Using Outcomes Information for Revalidation in Neurosurgery

December 2013

The Colleges and Surgical Specialty Associations believe that data on surgical outcomes is an important element of demonstrating that a surgeon meets the required standards of professionalism and practice. This framework provides guidance to surgeons working in neurosurgery to help them produce relevant outcomes data for appraisal and revalidation.

Any queries relating to this framework should be addressed to revalidation@rcseng.ac.uk.

Section 1: Introduction and Explanation

Background
Revalidation is the new approach to the regulation of doctors, it commenced in December 2012. The process is centred on local annual appraisal. All doctors will need to be revalidated every 5 years in order to retain their licence to practise.

The Surgical Specialty Associations and Surgical Royal Colleges have developed the standards for surgical revalidation and specified the supporting information that neurosurgeons will need to provide to their appraiser to facilitate a positive assurance of their fitness to practice and, at the end of the 5 year cycle, a recommendation for revalidation to the GMC. An important component of the supporting information required for revalidation is that relating to outcomes.

An important landmark in relation to transparency and openness in the NHS was achieved in 2013 with the publication of surgeon-level data from nine surgical audits. We see national clinical audit as the “gold standard” in relation to collection of data and measurement of outcome. We fully support the continuation and expansion of NHS England’s programme of data transparency.

The Society of British Neurological Surgeons has defined the following measures for surgeons working within the specialty. Surgeons will only need to demonstrate their outcomes in their area(s) of practice. There is no requirement for neurosurgeons to undertake common ‘index procedures’.

You should note the following points:

National Clinical Audit
- Where there are identified national clinical audit(s) that cover your area(s) of practice, it is essential that you participate. This will be mandatory for revalidation.
- If there is a national clinical audit that falls within NHS England’s programme of consultant-level outcomes publication, your results will be made available publically.
- Your employer will need to facilitate the submission of data to the audit(s).
- It will be your responsibility to gather the relevant information from the audit (eg. reports/downloads) to present at appraisal.
**Routinely Collected Data (HES, PEDW, HIS, ISD)**

- These data are already collected by your NHS organisation and brought together on a national basis.
- We have identified key procedures in each sub-specialty area which should cover the majority of surgeons’ practice.
- We have identified what should be measured and how.
- We expect that analyses of these data will be provided by your employer.
- Wherever possible your individual outcomes should be presented alongside all other surgeons in the country performing that procedure(s) (eg. in a funnel plot).
- We have identified the process of further investigation if it appears from these analyses that your outcomes are outside accepted norms (see below).

**Local Audit**

- Where your area of practice is not appropriately covered by a national audit or where routinely collected data will not assist in measuring outcomes, we recommend some form of local audit.
- This may be conducted by you personally, or form part of a wider unit/region-based audit.
- It will be your responsibility to conduct/participate in the audit and present the results at appraisal.
- Where you are obliged to undertake local audit, you are advised to audit a practice or procedure that is representative of your practice both in the NHS and in the private sector. The subject should be something that you undertake on a routine basis.

**Structured Peer Review (of outcomes)**

- For some highly specialised/low volume areas of practice which cannot be appropriately measured using the above methods, it may be necessary to have some form of structured peer review. Where this is identified as necessary, we will work with the relevant specialties to identify the methodology required so that the peer review process is fit for purpose for revalidation.

**Managing Outliers**

- Analysis of your outcomes provides one piece of the supporting information required for revalidation.
- If it appears that your outcomes are outside of the accepted norm, this should trigger a local investigation that closely examines the data for anomalies, looks at the environment and structure of the team/unit and your case mix before considering you as an individual (see diagram 1).
- We will be able to assist in the early stages of such an investigation.
Diagram 1

- Individual
- Case mix
- Environment / process / team issues
- Problems with the data
Section 2: Measuring Outcomes

2.1 General Neurosurgery

2.2 Sub-specialist Neurosurgical Practice:
   2.2.1 Paediatric Neurosurgery
   2.2.2 Spinal
   2.2.3 Neurovascular
   2.2.4 Functional
   2.2.5 Neuro-oncology (intrinsic tumours)
   2.2.6 Skull Base (extrinsic tumours)

2.1 General Neurosurgery

All neurosurgeons will perform some operations in the categories given below. The procedures should be grouped together (ie. all cranial procedures and all spinal procedures). The resulting analyses should provide a broad picture of a surgeon's practice. At appraisal, the previous year's performance should be examined, however, to be meaningful, it will be necessary to view performance over a rolling three year period.

<table>
<thead>
<tr>
<th>Key Procedures</th>
<th>OPCS Codes</th>
<th>Source of Measurement</th>
<th>Measurement Criteria</th>
<th>Method of Presentation at Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cranial operation</td>
<td>A01 - A10</td>
<td>Routinely Collected Data (HES, PEDW, ISD, HIS)</td>
<td>• 30 day mortality&lt;br&gt;• 28 day re-operation (unplanned)&lt;br&gt;• 28 day readmission (unplanned)&lt;br&gt;• Length of Stay&lt;br&gt;• Discharge Destination&lt;br&gt;[Separate analyses for method of admission (emergency/elective)]</td>
<td>Comparison to all other surgeons in the country performing these procedures (eg. funnel plot)</td>
</tr>
<tr>
<td>(Includes all intrinsic lesions, intracranial pituitary and pineal, cranial nerve, meninges and sub/extra dural ops)</td>
<td>A29 - A42</td>
<td>B01.4</td>
<td>B06</td>
<td></td>
</tr>
<tr>
<td>All spinal ops</td>
<td>V22 - V47</td>
<td>A44 - A51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Also select your top two (or three) most common procedures performed and have performance analysed using routinely collected data as indicated above (as with the above an analysis of the previous 12 months should be presented at appraisal alongside an analysis depicting the previous rolling three years);

2. In addition, submission of data to national audits such as the UK Shunt Registry and TARN will be mandatory for revalidation. Neurosurgeons will need to demonstrate their participation/outcomes at appraisal.
2.2 Subspecialty Neurosurgery

