HONG KONG ACADEMY OFMEDICINE

Guidelines on Credentialling for Endovascular Neurointerventional Procedures

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Preamble

The Hong Kong Academy of Medicine (the Academy), being a statutory body in Hong Kong to train and accredit medical and dental specialists, is committed to upkeep the standard of practice of medical and dental professionals. The Academy fully supports the evolvement of credentialling work, with the aim to ascertain professional competence and to ensure patient safety.

Credentialling can be defined as: "A process which provides formal accreditation of attainment of competencies (which include knowledge, skills and performance) in a defined area of practice, at a level that provides confidence that the individual is fit to practice in that area in the context of effective clinical governance and supervision as appropriate to the credentialled level of practice"[1]. Credentialling has been seen as a way to create and implement regulatory standards of clinical practice in order to maintain and augment patient protection and trust [1].

Credentialling is particularly applicable where a new technique is introduced that: (a) has no established training pathway; (b) is complex; and (c) is of high-risk to the patient if not performed competently.

Credentialling could also help address the issue of competence when a new technique or procedure falls within the domain of multiple specialties. Endovascular neurointerventional procedures are considered to have these characteristics. In addition, technological advancement and continual increase in complexity of interventional procedures have rendered the needs for training and maintenance of competencies of practitioners imminent and crucial. The introduction of a credentialling exercise for endovascular neurointerventional procedures is therefore timely and relevant.

This set of Guidelines contains two sections. Section I covers guidelines for credentialling on a bundled group of endovascular neurointerventional procedures, while the guidelines for credentialling on 'Neurointerventional Procedures for Acute Ischaemic Stroke' alone are set out separately in Section II. These two sections refer to two separate and independent credentialling exercises.

References

1. General Medical Council. Report of the GMC Credentialing Working Group. [accessed 4 December 2025] Available from: https://www.gmc-uk.org/cdn/documents/03---final-report-of-the-credentialing-working-group_pdf-80652842.pdf

Section I - Credentialling on Endovascular Neurointerventional Procedures

1. Description of the Procedures

1.1 In this set of Guidelines under this Section, endovascular neurointerventional procedures are defined as invasive endovascular therapeutic interventions involving the central and peripheral nervous systems. The procedures require the use of percutaneous and catheter-based technology, imaging and clinical expertise to diagnose and treat neurovascular diseases.

The procedures to be credentialled in this set of Guidelines include the following:

- Endovascular treatment of cerebral aneurysm
- Endovascular treatment of cerebrovascular malformation
- Endovascular treatment of intracranial and spinal tumors
- Endovascular spinal procedures
- Endovascular neurophysiological testing
- Endovascular treatment for acute ischaemic stroke

For credentialling on Neurointerventional Procedures for Acute Ischaemic Stroke alone, please refer to Section II of this document.

2. Professional Qualifications for Credentialling

2.1 The doctor must be a Fellow of the Hong Kong Academy of Medicine (e.g., FHKAM (Radiology), FHKAM (Surgery)), or certified by the Hong Kong Academy of Medicine to have training and qualification comparable or equivalent to that required of an Academy Fellow in the relevant specialty. Applicants who do not fall into the above categories would be considered on a case-by-case basis.

3. Training and Experience for Credentialling

3.1 Training for Credentialling

3.1.1 The doctor should have in depth knowledge of the related anatomy, neurophysiology, pathology and clinical management of disorders of the brain, head and neck, and spine amenable to neuroendovascular techniques, and background knowledge of the procedures obtained from appropriate local or international societies, lectures or conferences.

3.1.2 Training records submitted for initial credentialling should include formal training programmes in Interventional Neuroradiology / Endovascular Neurosurgery / Neurology organised by Colleges of Radiologists / Colleges of Surgeons, / Colleges of Physicians, and / or structured training courses provided by some renowned international societies such as “Planet Course” or “ECMINT” etc.

3.2 For initial credentialling process:

3.2.1 A doctor must have performed **diagnostic** catheter cervico-cerebral or spinal angiograms during at least **60** procedures (which can include pre-interventional diagnostic examinations), with a complication rate within an acceptable range, under the direct supervision of a neurointerventionalist credentialled under this set of Guidelines within a period of **two consecutive years**.[3]

3.2.2 A doctor is preferred to have simulation training in cerebral, carotid and acute ischemic stroke intervention modules before performing endovascular neurointerventional procedures.

