



# The Australian and New Zealand Society of Neuroradiology

*Incorporating Diagnostic and Interventional Neuroradiology and Head & Neck Radiology*

MBS Reviews  
Department of Health  
E - [MBSReviews@health.gov.au](mailto:MBSReviews@health.gov.au)

1 April 2021

Dear MBS Reviews,

**Re: MBS Review of Digital Subtraction Angiography (DSA) Medicare Items – Submission from ANZSNR**

Thank you for providing the Australian and New Zealand Society of Neuroradiology (ANZSNR) with an invitation to develop an appropriate Medicare Benefits Schedule (MBS) structure for digital subtraction angiography (DSA) items.

### **Introduction**

The Australian and New Zealand Society of Neuroradiology (hereafter referred to as the ANZSNR) is the peak body representing Radiologists who practice Interventional Neuroradiology (INR). In Australia, INR practitioners are certified by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology (CCINR), with the ANZSNR representing the majority of CCINR-certified INR practitioners (83%).

INR has evolved into a clinical specialty distinct from Diagnostic Radiology, defined not only by expertise in organ-specific procedural technique but also specialist anatomy, physiology, pathology and pharmacology knowledge to diagnose, manage and treat patients with diseases of the neurovasculature, brain, meninges, CSF, head and neck, spinal cord, vertebral column and the peripheral nervous system with percutaneous and/or endovascular techniques. Current practice of INR requires initial out-patient consultation, for INR practitioner-directed decision making on suitability of INR treatment for each individual patient, and discussion with the patient regarding risks and benefits for informed consent. Continuity of care is also provided through INR-specific in-patient aftercare, as well as out-patient follow-up for INR treatment related issues.

Many current MBS schedule items relevant to the practice of INR do not adequately reflect its contemporary practice. The ANZSNR hence appreciates this opportunity to provide a response to the recommendations of the Vascular Working Group (VWG) as the representative for this group of specialists.

### **Question 1**

*For the group of providers that you represent, what they require for the provision of diagnostic only services that may include time and motion data, complexity and where there may be another vascular field or territory (other than your area of practice e.g., interventional neuroradiology) that may have similar requirements (time, motion & complexity) aforementioned.*

## **Response**

The procedural practice of INR relies heavily on catheter cerebral and spinal angiography - at times for diagnosis only, but often for treatment planning.

The ANZSNR notes the VWG has recommended the removal of the current run-based tiering and anatomical classifications of DSA (Recommendation 6) and to bundle procedural items with relevant angiographic items where appropriate (Recommendation 7). These will be addressed in turn.

Recommendation 6 can be divided into two recommendations - (a) removal of run-based tiering as the mechanism for quantifying complexity, and (b) removal of anatomical classifications of DSA for simplicity.

- (a) Whilst the ANZSNR agrees run-based tiering of DSA may potentially incentivise unnecessary DSA acquisitions (and radiation exposure), it still holds true that different catheter angiographic examinations have different levels of complexity. The ANZSNR supports the removal of run-based tiering of complexity but suggests that case complexity must be captured via other means.
  - (i) In INR, an example of a low complexity, diagnostic only service would be catheter angiographic follow up of a previous endovascular aneurysm treatment, under local anaesthetic or sedation.
  - (ii) An example of a high complexity, diagnostic only service would be the microcatheter angiographic interrogation of a cerebral pial arteriovenous malformation by intracranial microcatheterisation, under general anaesthetic, to determine suitability for endovascular treatment or to determine potentially embolisable components as adjunctive therapy prior to surgical resection. This procedure is also commonly performed with adjunctive catheter- or microcatheter-directed intraarterial cone-beam computed tomographic arteriography for three-dimensional localisation.
  
- (b) The ANZSNR supports the simplification of anatomical classifications for DSA. We believe that several examinations which are currently separated by body regions bear no significant difference in technical complexity, time commitment nor risk - an example being DSA Thorax versus DSA Abdomen.
  - (i) However, supra-aortic arteriography (which can be defined as angiography at the left subclavian artery origin and cranial) and spinal angiography carries stroke risk - and demands differences in training, experience, technique and equipment (examples include INR training, double flushing, continuous heparinized flush).
  - (ii) The ANZSNR believes that it is possible to significantly reduce the complexity of anatomical classifications for DSA whilst maintaining this important distinction in the MBS schedule.

Whilst the ANZSNR fully supports implementing Recommendation 7, a provision for claiming diagnostic only MBS items should be maintained if a therapeutic intervention is not performed.