Neurosurgeons should also select two (or three) procedures to reflect their sub-specialty practice, either from any of the following sub-specialty areas or from the list of OPCS codes at the end of this document and then either:

- Participate in the relevant national clinical audit/registry and demonstrate this at appraisal; or
- If no national audit/registry is available, conduct a local audit into their practice [at least one over a 5 year revalidation cycle]

2.2.1 Paediatric Neurosurgery (Age <16yrs)

1. Neurosurgeons should select their most common procedures from this sub-specialty area. At appraisal, the previous year's performance should be examined, however, to be meaningful, it will be necessary to view performance over a rolling three year period

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Hydrocephalus</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>VP shunt creation</td>
<td>A12.4</td>
<td></td>
<td>• 30 day mortality</td>
<td>Comparison to all other surgeons in the country performing these procedures (eg. funnel plot)</td>
</tr>
<tr>
<td>Revision</td>
<td>A13-14</td>
<td>Routinely Collected Data (HES, PEDW, ISD, HIS)</td>
<td>• 28 day re-operation (unplanned)</td>
<td></td>
</tr>
<tr>
<td>ETV</td>
<td>A17.8</td>
<td></td>
<td>• 28 day readmission (unplanned)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Length of Stay</td>
<td></td>
</tr>
<tr>
<td>Tumours</td>
<td>A02 B06</td>
<td></td>
<td>[Separate analyses for method of admission (emergency/elective)]</td>
<td></td>
</tr>
<tr>
<td>Functional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilepsy</td>
<td>A01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain /spasticity</td>
<td>A48.3 A54.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craniofacial</td>
<td>V01.3 V04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinal dysraphic</td>
<td>A49</td>
<td></td>
<td></td>
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</tbody>
</table>

2. In addition, surgeons undertaking paediatric neurosurgery will need to participate in the Paediatric Activity Audit and the NCG Craniofacial Audit. This will be mandatory for revalidation. Neurosurgeons will need to demonstrate their participation/outcomes at appraisal.
### 2.2.2 Spine

1. Neurosurgeons should select their most common procedures from this sub-specialty area. At appraisal, the previous year's performance should be examined, however, to be meaningful, it will be necessary to view performance over a rolling three year period.

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<tr>
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<th>Method of Presentation at Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple lumbar</td>
<td>V25</td>
<td>V33 (excl V33.3 - V33.6)</td>
<td>• 30 day mortality</td>
<td>Comparison to all other surgeons in the country performing these procedures (eg. funnel plot)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
<td>• 28 day re-operation (unplanned)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
<td>• 28 day readmission (unplanned)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
<td>• Length of Stay</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
<td>• Discharge Destination</td>
<td></td>
</tr>
<tr>
<td>Simple cervical</td>
<td>V22.3</td>
<td>V29.4 - V29.9</td>
<td>[Separate analyses for method of admission (emergency/elective)]</td>
<td></td>
</tr>
<tr>
<td>Complex</td>
<td>V36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosthetic discs</td>
<td>V36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anterior lumbar</td>
<td>V33.3 - V33.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumented</td>
<td>V37 - V46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intradural</td>
<td>A51</td>
<td>A44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A45</td>
<td>A48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. In addition, surgeons undertaking spinal surgery, should be participating in a national or international registry of activity and outcome such as Europe’s Spine Tango.
2.2.3 Neurovascular

1. Neurosurgeons should select their most common procedures from this sub-specialty area. Outcomes of both surgical and interventional treatment are necessary to reflect overall outcome of subarachnoid haemorrhage management. At appraisal, the previous year’s performance should be examined, however, to be meaningful, it will be necessary to view performance over a rolling three year period.

<table>
<thead>
<tr>
<th>Key Procedures</th>
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<th>Measurement Criteria</th>
<th>Method of Presentation at Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary intracerebral haematomas</td>
<td>A05</td>
<td>Routinely Collected Data (HES, PEDW, ISD, HIS)</td>
<td>• 30 day mortality</td>
<td>Comparison to all other surgeons in the country performing these procedures (eg. funnel plot)</td>
</tr>
<tr>
<td>AVM</td>
<td>L75.1</td>
<td></td>
<td>• 28 day re-operation (unplanned)</td>
<td></td>
</tr>
<tr>
<td>Transluminal procedures for AVM</td>
<td>L75.3 – L75.6</td>
<td></td>
<td>• 28 day readmission (unplanned)</td>
<td></td>
</tr>
<tr>
<td>Intracranial aneurysm (open)</td>
<td>L33</td>
<td></td>
<td>• Length of Stay</td>
<td></td>
</tr>
<tr>
<td>Transluminal procedures for aneurysms (interventional)</td>
<td>L35</td>
<td></td>
<td>• Discharge Destination</td>
<td></td>
</tr>
</tbody>
</table>

2. Units undertaking neurovascular work should provide data from the UK Neuro-Interventional Group Audit of Embolisation of Aneurysms for discussion at appraisal. While this audit is primarily concerned with interventional radiology, it does provide some indication of the unit’s performance in decision making.
2.2.4 Functional Neurosurgery

1. Neurosurgeons should select their most common procedures from this sub-specialty area. At appraisal, the previous year's performance should be examined, however, to be meaningful, it will be necessary to view performance over a rolling three year period.

<table>
<thead>
<tr>
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<th>Measurement Criteria</th>
<th>Method of Presentation at Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epilepsy</td>
<td>A01</td>
<td>Routinely Collected Data (HES, PEDW, ISD, HIS)</td>
<td>• 30 day mortality&lt;br&gt;• 28 day re-operation&lt;br&gt;• 28 day readmission (unplanned)&lt;br&gt;• Length of Stay&lt;br&gt;• Discharge Destination</td>
<td>Comparison to all other surgeons in the country performing these procedures (eg. funnel plot)</td>
</tr>
<tr>
<td>DBS Ablation</td>
<td>A09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurovascular decompression</td>
<td>A32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion and maintenance of spinal cord stimulators</td>
<td>A48.3 - A48.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Surgeons undertaking deep brain stimulation procedures must demonstrate compliance with NCG guidance and audits for discussion at appraisal.