3.2.3 A doctor must have training and experience in patient assessment and the conduction of **60 neurointerventional procedures** under the direct supervision of a neurointerventionalist credentialled under this set of Guidelines within a period of **three consecutive years after becoming an HKAM Fellow or the equivalent**[2,4], and at least 5 procedures should be conducted in each of these three years. In at least 30 of these 60 procedures, the doctor should have assumed the role of the primary operator in completing a major portion of the procedure or in completing a significant component of a major complex interventional procedure[10, 11]. In addition, these 60 procedures should at least comprise treatment of the following:

- 30 intracranial aneurysms (15 as the primary operator)
- 10 AVM/DAVF/CCF (intracranial or spinal) (5 as primary operator)
- 20 other related endovascular neurointerventional procedures such as tumor embolization, acute ischaemic stroke and complication management (10 as primary operator)

3.2.4 Supporting documents (e.g., operation records / radiological procedural records) for the submitted cases claiming the applicant's role as the primary operator in a neurointerventional procedure should clearly indicate the roles of all operators involved, including a primary operator, assistant operator(s) and a supervisor (if any). Should such documentation NOT be available, a completed and signed Case Record Form along with the supporting documents should be submitted for vetting.

3.3 Exemption from initial credentialling process:

3.3.1 Doctors fulfilling specific requirements are exempted from the initial credentialling process. The consideration for such exemption from initial credentialling process is a **one-off** exercise to be taken place when credentialling for endovascular neurointerventional procedures is first implemented on 1 July 2022.

3.3.2 Doctors are required to fulfil the following criteria to be exempted from the initial credentialling process:

3.3.2.1 They have performed or supervised **30** endovascular neurointerventional procedures independently after obtaining the Academy Fellowship or the equivalent during a period of **three consecutive years** immediately prior to the implementation of credentialling for endovascular neurointerventional procedures.

3.3.2.2 Documentation of the above neurointerventional procedures should be made available as evidence of experience and for the assessment of clinical outcome and complication rate.

3.3.2.3 All doctors exempted from the initial credentialling process are required to be evaluated in the continuous credentialling process.

3.4 For continuous credentialling process:

3.4.1 All credentialled neurointerventionalist are required to be evaluated in the continuous credentialling process.

3.4.2 The credentialled neurointerventionalist needs to perform at least **15** endovascular neurointerventional procedures in a **3-year cycle** as the primary operator in completing a major portion of the procedure or in completing a significant component of a major complex interventional procedure,[10, 11] or has assumed the role of a supervisor in such procedures. They should keep a detailed and complete record of all of the neurointerventional procedures performed during this 3-year cycle. Procedural complications and clinical outcomes (when available) of all these procedures should be recorded (without patient identifiers) and made available for inspection by the Credentialling Committee to be established in the future.

3.4.3 The credentialled neurointerventionalist needs to have relevant CME/CPD activities related to neuroimaging and neurointervention during the validity period. To facilitate continuous credentialing, relevant credentialled neurointerventionalists will be required to complete a designated CME Report Form and provide relevant supportive documents (e.g. attendance certificate, copy of publications), if possible. They should also keep a detailed portfolio of their training, the relevant courses attended and the mentoring received or provided.

3.4.4 Credentialled neurointerventionalists who do not fulfill the requirements for continuous credentialling process would be required to go through a re-activation process.

3.4.5 For re-activation of the credentialled status, the neurointerventionalist needs to perform at least **10** endovascular neurointerventional procedures as the primary operator in completing a major portion of the procedure or in completing a significant component of a major complex interventional procedure,[10, 11] under the supervision of a credentialled neurointerventionalist within a period of **two consecutive years prior to the re-activation process**. Procedural complications and clinical outcomes (when available) of these procedures performed within the said period should be recorded (without patient identifiers) and made available for inspection by a credentialling committee to be formed in the future. If the neurointerventionalist still cannot fulfil the requirements, the Credentialling Committee reserves the right to remove him from the list of Credentialled Neurointerventionists.

4. Vetting and Monitoring of Applications

4.1 For ongoing vetting and monitoring of the credentialling applications and relevant processes, a credentialling committee will be formed to perform all the relevant credentialling process in both Colleges.

4.2 Terms of reference of the Credentialling Committee:

4.2.1 To establish a consistent set of criteria / requirements for credentialling in Endovascular Neurointerventional Procedures across different disciplines.