For our group of providers, for provision of diagnostic only services, the ANZSNR requires:

1. The reduction of anatomical classifications for DSA to two categories with the suggested item number descriptors:
  - a. *Supra-aortic (cranial to and including left subclavian artery origin) or spinal (direct catheterisation of segmental arteries of the spinal column) catheter arteriography, which poses a stroke risk.*
  - b. *Infra-aortic (caudal to the left subclavian artery origin) catheter arteriography, or catheter venography, or which poses no stroke risk.*
2. Within each category, allow the same complexity add-on item numbers with the suggested item number descriptors:
  - a. *Requirement for general anaesthesia*
  - b. *Requirement for multiple vascular access (e.g., bilateral femoral or femoral plus concurrent radial access for same procedure) and/or requirement for coaxial access (including microcatheterisation)*
  - c. *Requirement for on-table non-contrast cone-beam computed tomography, catheter- or microcatheter-directed cone-beam computed tomographic arteriography or venography (item can only be claimed once in a single episode)*
    - i. The equivalent Diagnostic Radiology MBS item number for cost comparison would be 57341.
3. Allow for claiming diagnostic only MBS items if a therapeutic intervention is not performed.

ANZSNR believes that such a revision to the MBS schedule would satisfy requirements for other practitioners who also work in the supra-aortic space e.g., Vascular Surgeons who perform carotid stenting and Interventional Radiologists who perform cerebral angiography.

## **Question 2**

*For the group of providers that you represent, what they require for the provision of procedural services and whether they always require DSA or only sometimes. This may include time and motion data, complexity and where there may be another vascular field or territory (other than your area of practice e.g., interventional neuroradiology) that may have similar requirements (time, motion & complexity) aforementioned. This will help identify where a possible DSA item will be available to be claimed with a procedure when required and where it may be possible to include the DSA service (as a complete service - bundled) within the procedural service.*

## **Response**

The ANZSNR notes the question posed is in two parts; (a) what is required for the provision of procedural services (i.e., whether the current MBS item numbers reflect practice) and (b) whether these always require DSA or only sometimes. These will be addressed in turn.

- (a) The ANZSNR supports Recommendation 7 (that INR requires its own items under the MBS, that INR items should be aligned with neurosurgery and neurology items rather than diagnostic imaging, and to bundle procedural items with relevant angiographic items where appropriate) and notes that the most recent INR item number, 35414, likely represents the exemplar item number - in that it defines the patient group, the diagnostic, practitioner and practice requirements, as well as its inclusion of intra-operative imaging and aftercare.

- (i) Noting this, the ANZSNR supports Recommendation 33 for INR item number 35412 (change the item descriptor to allow for current and future endovascular techniques in the treatment for intracranial aneurysms) but believes it should also be updated to reflect Recommendation 7.
  - (ii) The ANZSNR supports Recommendation 23 in that 35321 is in critical need of updating. A large portion of INR practice is based on “embolisation” techniques; however these techniques have evolved significantly and the training, experience, equipment and complexity is not adequately covered by the current item number. INR conditions aligned with neurosurgical conditions (Recommendation 7) now treated by various forms of embolisation, ranging from high complexity to low complexity, include:
    - (1) Treatment of cerebral and spinal dural and pial arteriovenous malformations, and carotid cavernous fistula
    - (2) Embolisation of head, neck and spinal tumours
    - (3) Treatment of subdural haematoma
  - (iii) The ANZSNR supports Recommendation 39 to change the name of subgroup 3 to Vascular, Endovascular and Interventional Radiology.
  - (iv) The ANZSNR notes that item number 35303 (TRANSLUMINAL BALLOON ANGIOPLASTY of aortic arch branches, aortic visceral branches, or more than 1 peripheral artery or vein of 1 limb, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare) does not adequately describe its usage in the intracranial circulation - for the purposes of acute treatment of symptomatic vasospasm secondary to subarachnoid haemorrhage or restoring lumen in intracranial stenosis.
  - (v) The ANZSNR also notes that item number 35319 (PERIPHERAL ARTERIAL OR VENOUS CATHETERISATION with administration of thrombolytic or chemotherapeutic agents, BY PULSE SPRAY TECHNIQUE, using percutaneous approach, excluding associated radiological services or preparation, and excluding aftercare not being a service associated with a service to which another item in Subgroup 11 of Group T1 or items 35317 or 35320 applies and not being a service associated with photodynamic therapy with verteporfin) does not adequately describe its usage in the treatment of catheter- and subarachnoid-related vasospasm in an INR setting.
- (b) ANZSNR notes that almost all procedural MBS item numbers currently claimed by INR practitioners require DSA. This is reflected in the most recently established item number for mechanical thrombectomy for stroke (35414). Whilst certain INR procedures benefit from adjunctive access techniques (such as transorbital puncture techniques for carotid cavernous fistula, or percutaneous access techniques for head, neck and spinal tumour embolisation), these do not preclude the requirement for intra-operative angiography and in most cases, preceding or concurrent transcatheter access. In the vast majority, if not all, cranial INR procedures, 55054, 60009 and 60078 are claimed, and in spinal INR procedures, 55054, 60000-60009, 60012-60021 and/or 60024-60033 are claimed (depending on whether the spinal lesion to be treated lies in the cervical, thoracic or lumbar region).