2.2.5 Neuro-Oncology

1. Neurosurgeons should select their most common procedures from this sub-specialty area. At appraisal, the previous year's performance should be examined, however, to be meaningful, it will be necessary to view performance over a rolling three year period.

<table>
<thead>
<tr>
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<th>Source of Measurement</th>
<th>Measurement Criteria</th>
<th>Method of Presentation at Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low grade intrinsic tumours (ICD10 codes?)</td>
<td>A02</td>
<td>Routinely Collected Data (HES, PEDW, ISD, HIS)</td>
<td>• 30 day mortality&lt;br&gt;• 28 day re-operation&lt;br&gt;• 28 day readmission (unplanned)&lt;br&gt;• Length of Stay&lt;br&gt;• Discharge Destination</td>
<td>Comparison to all other surgeons in the country performing these procedures (eg. funnel plot)</td>
</tr>
<tr>
<td>High-grade intrinsic tumours (ICD10 codes?)</td>
<td>A02</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.2.6 Skull-Base

1. Neurosurgeons should select their most common procedures from this sub-specialty area. At appraisal, the previous year's performance should be examined, however, to be meaningful, it will be necessary to view performance over the previous 5 years.

<table>
<thead>
<tr>
<th>Key Procedures</th>
<th>OPCS Codes</th>
<th>Source of Measurement</th>
<th>Measurement Criteria</th>
<th>Method of Presentation at Appraisal</th>
</tr>
</thead>
</table>
| Meningiomas                    | A38 A42    | Routinely Collected Data (HES, PEDW, ISD, HIS) | • 30 day mortality  
• 28 day re-operation  
• 28 day readmission (unplanned)  
• Length of Stay  
• Discharge Destination | Comparison to all other surgeons in the country performing these procedures (eg. funnel plot) |
| Pituitary and sellar tumours   | B01 B04    |                        | [Separate analyses for method of admission (emergency/elective)]                      |                                     |
| Acoustic neuromas              | A29.5      |                        |                                                                                      |                                     |

Some procedures are often undertaken with surgeons from other specialties (known as ‘dual operating’). Routinely collected data such as HES cannot code a procedure to more than one surgeon, thus affecting the accuracy of any national comparative analysis. This can be overcome locally by analysing the outcomes of all patients undergoing that procedure within the unit, examining the unit outcomes and using this as the basis of discussion at appraisal.
Relevant OPCS Codes