4.2.2 To vet applications for credentialled neurointerventionalists according to the stipulated criteria / requirements.

4.2.3 To review the results of quality assurance exercises, e.g. inspect / review records in the logbooks of credentialled neurointerventionalists where appropriate.

4.2.4 To monitor and review the credentialling processes, criteria / requirements.

4.2.5 To regularly report to the Academy EC on its recommendations on the credentialling applications and other findings.

4.2.6 To consider and introduce alternative or complementary credentialling procedures for subset(s) of procedure(s) under this set of Guidelines.

4.3 Membership of the Credentialling Committee:

4.3.1 A total of 5 members consisting of:

- Two members from each of the relevant disciplines from respective Colleges:
  - 2 from College of Radiologists
  - 2 from Neurosurgery under College of Surgeons
- One member nominated by any other College which has no potential conflict of interest (e.g., from College of Psychiatrists).

4.3.2 Where considered appropriate, the Academy Education Committee may invite other relevant Colleges to provide inputs to the work of the Committee and attend its meetings as needed.

* The chairmanship will be taken up by one of the members from the concerned colleges alternately on a rotation basis (every 3-year cycle). For the first meeting, the Committee would be convened by the Chairman of Academy EC who would help facilitate vetting of the first batch of neurointerventionalists applying for exemption from credentialling process (grandfathering).

4.4 Applicants are required to submit relevant documentations and proof to the Credentialling Committee for its consideration. Applications can be submitted at any time to the Credentialling Committee (via its secretary). The Credentialling Committee will consider the application(s) in batches, typically twice a year. Recommendation(s) from the Credentialling Committee will be made and reported to the Academy Education Committee for its endorsement (with the list of applicants, summary of individuals' professional qualifications, training and experiences of applicants, and respective recommendations).

4.5 For unsuccessful cases, an applicant may initiate an appeal against the recommendation made by the Credentialling Committee. When appropriate, the applicant may furnish supplementary information and specify the grounds of appeal. The Credentialling Committee will first review the case if additional information is provided. The Academy

Education Committee will then consider the Committee's recommendation after its review and ascertain if there are any procedural irregularities during the handling process of the said application by the Credentialling Committee. Where considered appropriate, the Academy Education Committee may request the establishment of a Review Panel to review the cases comprising 5 members, as follow:

- Two existing members of Credentialling Committee, one from the College of Radiologists and the College of Surgeons, respectively
- Two new members, one from the College of Radiologists and the College of Surgeons, respectively
- The existing member of Credentialling Committee from another College

The Review Panel's decision would be final.

4.6 The Academy would maintain an updated list of credentialled neurointerventionalists that have been endorsed by the Education Committee and the list may be published or disseminated to the public or relevant stakeholders.

5. Summary of Overseas Credentialling Criteria

Society or institution	Procedures	Initial credentialling	Maintenance
AAN/AANS/ASITN/ASNR/AHA/ ACC/SIR/SVS[3]	Cerebrovascular intervention and carotid stent	• 6 months training • 100 supervised cervicocerebral angiograms	None
GENI/SENR/GEECV/SEN/SENE C[4]	All neurointerventional procedures	• 2 years training • Min 100 diagnostic cerebral angiographies • At least 100 therapeutic procedures: o 25 aneurysms o 15 CVM o 15 CAS o 10 IA stroke Rx o 5 spinal endovascular procedures o 15 spinal procedures o 15 others	50% clinical activity in neurointerventional related
ANZSNR/ANZAN/NSA[2]	All neurointerventional procedures	• 2 years training • 20 cases of angioplasty using balloons or stents for ischemic disease or vasospasm (10 primary) • 20 cases of particulate embolization (10 primary) • 10 cases of liquid embolization (5 primary) • 60 cases of aneurysm coiling (30 primary) • 20 cases of IA stroke Rx	100 neurointerventional procedure in 3 years

6. Abbreviations

ACCF - American College of Cardiology Foundation

AAFITN – Asian-Australasian Federation of Interventional and Therapeutic Neuroradiology