For our group of providers, for provision of procedural services, the ANZSNR requires:

1. That Recommendation 7 be implemented for all INR MBS items in that:
  - a. Procedural items be bundled with relevant angiographic items if at all possible;
  - b. That INR procedures be considered in Subgroup 3, separate to DSA items, as they represent therapeutic, rather than diagnostic procedures.
2. That Recommendation 23 be implemented, and 35321 tiered according to complexity. A suggested method of tiering would be to introduce two INR-specific complexity add-on items to be co-claimed with 35321 (with the INR complexity items also bundling relevant intra-operative imaging items and aftercare):
  - a. *Neurointerventional embolisation (dural with expected low risk of pial anastomosis and stroke)*
    - i. e.g.
      1. Treatment of subdural haematoma by embolisation
      2. Devascularisation of meningioma by embolisation
      3. Treatment of epistaxis by embolisation
    - ii. That 55054, 60009 and 60078 be bundled with this tier item (noting 60009, 60021 and 60033 are cost-equivalent)
    - iii. Suggested wording for this item number would be:
      1. *Neurointerventional embolisation, treatment by endovascular and/or percutaneous technique, including intra-operative imaging and aftercare, in association with 35321, if:*
        - a. *the target for embolisation lies in the cranial or cervical region, but pial blood supply is not expected and pial vessel catheterisation is not required; and*
        - b. *the service is performed by a specialist or consultant physician with appropriate training that is recognised by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology.*
  - b. *Neurointerventional embolisation (complex dural transarterial, pial transarterial, transvenous with potential shared drainage with neuraxis/known high risk of stroke)*
    - i. e.g.
      1. Embolisation of spinal tumour
      2. Embolisation of head and neck tumour
      3. Direct carotid cavernous fistula
      4. Cranial or spinal dural arteriovenous fistula
      5. Cerebral or spinal pial arteriovenous malformation
    - ii. That 55054, 60009 and 60078 be bundled with this tier item (noting 60009, 60021 and 60033 are cost-equivalent)
    - iii. The equivalent neurosurgical MBS item number for total cost comparison would be 39803 (when co-claimed with 35321).
    - iv. Suggested wording for the item number would be:
      1. *Neurointerventional embolisation, treatment by endovascular and/or percutaneous technique, including intra-operative imaging and aftercare, in association with 35321, if:*

- a. *the target for embolisation is either a*
      - i. *Cerebral or spinal pial arteriovenous malformation*
      - ii. *Cranial or spinal dural arteriovenous fistula*
      - iii. *Direct carotid cavernous fistula*
      - iv. *A head and neck tumour with shared pial/dural blood supply*
      - v. *Spinal tumour*
    - b. *the service is performed by a specialist or consultant physician with appropriate training that is recognised by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology.*
- 3. That the descriptor to 35412:
  - a. is modified to allow for current and future endovascular techniques:
    - i. *Intracranial aneurysm, ruptured or unruptured, treatment by endovascular technique, including intra-operative imaging and aftercare, if:*
      - 1. *the diagnosis is confirmed by an appropriate imaging modality such as computed tomography, magnetic resonance imaging or angiography; and*
      - 2. *the service is performed by a specialist or consultant physician with appropriate training that is recognised by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology.*
  - b. Bundled intra-operative imaging would be equivalent to the addition of 55054, 60009 and 60078.
  - c. The equivalent neurosurgical MBS item number for direct cost comparison would be 39801.
- 4. That the descriptor for item 35303 is modified to appropriately cover INR usage:
  - a. TRANSLUMINAL BALLOON ANGIOPLASTY of aortic arch branches, aortic visceral branches, more than 1 peripheral artery or vein of 1 limb, *or more than one intracranial artery or vein*, percutaneous or by open exposure, excluding associated radiological services or preparation, and excluding aftercare)
    - i. *If the procedure involves catheterisation of intracranial vessels, that the service is performed by a specialist or consultant physician with appropriate training that is recognised by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology.*
- 5. That the descriptor for item 35319 is modified to appropriately cover INR usage:
  - a. PERIPHERAL OR INTRACRANIAL ARTERIAL OR VENOUS CATHETERISATION with administration of thrombolytic or chemotherapeutic agents, BY PULSE SPRAY TECHNIQUE, using percutaneous approach, excluding associated radiological services or preparation, and excluding aftercare (not being a service associated with a service to which another item in Subgroup 11 of Group T1 or items 35317 or 35320 applies and not being a service associated with photodynamic therapy with verteporfin)
    - i. *If the procedure involves catheterisation of intracranial vessels, that the service is performed by a specialist or consultant physician with appropriate*