A01.1 Major excision of tissue of brain, Hemispherectomy
A01.2 Major excision of tissue of brain, Total lobectomy of brain
A01.3 Major excision of tissue of brain, Partial lobectomy of brain
A01.8 Major excision of tissue of brain, Other specified
A01.9 Major excision of tissue of brain, Unspecified
A02.1 Excision of lesion of tissue of brain, Excision of lesion of tissue of frontal lobe of brain
A02.2 Excision of lesion of tissue of brain, Excision of lesion of tissue of temporal lobe of brain
A02.3 Excision of lesion of tissue of brain, Excision of lesion of tissue of parietal lobe of brain
A02.4 Excision of lesion of tissue of brain, Excision of lesion of tissue of occipital lobe of brain
A02.5 Excision of lesion of tissue of brain, Excision of lesion of tissue of cerebellum
A02.6 Excision of lesion of tissue of brain stem
A02.8 Excision of lesion of tissue of brain, Other specified
A02.9 Excision of lesion of tissue of brain, Unspecified
A03.1 Stereotactic ablation of tissue of brain, Stereotactic leucotomy
A03.2 Stereotactic ablation of tissue of brain, Stereotactic ablation of tissue of thalamus
A03.3 Stereotactic ablation of tissue of brain, Stereotactic ablation of tissue of globus pallidus
A03.4 Stereotactic ablation of tissue of brain, Stereotactic ablation of tissue of brain stem
A03.8 Stereotactic ablation of tissue of brain, Other specified
A03.9 Stereotactic ablation of tissue of brain, Unspecified
A04.1 Open biopsy of lesion of tissue of brain, Open biopsy of lesion of tissue of frontal lobe of brain
A04.2 Open biopsy of lesion of tissue of brain, Open biopsy of lesion of tissue of temporal lobe of brain
A04.3 Open biopsy of lesion of tissue of brain, Open biopsy of lesion of tissue of parietal lobe of brain
A04.4 Open biopsy of lesion of tissue of brain, Open biopsy of lesion of tissue of occipital lobe of brain
A04.5 Open biopsy of lesion of tissue of brain, Open biopsy of lesion of tissue of cerebellum
A04.6 Open biopsy of lesion of tissue of brain, Open biopsy of lesion of tissue of brain stem
A04.8 Open biopsy of lesion of tissue of brain, Other specified
A04.9 Open biopsy of lesion of tissue of brain, Unspecified
A05.1 Drainage of lesion of tissue of brain, Drainage of abscess of tissue of brain
A05.2 Drainage of lesion of tissue of brain, Evacuation of haematoma from temporal lobe of brain
A05.3 Drainage of lesion of tissue of brain, Evacuation of haematoma from cerebellum
A05.4 Drainage of lesion of tissue of brain, Evacuation of intracerebral haematoma nec
A05.8 Drainage of lesion of tissue of brain, Other specified
A05.9 Drainage of lesion of tissue of brain, Unspecified
A07.1 Other open operations on tissue of brain, Open division of tissue of brain
A07.2 Other open operations on tissue of brain, Removal of foreign body from tissue of brain
A07.3 Other open operations on tissue of brain, Exploration of tissue of brain
A07.4 Excision of abscess of tissue of brain
A07.5 Multiple subpial transections
A07.6 Complete callosotomy
A07.7 Partial callosotomy
A07.8 Other open operations on tissue of brain, Other specified
A07.9 Other open operations on tissue of brain, Unspecified
A08.1 Other biopsy of lesion of tissue of brain, Biopsy of lesion of tissue of frontal lobe of brain nec
A08.2 Other biopsy of lesion of tissue of brain, Biopsy of lesion of tissue of temporal lobe of brain nec
A08.3 Other biopsy of lesion of tissue of brain, Biopsy of lesion of tissue of parietal lobe of brain nec
A08.4 Other biopsy of lesion of tissue of brain, Biopsy of lesion of tissue of occipital lobe of brain nec
A08.5 Other biopsy of lesion of tissue of brain, Biopsy of lesion of tissue of cerebellum nec
A08.6 Other biopsy of lesion of tissue of brain, Biopsy of lesion of tissue of brain stem nec
A08.8 Other biopsy of lesion of tissue of brain, Other specified
A08.9 Other biopsy of lesion of tissue of brain, Unspecified
A09.1 Neurostimulation of brain, Implantation of neurostimulator into brain
A09.2 Neurostimulation of brain, Maintenance of neurostimulator in brain
A09.3 Neurostimulation of brain, Removal of neurostimulator from brain
A09.4 Operation on neurostimulator in brain NEC
A09.5 Insertion of neurostimulator electrodes into the brain
A09.8  Neurostimulation of brain, Other specified
A09.9  Neurostimulation of brain, Unspecified
A10.2  Other operations on tissue of brain, Aspiration of abscess of tissue of brain
A10.3  Other operations on tissue of brain, Aspiration of haematoma of tissue of brain
A10.4  Other operations on tissue of brain, Aspiration of lesion of tissue of brain nec
A10.5  Other operations on tissue of brain, Puncture of tissue of brain nec
A10.7  Stereotactic radiosurgery on tissue of brain
A10.8  Other operations on tissue of brain, Other specified
A10.9  Other operations on tissue of brain, Unspecified
A12.1  Creation of connection from ventricle of brain, Ventriculocisternostomy
A12.2  Creation of connection from ventricle of brain, Creation of ventriculovascular anastomosis
A12.3  Creation of connection from ventricle of brain, Creation of ventriculopleural shunt
A12.4  Creation of connection from ventricle of brain, Creation of ventriculoperitoneal shunt
A12.5  Creation of connection from ventricle of brain, Creation of subcutaneous cerebrospinal fluid reservoir
A12.8  Creation of connection from ventricle of brain, Other specified
A12.9  Creation of connection from ventricle of brain, Unspecified
A13.1  Attention to component of connection from ventricle of brain, Maintenance of proximal catheter of cerebroventricular shunt
A13.2  Attention to component of connection from ventricle of brain, Maintenance of distal catheter of cerebroventricular shunt
A13.3  Attention to component of connection from ventricle of brain, Insertion of antisyphon device into cerebroventricular shunt
A13.4  Attention to component of connection from ventricle of brain, Renewal of valve of cerebroventricular shunt
A13.8  Attention to component of connection from ventricle of brain, Other specified
A13.9  Attention to component of connection from ventricle of brain, Unspecified
A14.1  Other operation on connection from ventricle of brain, Renewal of cerebroventricular shunt
A14.2  Other operation on connection from ventricle of brain, Revision of cerebroventricular shunt nec