AAN – American Academy of Neurology

AANS – American Association of Neurological Surgeons

ACC – American College of Cardiology

ACCF – American College of Cardiology Foundation

AHA – American Heart Association

ANZAN – Australian and New Zealand Association of Neurologists

ANZSNR – Australian and New Zealand Society of Neuroradiology

ASITN – American Society of Interventional and Therapeutic Neuroradiology

ASNR – American Society of Neuroradiology

AVM - Arteriovenous Malformation

CCF - Carotico-cavernous Fistula

CING – Canadian Interventional Neuro Group

CNS – Congress of Neurological Surgeons

CVM – cerebrovascular malformation

DAVF - Dural Arteriovenous Fistula;

ESMINT – European Society of Minimally Invasive Neurologic Therapy

ESNR – European Society of Neuroradiology

GEECV – Grupo de Estudio de EnfermedadesCerebrovasculares

GENI – GroupoEspanol de NeuroradiologiaIntervencionista

JSNET – Japanese Society for Neuroendovascular Therapy

NSA – Neurosurgical Society of Australasia

SCAI – Society of Cardiovascular Angiography and Intervention

SEN – Sociedad Espanola de Neurologia

SENCE – Sociedad Espanola de Neurocirugia

SENR – Sociedad Espanola de Neuroradiologia

SILAN – SociedadIbero Latino Americana de Neuroradiologica

SIR – Society of Interventional Radiology

SNIS – Society of NeuroInterventional Surgery

SVIN – Society of Vascular and Interventional Neurology

SVMB – Society for Vascular Medicine and Biology

SVS – Society of Vascular Surgery

WFITN – World Federation of Interventional and Therapeutic Neuroradiology

7. References

1. HKCR Higher Traning (Radiology): General Guidelines. 201610
2. Conjoint Committee for Recognition of Training in Interventional Neuroradiology (CCINR). Conjoint Committee Guidelines for Recognition of Training in Interventinoal Neuroradiology (INR). 4 Aug 2016.
3. Connors JJ, Sacks D, Furlan AJ, et al. Training, Competency, and Credentialling Standards for Diagnostic Cervicocerebral Angiography, Carotid Stenting, and Cerebrovascular Intervention. AJNR Am J Neuroradiol. 2004;25:1732-1741.
4. Fortea F, Masjuan J, Arikan-Abello F, et al. Criteria for training and accreditation in interventional neuroradiology-neurointervention, approved by the Spanish group of interventional neuroradiology (GENI), the Spanish society of neuroradiology (SENR), the Spanish group of cerebrovascular diseases (GEECV), the Spanish society of neurology (SEN), and the vascular disease specialists in the Spanish society of neurosurgery (SENEC). Requirements for accreditation in interventional neuroradiology-neurointervention in interventional neuroradiology-neurointervention for institutions and specialists. Neurologia. 2017;32:106-112.
5. Picard L, Rodesch G, Bracard S, et al. Recommendation of the WFITN regarding simulation in neurointerventional training.Intervent Neurol. 2017;23:237
6. Picard L, Bracard S, Rodesch G, et al. WFITN recommendations for certification and maintenance of competence in interventional neuroradiology.Intervent Neurol. 2014;20:249-250.
7. Picard L. WFITN Recommendations for education and training in therapeutic neurointervention.Intervent Neurol. 2009;15:12-15.
8. Richling B, Lasjaunias P, Byrne J, et al. Standards of training in endovascular neurointerventional therapy: as approved by the ESNR, EBNR, UEMS Section of Neurosurgery and EANS (February 2007). Enclosed the standards of practice as endorsed by the WFITN. ActaNeurochirurgica. 2007;149:613-616.
9. Lanzino G, Rabinstein AA. Endovascular neurosurgery in the United States: a survey of 59 vascular neurosurgeons with endovascular training. World Neurosurg. 2011;75:580-5.

8. Appendix I – Membership of the Credentialling Committee

Members:	Hong Kong College of Radiologists	Dr. LAI Ming Hei Dr. POON Wai Lun (Vice-Chairman)
	The College of Surgeons of Hong Kong	Dr. PANG Kai Yuen (Chairman) Dr. WONG Kai Sing
	Hong Kong College of Psychiatrists	Dr. KAN Chui Kwan

Section II- Credentialling on Neurointerventional Procedures for Acute Ischaemic Stroke

1. Description of the Procedures

1.1 The set of Guidelines under this Section is confined to endovascular treatment for acute ischaemic stroke. The procedure requires the use of percutaneous and catheter-based technology, imaging and clinical expertise to diagnose and treat acute ischaemic stroke.