*training that is recognised by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology.*

6. Alternatively, for points 4 and 5 above, should there be a greater need to rationalise item numbers, a general INR-procedural complexity add-on code can be fashioned to include 55054, 60009, 60078:
    - a. A suggested descriptor wording would be:
      - i. *Neurointerventional procedure, treatment by endovascular and/or percutaneous technique, including intra-operative imaging and aftercare, in association with 35303, 35307, 35309, 35319, if:*
        1. *the service is performed by a specialist or consultant physician with appropriate training that is recognised by the Conjoint Committee for Recognition of Training in Interventional Neuroradiology.*
7. That the (Assist.) benefit continues to be associated with all INR relevant procedural MBS items.

### **Question 3**

*Consider and present data where your cohort of members may have diagnostic and procedural overlap on items and where it would be appropriate for various types of providers (interventional radiologists and vascular surgeons or interventional neuroradiologists and neurosurgeons) to access the items.*

### **Response**

ANZSNR represents the majority of INR practitioners registered by the CCINR. Other INR practitioners registered by the CCINR include neurosurgeons and neurologists. Training and caseload have direct correlation to patient safety and successful patient outcomes. As CCINR certification requires ongoing review of practice logbooks, ensuring best practice and patient safety, ANZSNR recommends that INR-specific MBS item numbers should require CCINR certification. The main risk to patient safety in an INR procedure is that of stroke and/or vascular injury causing intracranial haemorrhage, either of which can lead to death and disability. All procedures performed by INR practitioners carry one or both of these risks, albeit in different levels, with procedures involving direct catheterisation of the intracranial vessels naturally carrying the highest risk.

The items which are accessed by non-INR providers from Interventional Radiology and Vascular Surgery include 35307 (used for carotid stenting which meets the indications for carotid endarterectomy), 35309 (for other carotid stenting), 35319 (used for treatment of vasospasm), 35321 (used for embolisation), and cerebral DSA items (60072-60078, 60000-60009). However, as practice patterns change (pertinent in INR practice with the ongoing consolidation into a defined specialty practice, as demonstrated by the CCINR, as well as the publication of INR training and practice guidelines worldwide), it may be reasonable to review these in the future.

As a demonstration of caseload in a quaternary referral centre for INR, we attach summary data for the Neurological Intervention and Imaging Service of Western Australia for the last 6 years (Figure 1, 2014-2020, inclusive).



#### **Question 4**

*Consider and present data where you believe items are only being accessed by your cohort of providers (noting that we are not trying to restrict access) and identify where there are distinct differences in practice within this cohort.*

#### **Response**

Continuing the above, given the much higher-risk nature and complexity of procedures requiring direct intracranial catheterisation, ANZSNR understands that 35412 and 35414 are currently only accessed by CCINR-certified providers.

#### **ANZSNR recommends:**

1. that the CCINR requirement for 35414 continue;
2. that the CCINR requirement be added to 35412;
3. that the CCINR requirement also be added to INR-specific complexity add-on items for 35321 proposed in Answer 2; and
4. that the CCINR requirement be added to 35303 and 35319 should they be claimed for intracranial procedures unless another specialist body can demonstrate equivalency of CCINR requirements.

If you have any queries in relation to the above, please contact me at [secretariat@anzsnr.org.au](mailto:secretariat@anzsnr.org.au)



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