A14.3  Other operation on connection from ventricle of brain, Removal of cerebroventricular shunt
A14.4  Other operation on connection from ventricle of brain, Irrigation of cerebroventricular shunt
A14.5  Other operation on connection from ventricle of brain, Attention to cerebroventricular shunt nec
A14.8  Other operation on connection from ventricle of brain, Other specified
A14.9  Other operation on connection from ventricle of brain, Unspecified
A16.1  Other open operations on ventricle of brain, Open drainage of ventricle of brain nec
A16.8  Other open operations on ventricle of brain, Other specified
A16.9  Other open operations on ventricle of brain, Unspecified
A17.1  Therapeutic endoscopic operations on ventricle of brain, Endoscopic extirpation of lesion of ventricle of brain
A17.8  Therapeutic endoscopic operations on ventricle of brain, Other specified
A17.9  Therapeutic endoscopic operations on ventricle of brain, Unspecified
A18.1  Diagnostic endoscopic examination of ventricle of brain, Diagnostic endoscopic examination of ventricle of brain and biopsy of lesion of ventricle of brain
A18.8  Diagnostic endoscopic examination of ventricle of brain, Other specified
A18.9  Diagnostic endoscopic examination of ventricle of brain, Unspecified
A20.1  Other operations on ventricle of brain, Drainage of ventricle of brain nec
A20.2  Other operations on ventricle of brain, Ventriculography of brain
A20.3  Other operations on ventricle of brain, Monitoring of pressure in ventricle of brain
A20.8  Other operations on ventricle of brain, Other specified
A20.9  Other operations on ventricle of brain, Unspecified
A22.1  Operations on subarachnoid space of brain, Drainage of subarachnoid space of brain
A22.3  Operations on subarachnoid space of brain, Isotopic cisternography
A22.8  Operations on subarachnoid space of brain, Other specified
A22.9  Operations on subarachnoid space of brain, Unspecified
A24.1  Graft to cranial nerve, Primary microsurgical graft to facial nerve (vii)
A24.2  Graft to cranial nerve, Secondary microsurgical graft to facial nerve (vii)
A24.3  Graft to cranial nerve, Microsurgical graft to facial nerve (vii) nec
A24.4  Graft to cranial nerve, Primary microsurgical graft to cranial nerve nec
A24.8  Graft to cranial nerve, Other specified
A24.9 Graft to cranial nerve, Unspecified
A25.1 Intracranial transection of cranial nerve, Intracranial transection of optic nerve (ii)
A25.3 Intracranial transection of cranial nerve, Intracranial transection of trigeminal nerve (v)
A25.5 Intracranial transection of cranial nerve, Intracranial transection of acoustic nerve (viii)
A25.7 Intracranial transection of cranial nerve, Intracranial transection of vagus nerve (x)
A26.1 Other intracranial destruction of cranial nerve, Intracranial destruction of optic nerve (ii)
A26.2 Other intracranial destruction of cranial nerve, Intracranial destruction of oculomotor nerve (iii)
A26.3 Other intracranial destruction of cranial nerve, Intracranial destruction of trigeminal nerve (v)
A26.4 Other intracranial destruction of cranial nerve, Intracranial destruction of facial nerve (vii)
A26.5 Other intracranial destruction of cranial nerve, Intracranial destruction of acoustic nerve (viii)
A26.8 Other intracranial destruction of cranial nerve, Intracranial destruction of specified cranial nerve nec
A26.9 Other intracranial destruction of cranial nerve, Unspecified
A27.1 Extracranial extirpation of vagus nerve (x), Extracranial truncal vagotomy
A27.2 Extracranial extirpation of vagus nerve (x), Proximal gastric vagotomy
A27.9 Extracranial extirpation of vagus nerve (x), Unspecified
A28.1 Extracranial extirpation of other cranial nerve, Extracranial transection of trigeminal nerve (v) nec
A28.2 Extracranial extirpation of other cranial nerve, Extracranial transection of accessory nerve (xi) nec
A28.8 Extracranial extirpation of other cranial nerve, Other specified
A28.9 Extracranial extirpation of other cranial nerve, Unspecified
A29.1 Excision of lesion of cranial nerve, Excision of lesion of optic nerve (ii)
A29.3 Excision of lesion of cranial nerve, Excision of lesion of trigeminal nerve (v)
A29.4 Excision of lesion of cranial nerve, Excision of lesion of facial nerve (vii)
A29.5 Excision of lesion of cranial nerve, Excision of lesion of acoustic nerve (viii)
A29.6 Excision of lesion of cranial nerve, Excision of lesion of glossopharyngeal nerve (ix)
A29.7 Excision of lesion of cranial nerve, Excision of lesion of vagus nerve (x)
A29.8 Excision of lesion of cranial nerve, Excision of lesion of specified cranial nerve nec
A29.9 Excision of lesion of cranial nerve, Unspecified
A30.2 Repair of cranial nerve, Repair of oculomotor nerve (iii)
A30.3 Repair of cranial nerve, Repair of trigeminal nerve (v)
A30.4 Repair of cranial nerve, Repair of facial nerve (vii)
A30.8 Repair of cranial nerve, Repair of specified cranial nerve nec
A30.9 Repair of cranial nerve, Unspecified
A31.1 Intracranial stereotactic release of cranial nerve, Intracranial stereotactic neurolysis of optic nerve (ii)
A31.3 Intracranial stereotactic release of cranial nerve, Intracranial stereotactic neurolysis of trigeminal nerve (v)
A31.5 Intracranial stereotactic release of cranial nerve, Intracranial stereotactic neurolysis of acoustic nerve (viii)
A31.8 Intracranial stereotactic release of cranial nerve, Intracranial stereotactic neurolysis of specified cranial nerve nec
A32.1 Other decompression of cranial nerve, Decompression of optic nerve (ii)
A32.2 Other decompression of cranial nerve, Decompression of oculomotor nerve (iii)
A32.3 Other decompression of cranial nerve, Decompression of trigeminal nerve (v)
A32.4 Other decompression of cranial nerve, Decompression of facial nerve (vii)
A32.5 Other decompression of cranial nerve, Decompression of acoustic nerve (viii)
A32.6 Other decompression of cranial nerve, Decompression of glossopharyngeal nerve (ix)
A32.8 Other decompression of cranial nerve, Decompression of specified cranial nerve nec
A32.9 Other decompression of cranial nerve, Unspecified
A33.1 Neurostimulation of cranial nerve, Introduction of neurostimulator into cranial nerve
A33.2 Neurostimulation of cranial nerve, Maintenance of neurostimulator in cranial nerve
A33.3 Neurostimulation of cranial nerve, Removal of neurostimulator from cranial nerve