For applicants who also intend to undergo credentialling on neurointerventional procedures for other conditions, please refer to Section I of this document.

2. Professional Qualifications for Credentialling

2.1 The doctor must be a Fellow of the Hong Kong Academy of Medicine (e.g., FHKAM (Radiology), FHKAM (Surgery), FHKAM (Medicine)), or certified by the Hong Kong Academy of Medicine to have training and qualification comparable or equivalent to that required of an Academy Fellow in the relevant specialty. Applicants who do not fall into the above categories would be considered on a case-by-case basis.

3. Training and Experience for Credentialling

3.1 Training for Credentialling

3.1.1 The doctor should have in depth knowledge of the relevant anatomy, neurophysiology, pathology and clinical management of acute ischaemic stroke, and background knowledge of the procedures obtained from appropriate local or international societies, lectures or conferences.

3.1.2 Training records submitted for initial credentialling should include formal training programmes in Interventional Neuroradiology / Endovascular Neurosurgery / Neurology organised by Colleges of Radiologists / Colleges of Surgeons / Colleges of Physicians, and / or structured training courses provided by some renowned international societies such as "Planet Course" or "ECMINT" etc.

3.2 For initial credentialling process:

3.2.1 A doctor must have performed **diagnostic** catheter cervico-cerebral or spinal angiograms during at least **60** procedures (which can include pre-interventional diagnostic examinations), with a complication rate within an acceptable range, under the direct supervision of a neurointerventionalist credentialled under this set of Guidelines within a period of **two consecutive years**.[3]

3.2.2 A doctor is preferred to have simulation training in endovascular treatment for acute ischaemic stroke.

3.2.3 A doctor must have training and experience in patient assessment and the conduction

of **30 neurointerventional** procedures for acute ischaemic stroke under the direct supervision of a doctor credentialled under this set of Guidelines within a period of **three consecutive years after becoming HKAM Fellow or the equivalent** [2,4,5,6], and at least 5 procedures should be conducted in each of these three years. In at least 15 of these 30 procedures, the doctor should have assumed the role of the primary operator in completing a major portion of the procedure or in completing a significant component of the procedure[12, 13].

3.2.4 Supporting documents (e.g., operation records / radiological procedural records) for the submitted cases claiming the applicant's role as the primary operator in a neurointerventional procedure should clearly indicate the roles of all operators involved, including a primary operator, assistant operator(s) and a supervisor (if any). Should such documentation NOT be available, a completed and signed Case Record Form along with the supporting documents should be submitted for vetting.

3.2.5 All submitted records, regardless of whether the applicants assumed the role of primary operator, should have documented the performance of mechanical thrombectomy for acute ischaemic stroke patients. Records that only document the performance of cerebral or carotrid angiograms without mechanical thrombectomy, for whatever reason, would not be counted as valid for credentialling purpose.

3.3 Exemption from initial credentialling process:

3.3.1 Doctors fulfilling specific requirements are exempted from the initial credentialling process. The consideration for such exemption from initial credentialling process is a **one-off** exercise to be taken place when credentialling for endovascular treatment for acute ischaemic stroke is first implemented on 1 July 2022.

3.3.2 Doctors are required to fulfil the following criteria to be exempted from the initial credentialling process:

3.3.2.1 They have performed or supervised **30** endovascular neurointerventional procedures independently (in which at least 15 should be treatment for acute ischaemic stroke) after obtaining the Academy Fellowship or the equivalent during a period of **three consecutive years** immediately prior to the implementation of credentialling for endovascular treatment for acute ischaemic stroke.

3.3.2.2 Documentation of the above procedures should be made available as evidence of experience and for the assessment of clinical outcome and complication rate.

3.3.2.3 All doctors exempted from the initial credentialling process are required to be evaluated in the continuous credentialling process.

3.4 For continuous credentialling process:

3.4.1 All doctors credentialled for this procedure are required to be evaluated in the continuous credentialling process.

3.4.2 The doctor needs to perform at least **15** endovascular treatment for acute ischaemic stroke in a **3-year cycle** as the primary operator in completing a major portion of the procedure or in completing a significant component of the procedure,[12, 13] or has assumed the role of a supervisor in such procedures. They should keep a detailed and complete record of all the procedures performed during the 3-year cycle. Procedural complications and clinical outcomes (when available) of all these procedures should be recorded (without patient identifiers) and made available for inspection by the Credentialling Committee to be established in the future.

