (a) the provision and maintenance of these Guidelines relevant to certification of training in INR.
- (b) the assessment of applicants from the ANZSNR, ANZAN and NSA seeking recognition of relevant training and experience; and
- (c) the maintenance of the Register of members who have been certified under these Guidelines.

8.8. The Conjoint Committee will release minutes of meetings and the updated Register to ANZSNR, ANZAN and NSA within one month of each meeting.

8.9. Administrative support will be provided by one of the three member groups on behalf of the Conjoint Committee. Fees paid in accordance with section 8 will be invoiced by and paid directly to the body providing administrative support (currently ANZSNR). These fees should cover all administrative costs associated with these Guidelines.

8.10. ANZSNR, ANZAN and NSA will cover any travel costs for their representatives associated with attendance at meetings.

8.11. ANZSNR, ANZAN and NSA will cover in equal shares the cost of any teleconferencing, venue hire, and catering required for meetings of the Conjoint Committee.

9. Policy Review

9.1. The Conjoint Committee will review this document six months after initial publication, and annually thereafter.

These guidelines have been formally ratified by ANZSNR, ANZAN, and NSA.