A33.4 Insertion of neurostimulator electrodes into the cranial nerve
A33.8 Neurostimulation of cranial nerve, Other specified
A33.9 Neurostimulation of cranial nerve, Unspecified
A34.3 Exploration of cranial nerve, Exploration of trigeminal nerve (v)
A34.4 Exploration of cranial nerve, Exploration of facial nerve (vii)
A34.5 Exploration of cranial nerve, Exploration of acoustic nerve (viii)
A34.6 Exploration of cranial nerve, Exploration of glossopharyngeal nerve (ix)
A34.8 Exploration of cranial nerve, Exploration of specified cranial nerve nec
A36.1 Other operations on cranial nerve, Hypoglossofacial anastomosis
A36.2 Other operations on cranial nerve, Anastomosis of cranial nerve nec
A36.3 Other operations on cranial nerve, Biopsy of lesion of cranial nerve
A36.8 Other operations on cranial nerve, Other specified
A36.9 Other operations on cranial nerve, Unspecified
A38.1 Extirpation of lesion of meninges of brain, Extirpation of lesion of meninges of cortex of brain
A38.2 Extirpation of lesion of meninges of brain, Extirpation of lesion of meninges of sphenoidal ridge of cranium
A38.3 Extirpation of lesion of meninges of brain, Extirpation of lesion of meninges of subfrontal region of brain
A38.4 Extirpation of lesion of meninges of brain, Extirpation of lesion of meninges of parasagittal region of brain
A38.5 Extirpation of lesion of meninges of brain, Extirpation of lesion of falx cerebri
A38.6 Extirpation of lesion of meninges of brain, Extirpation of lesion of tentorium cerebelli
A38.8 Extirpation of lesion of meninges of brain, Other specified
A38.9 Extirpation of lesion of meninges of brain, Unspecified
A39.1 Repair of dura, Repair of meningoencephalocele
A39.2 Repair of dura, Repair of dura of anterior fossa of cranium
A39.3 Repair of dura, Repair of dura of middle fossa of cranium
A39.4 Repair of dura, Repair of dura of posterior fossa of cranium
A39.5 Repair of dura, Repair of dura of vault of cranium
A39.8 Repair of dura, Other specified
A39.9 Repair of dura, Unspecified
A40.1 Drainage of extradural space, Evacuation of extradural haematoma
A40.8 Drainage of extradural space, Other specified
A40.9 Drainage of extradural space, Unspecified
A41.1 Drainage of subdural space, Evacuation of subdural haematoma
A41.2 Drainage of subdural space, Drainage of abscess of subdural space
A41.8 Drainage of subdural space, Other specified
A41.9 Drainage of subdural space, Unspecified
A42.2 Other operations on meninges of brain, Biopsy of lesion of meninges of brain
A42.8 Other operations on meninges of brain, Other specified
A44.1 Partial extirpation of spinal cord, Chordectomy of spinal cord
A44.2 Partial extirpation of spinal cord, Extirpation of lesion of spinal cord
A44.3 Excision of lesion of intramedullary spinal cord
A44.4 Excision of lesion of extradural spinal cord
A44.8 Partial extirpation of spinal cord, Other specified
A44.9 Partial extirpation of spinal cord, Unspecified
A45.1 Other open operations on spinal cord, Stereotactic chordotomy of spinal cord
A45.2 Other open operations on spinal cord, Open chordotomy of spinal cord nec
A45.3 Other open operations on spinal cord, Myelotomy of spinal cord
A45.4 Other open operations on spinal cord, Open biopsy of lesion of spinal cord
A45.5 Other open operations on spinal cord, Removal of foreign body from spinal cord
A45.6 Open aspiration of lesion of spinal cord
A45.8 Other open operations on spinal cord, Other specified
A45.9 Other open operations on spinal cord, Unspecified
A47.1 Other destruction of spinal cord, Needle destruction of substantia gelatinosa of cervical spinal cord
A47.2 Other destruction of spinal cord, Radiofrequency controlled thermal destruction of spinothalamic tract
A47.3 Other destruction of spinal cord, Percutaneous chordotomy of spinal cord
A47.8 Other destruction of spinal cord, Other specified
A48.1 Other operations on spinal cord, Biopsy of lesion of spinal cord nec
A48.2 Other operations on spinal cord, Aspiration of lesion of spinal cord
A48.3 Other operations on spinal cord, Insertion of neurostimulator adjacent to spinal cord
A48.4 Other operations on spinal cord, Attention to neurostimulator adjacent to spinal cord
A48.5 Reprogramming of neurostimulator adjacent to spinal cord
A48.6 Removal of neurostimulator adjacent to spinal cord
A48.7 Insertion of neurostimulator electrodes into the spinal cord
A48.8 Other operations on spinal cord, Other specified
A48.9 Other operations on spinal cord, Unspecified
A49.1 Repair of spina bifida, Freeing of spinal tether
A49.2 Repair of spina bifida, Closure of spinal myelomeningocele
A49.3 Repair of spina bifida, Closure of spinal meningocele
A49.4 Complex freeing of spinal tether
A49.8 Repair of spina bifida, Other specified
A49.9 Repair of spina bifida, Unspecified
A51.1 Other operations on meninges of spinal cord, Extirpation of lesion of meninges of spinal cord
A51.2 Other operations on meninges of spinal cord, Freeing of adhesions of meninges of spinal cord
A51.3 Other operations on meninges of spinal cord, Biopsy of lesion of meninges of spinal cord
A51.8 Other operations on meninges of spinal cord, Other specified
A51.9 Other operations on meninges of spinal cord, Unspecified
A52.1 Therapeutic epidural injection, Therapeutic lumbar epidural injection
A52.2 Therapeutic epidural injection, Therapeutic sacral epidural injection
A52.8 Therapeutic epidural injection, Other specified
A52.9 Therapeutic epidural injection, Unspecified
A53.1 Drainage of spinal canal, Cerebrospinal syringostomy
A53.2 Drainage of spinal canal, Creation of thecoperitoneal shunt
A53.3 Drainage of spinal canal, Creation of syringoperitoneal shunt
A53.4 Drainage of spinal canal, Creation of lumboperitoneal shunt
A53.5 Drainage of spinal canal, Drainage of cerebrospinal fluid nec
A53.6 Creation of lumbar subcutaneous shunt
A53.8 Drainage of spinal canal, Other specified
A53.9 Drainage of spinal canal, Unspecified
A54.1 Therapeutic spinal puncture, Injection of destructive substance into cerebrospinal fluid
A54.2 Therapeutic spinal puncture, Injection of therapeutic substance into cerebrospinal fluid
A54.3 Implantation of intrathecal drug delivery device adjacent to spinal cord
A54.4 Attention to intrathecal drug delivery device adjacent to spinal cord
A54.5 Removal of intrathecal drug delivery device adjacent to spinal cord