3.4.3 The credentialled doctor needs to have relevant CME/CPD activities related to the procedure during the validity period. To facilitate continuous credentialing, relevant credentialled neurointerventionalists will be required to complete a designated CME Report Form and provide relevant supportive documents (e.g. attendance certificate, copy of publications), if possible. They should also keep a detailed portfolio of their training, the relevant courses attended and the mentoring received or provided.

3.4.4 Credentialled doctors who do not fulfill the requirements for continuous credentialling process would be required to go through a re-activation process.

3.4.5 For re-activation of the credentialled status, the doctors need to perform at least **10** endovascular treatment for acute ischaemic stroke as the primary operator in completing a major portion of the procedure or in completing a significant component of the procedure,[16, 17] under the supervision of a credentialled doctor within a period of **two consecutive years prior to the re-activation process**. Procedural complications and clinical outcomes (when available) of all the procedures performed within the said period should be recorded (without patient identifiers) and made available for inspection by a credentialling committee to be formed in the future. If the doctor still cannot fulfil the requirements, the Credentialling Committee reserves the right to remove him from the list of Credentialled Neurointerventionists.

4. Vetting and Monitoring of Applications

4.1 For-ongoing vetting and monitoring of the credentialling applications and relevant processes, a credentialling committee will be formed to perform all the relevant credentialling process in both Colleges.

4.2 Terms of reference of the Credentialling Committee:

4.2.1 To establish a consistent set of criteria / requirements for credentialling in endovascular treatment for acute stroke across different disciplines.

4.2.2 To vet applications for credentialled neurointerventionalists according to the stipulated criteria / requirements.

4.2.3 To review the results of quality assurance exercises, e.g. inspect / review records in the logbooks of credentialled neurointerventionalists where appropriate.

4.2.4 To monitor and review the credentialling processes, criteria / requirements.

4.2.5 To regularly report to the Academy EC on its recommendations on the credentialling applications and other findings.

4.2.6 To consider and introduce alternative or complementary credentialling procedures for subset(s) of procedure(s) under this set of Guidelines.

4.3 Membership of the Credentialling Committee:

4.3.1 A total of 7 members consisting of:

- Two members from each of the relevant disciplines from respective Colleges:
  - 2 from College of Radiologists
  - 2 from Neurosurgery under College of Surgeons
  - 2 from College of Physicians
- One member nominated by any other College which has no potential conflict of interest (e.g., from College of Psychiatrists).

4.3.2 Where considered appropriate, the Academy Education Committee may invite other relevant Colleges to provide inputs to the work of the Committee and attend its meetings as needed.

* The chairmanship will be taken up by one of the members from the concerned colleges alternately on a rotation basis (every 3-year cycle). For the first meeting, the Committee would be convened by the Chairman of Academy EC who would help facilitate vetting of the first batch of neurointerventionalists applying for exemption from credentialling process (grandfathering).

4.4 Applicants are required to submit relevant documentations and proof to the Credentialling Committee for its consideration. Applications can be submitted at any time to the Credentialling Committee (via its secretary). The Credentialling Committee will consider the application(s) in batches, typically twice a year. Recommendation(s) from the Credentialling Committee will be made and reported to the Academy Education Committee for its endorsement (with the list of applicants, summary of individuals' professional qualifications, training and experiences of applicants, and respective recommendations).

4.5 For unsuccessful cases, an applicant may initiate an appeal against the recommendation made by the Credentialling Committee. When appropriate, the applicant may furnish supplementary information and specify the grounds of appeal. The Credentialling Committee will first review the case if additional information is provided. The Academy Education Committee will then consider the Committee's recommendation after its review and ascertain if there are any procedural irregularities during the handling process of the said application by the Credentialling Committee. Where considered appropriate, the Academy Education Committee may request the establishment of a Review Panel to review the cases comprising 7 members, as follow:

- Three existing members of Credentialling Committee, one from the College of Radiologists, the College of Physicians, and the College of Surgeons, respectively
- Three new members, one from the College of Radiologists, the College of Physicians, and the College of Surgeons, respectively
- The existing member of Credentialling Committee from another College

The Review Panel's decision would be final.

4.6 The Academy would maintain an updated list of credentialled neurointerventionalists that have been endorsed by the Education Committee and the list may be published or disseminated to the public or relevant stakeholders.