B01.1 Excision of pituitary gland, Transethmoidal hypophysectomy
B01.2 Excision of pituitary gland, Transphenoidal hypophysectomy
B01.3 Excision of pituitary gland, Transseptal hypophysectomy
B01.4 Excision of pituitary gland, Transcranial hypophysectomy
B01.8 Excision of pituitary gland, Other specified
B01.9 Excision of pituitary gland, Unspecified
B02.2 Destruction of pituitary gland, Implantation of radioactive substance into pituitary gland
B04.1 Other operations on pituitary gland, Excision of lesion of pituitary gland
B04.2 Other operations on pituitary gland, Biopsy of lesion of pituitary gland
B04.3 Other operations on pituitary gland, Decompression of pituitary gland
B04.4 Other operations on pituitary gland, Exploration of pituitary gland
B04.5 Other operations on pituitary gland, Operations on pituitary stalk
B04.8 Other operations on pituitary gland, Other specified
B04.9 Other operations on pituitary gland, Unspecified
B06.1 Operations on the pineal gland, Excision of pineal gland
B06.8 Operations on the pineal gland, Other specified

L33.1 Operations on aneurysm of cerebral artery, Excision of aneurysm of cerebral artery
L33.2 Operations on aneurysm of cerebral artery, Clipping of aneurysm of cerebral artery
L33.3 Operations on aneurysm of cerebral artery, Ligation of aneurysm of cerebral artery nec
L33.4 Operations on aneurysm of cerebral artery, Obliteration of aneurysm of cerebral artery nec
L33.8 Operations on aneurysm of cerebral artery, Other specified
L33.9 Operations on aneurysm of cerebral artery, Unspecified
L75.1 Other arteriovenous operations, Excision of congenital arteriovenous malformation
L75.3 Other arteriovenous operations, Embolisation of arteriovenous abnormality
L75.4 Percutaneous transluminal embolisation of arteriovenous malformation NEC
L75.5 Percutaneous transluminal venous embolisation of arteriovenous malformation
L75.6 Percutaneous transluminal arterial and venous embolisation of arteriovenous malformation