5. Summary of Overseas Credentialling Criteria

Society or institution	Procedures	Initial credentialling	Maintenance
AAN/AANS/ASITN/ASNR/AHA/ ACC/SIR/SVS[3]	Cerebrovascular intervention and carotid stent	• 6 months training • 100 supervised cervicocerebral angiograms	None
GENI/SENR/GEECV/SEN/SENE C[6]	All neurointerventional procedures	• 2 years training • Min 100 diagnostic cerebral angiographies • At least 100 therapeutic procedures: o 25 aneurysms o 15 CVM o 15 CAS o 10 IA stroke Rx o 5 spinal endovascular procedures o 15 spinal procedures o 15 others	50% clinical activity in neurointerventional related
ANZSNR/ANZAN/NSA[2]	All neurointerventional procedures	• 2 years training • 20 cases of angioplasty using balloons or stents for ischemic disease or vasospasm (10 primary) • 20 cases of particulate embolization (10 primary) • 10 cases of liquid embolization (5 primary) • 60 cases of aneurysm coiling (30 primary) • 20 cases of IA stroke Rx	100 neurointerventional procedure in 3 years
AAN/AANS/ASNR/AAFITN/CIN G/CNS/ESNR/ESMINT/JSNET/S NIS/SVIN/SILAN/WFITN[4,5]	IA stroke Rx	• 1 year training • 100 cerebral angiograms • 30 primary operator in cerebral microcatheter experience • 10 supervised endovascular stroke intervention	None

6. Abbreviations

ACCF - American College of Cardiology Foundation

AAFITN – Asian-Australasian Federation of Interventional and Therapeutic Neuroradiology

AAN – American Academy of Neurology

AANS – American Association of Neurological Surgeons

ACC – American College of Cardiology

ACCF – American College of Cardiology Foundation

AHA – American Heart Association

ANZAN – Australian and New Zealand Association of Neurologists

ANZSNR – Australian and New Zealand Society of Neuroradiology

ASITN – American Society of Interventional and Therapeutic Neuroradiology

ASNR – American Society of Neuroradiology

CAS – carotid artery stenting

CING – Canadian Interventional Neuro Group

CNS – Congress of Neurological Surgeons

CVM – cerebrovascular malformation

ESMINT – European Society of Minimally Invasive Neurologic Therapy

ESNR – European Society of Neuroradiology

GEECV – Grupo de Estudio de EnfermedadesCerebrovasculares

GENI – GroupoEspanol de NeuroradiologiaIntervencionista

IA – intra-arterial

JSNET – Japanese Society for Neuroendovascular Therapy

NSA – Neurosurgical Society of Australasia

SCAI – Society of Cardiovascular Angiography and Intervention

SEN – Sociedad Espanola de Neurologia

SENCE – Sociedad Espanola de Neurocirugia

SENR – Sociedad Espanola de Neuroradiologia

SILAN – SociedadIbero Latino Americana de Neuroradiologica

SIR – Society of Interventional Radiology

SNIS – Society of NeuroInterventional Surgery

SVIN – Society of Vascular and Interventional Neurology

SVMB – Society for Vascular Medicine and Biology

SVS – Society of Vascular Surgery

WFITN – World Federation of Interventional and Therapeutic Neuroradiology

7. References

1. HKCR Higher Traning (Radiology): General Guidelines. 201610
2. Conjoint Committee for Recognition of Training in Interventional Neuroradiology (CCINR). Conjoint Committee Guidelines for Recognition of Training in Interventinoal Neuroradiology (INR). 4 Aug 2016.
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4. Meyers PM, Schumacher HC, Alexander MJ, et al. Performance and Training Standards for Endovascular Ischemic Stroke Treatment. AJNR Am J Neuroradiol.2010;31:E8-11.
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8. Appendix II – Membership of the Credentialling Committee

Members:	Hong Kong College of Physicians	Prof. LEUNG Wai Hong Dr. LI Richard (Vice-Chairman)
	Hong Kong College of Radiologists	Dr. LAI Ming Hei Dr. POON Wai Lun
	The College of Surgeons of Hong Kong	Dr. CHAN Kwong Yau Dr. LUI Wai Man (Chairman)
	Hong Kong College of Psychiatrists	Dr. KAN Chui Kwan