V22.1 Primary decompression operations on cervical spine, Primary anterior decompression of cervical spinal cord and fusion of joint of cervical spine
V22.2 Primary decompression operations on cervical spine, Primary anterior decompression of cervical spinal cord nec
V22.3 Primary decompression operations on cervical spine, Primary foraminotomy of cervical spine
V22.4 Primary anterior corpectomy of cervical spinal cord with reconstruction HFQ
V22.5 Primary decompression of posterior fossa and upper cervical spinal cord and instrumentation
V22.6 Primary decompression of posterior fossa and upper cervical spinal cord NEC
V22.8 Primary decompression operations on cervical spine, Other specified
V22.9 Primary decompression operations on cervical spine, Unspecified
V23.1 Revisional decompression operations on cervical spine, Revisional anterior decompression of cervical spinal cord and fusion of joint of cervical
V23.2 Revisional decompression operations on cervical spine, Revisional anterior decompression of cervical spinal cord nec
V23.3 Revisional decompression operations on cervical spine, Revisional foraminotomy of cervical spine
V23.4 Revisional anterior corpectomy of cervical spinal cord with reconstruction HFQ
V23.5 Revisional decompression of posterior fossa and upper cervical spinal cord and instrumentation
V23.6 Revisional decompression of posterior fossa and upper cervical spinal cord NEC
V23.8 Revisional decompression operations on cervical spine, Other specified
V23.9 Revisional decompression operations on cervical spine, Unspecified
V24.1 Decompression operations on thoracic spine, Primary decompression of thoracic spinal cord and fusion of joint of thoracic spine
V24.2 Decompression operations on thoracic spine, Primary decompression of thoracic spinal cord nec
V24.3 Decompression operations on thoracic spine, Revisional decompression of thoracic spinal cord
V24.4 Primary anterior corpectomy of thoracic spinal cord and reconstruction HFQ
V24.5 Revisional anterior corpectomy of thoracic spinal cord and reconstruction HFQ
V24.8 Decompression operations on thoracic spine, Other specified
V24.9 Decompression operations on thoracic spine, Unspecified
V25.1 Primary decompression operations on lumbar spine, Primary extended decompression of lumbar spinal cord and intertransverse fusion of joint of
V25.2 Primary decompression operations on lumbar spine, Primary extended decompression of lumbar spinal cord nec
V25.3 Primary decompression operations on lumbar spine, Primary posterior decompression of lumbar spinal cord and intertransverse fusion of joint of
V25.4 Primary decompression operations on lumbar spine, Primary posterior laminectomy decompression of lumbar spinal cord
V25.5 Primary decompression operations on lumbar spine, Primary posterior decompression of lumbar spinal cord nec
V25.6 Primary decompression operations on lumbar spine, Primary lateral foraminotomy of lumbar spine
V25.8 Primary decompression operations on lumbar spine, Other specified
V25.9 Primary decompression operations on lumbar spine, Unspecified
V26.1 Revisional decompression operations on lumbar spine, Revisional extended decompression of lumbar spinal cord and intertransverse fusion of joint
V26.2 Revisional decompression operations on lumbar spine, Revisional extended decompression of lumbar spinal cord nec
V26.3 Revisional decompression operations on lumbar spine, Revisional posterior decompression of lumbar spinal cord and intertransverse fusion of joint
V26.4 Revisional decompression operations on lumbar spine, Revisional posterior laminectomy decompression of lumbar spinal cord
V26.5 Revisional decompression operations on lumbar spine, Revisional posterior decompression of lumbar spinal cord nec
V26.6 Revisional decompression operations on lumbar spine, Revisional lateral foraminotomy of lumbar spine
V26.8 Revisional decompression operations on lumbar spine, Other specified
V26.9 Revisional decompression operations on lumbar spine, Unspecified
V27.1 Decompression operations on unspecified spine, Primary decompression of spinal cord and fusion of joint of
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V27.2</td>
<td>Decompression operations on unspecified spine, Primary decompression of spinal cord nec</td>
</tr>
<tr>
<td>V27.3</td>
<td>Decompression operations on unspecified spine, Revisinal decompression of spinal cord nec</td>
</tr>
<tr>
<td>V27.8</td>
<td>Decompression operations on unspecified spine, Other specified</td>
</tr>
<tr>
<td>V27.9</td>
<td>Decompression operations on unspecified spine, Unspecified</td>
</tr>
<tr>
<td>V28.1</td>
<td>Primary insertion of lumbar interspinous process spacer</td>
</tr>
<tr>
<td>V28.2</td>
<td>Revisional insertion of lumbar interspinous process spacer</td>
</tr>
<tr>
<td>V28.8</td>
<td>Other specified insertion of lumbar interspinous process spacer</td>
</tr>
<tr>
<td>V29.1</td>
<td>Primary excision of cervical intervertebral disc, Primary laminectomy excision of cervical intervertebral disc</td>
</tr>
<tr>
<td>V29.2</td>
<td>Primary excision of cervical intervertebral disc, Primary hemilaminectomy excision of cervical intervertebral disc</td>
</tr>
<tr>
<td>V29.3</td>
<td>Primary excision of cervical intervertebral disc, Primary fenestration excision of cervical intervertebral disc</td>
</tr>
<tr>
<td>V29.4</td>
<td>Primary excision of cervical intervertebral disc, Primary anterior excision of cervical intervertebral disc and interbody fusion of joint of</td>
</tr>
<tr>
<td>V29.5</td>
<td>Primary excision of cervical intervertebral disc, Primary anterior excision of cervical intervertebral disc nec</td>
</tr>
<tr>
<td>V29.6</td>
<td>Primary excision of cervical intervertebral disc, Primary microdiscectomy of cervical intervertebral disc</td>
</tr>
<tr>
<td>V29.8</td>
<td>Other specified excision of cervical intervertebral disc, Other specified</td>
</tr>
<tr>
<td>V29.9</td>
<td>Other specified excision of cervical intervertebral disc, Unspecified</td>
</tr>
<tr>
<td>V30.1</td>
<td>Revisional excision of cervical intervertebral disc, Revisional laminectomy excision of cervical intervertebral disc</td>
</tr>
<tr>
<td>V30.2</td>
<td>Revisional excision of cervical intervertebral disc, Revisional hemilaminectomy excision of cervical intervertebral disc</td>
</tr>
<tr>
<td>V30.4</td>
<td>Revisional excision of cervical intervertebral disc, Revisional anterior excision of cervical intervertebral disc and interbody fusion of joint of</td>
</tr>
<tr>
<td>V30.5</td>
<td>Revisional excision of cervical intervertebral disc, Revisional anterior excision of cervical intervertebral disc nec</td>
</tr>
<tr>
<td>V30.6</td>
<td>Revisional excision of cervical intervertebral disc, Revisional microdiscectomy of cervical intervertebral disc</td>
</tr>
<tr>
<td>V30.8</td>
<td>Revisional excision of cervical intervertebral disc, Other specified</td>
</tr>
<tr>
<td>V30.9</td>
<td>Revisional excision of cervical intervertebral disc, Unspecified</td>
</tr>
<tr>
<td>V31.1</td>
<td>Primary excision of thoracic intervertebral disc, Primary anterolateral excision of thoracic intervertebral disc and graft hq</td>
</tr>
<tr>
<td>V31.2</td>
<td>Primary excision of thoracic intervertebral disc, Primary anterolateral excision of thoracic intervertebral disc nec</td>
</tr>
<tr>
<td>V31.3</td>
<td>Primary excision of thoracic intervertebral disc, Primary costotransversectomy of thoracic intervertebral disc</td>
</tr>
<tr>
<td>V31.8</td>
<td>Primary excision of thoracic intervertebral disc, Other specified</td>
</tr>
<tr>
<td>V31.9</td>
<td>Primary excision of thoracic intervertebral disc, Unspecified</td>
</tr>
<tr>
<td>V32.2</td>
<td>Revisional excision of thoracic intervertebral disc, Revisional anterolateral excision of thoracic intervertebral disc nec</td>
</tr>
<tr>
<td>V32.8</td>
<td>Revisional excision of thoracic intervertebral disc, Other specified</td>
</tr>
<tr>
<td>V32.9</td>
<td>Revisional excision of thoracic intervertebral disc, Unspecified</td>
</tr>
<tr>
<td>V33.1</td>
<td>Primary excision of lumbar intervertebral disc, Primary laminectomy excision of lumbar intervertebral disc</td>
</tr>
<tr>
<td>V33.2</td>
<td>Primary excision of lumbar intervertebral disc, Primary fenestration excision of lumbar intervertebral disc</td>
</tr>
<tr>
<td>V33.3</td>
<td>Primary excision of lumbar intervertebral disc, Primary anterior excision of lumbar intervertebral disc and interbody fusion of joint of</td>
</tr>
<tr>
<td>V33.4</td>
<td>Primary excision of lumbar intervertebral disc, Primary anterior excision of lumbar intervertebral disc nec</td>
</tr>
<tr>
<td>V33.5</td>
<td>Primary excision of lumbar intervertebral disc, Primary anterior excision of lumbar intervertebral disc and posterior graft fusion of joint of</td>
</tr>
<tr>
<td>V33.6</td>
<td>Primary excision of lumbar intervertebral disc, Primary anterior excision of lumbar intervertebral disc and posterior instrumentation of</td>
</tr>
<tr>
<td>V33.7</td>
<td>Primary excision of lumbar intervertebral disc, Primary microdiscectomy of lumbar intervertebral disc</td>
</tr>
<tr>
<td>V33.8</td>
<td>Primary excision of lumbar intervertebral disc, Other specified</td>
</tr>
<tr>
<td>V33.9</td>
<td>Primary excision of lumbar intervertebral disc, Unspecified</td>
</tr>
<tr>
<td>V34.1</td>
<td>Revisional excision of lumbar intervertebral disc, Revisional laminectomy excision of lumbar intervertebral disc</td>
</tr>
<tr>
<td>V34.2</td>
<td>Revisional excision of lumbar intervertebral disc, Revisional fenestration excision of lumbar intervertebral disc</td>
</tr>
<tr>
<td>V34.3</td>
<td>Revisional excision of lumbar intervertebral disc, Revisional anterior excision of lumbar intervertebral disc</td>
</tr>
</tbody>
</table>
and interbody fusion of joint of
V34.4 Revisional excision of lumbar intervertebral disc, Revisional anterior excision of lumbar intervertebral disc nec
V34.5 Revisional excision of lumbar intervertebral disc, Revisional anterior excision of lumbar intervertebral disc and posterior graft fusion of joint
V34.6 Revisional excision of lumbar intervertebral disc, Revisional anterior excision of lumbar intervertebral disc and posterior instrumentation of
V34.7 Revisional excision of lumbar intervertebral disc, Revisional microdiscectomy of lumbar intervertebral disc
V34.8 Revisional excision of lumbar intervertebral disc, Other specified
V34.9 Revisional excision of lumbar intervertebral disc, Unspecified
V35.1 Excision of unspecified intervertebral disc, Primary excision of intervertebral disc nec
V35.2 Excision of unspecified intervertebral disc, Revisional excision of intervertebral disc nec
V35.8 Excision of unspecified intervertebral disc, Other specified
V35.9 Excision of unspecified intervertebral disc, Unspecified
V36.1 Prosthetic replacement of cervical intervertebral disc
V36.2 Prosthetic replacement of thoracic intervertebral disc
V36.3 Prosthetic replacement of lumbar intervertebral disc
V36.8 Other specified prosthetic replacement of intervertebral disc
V36.9 Unspecified prosthetic replacement of intervertebral disc
V37.1 Primary fusion of joint of cervical spine, Posterior fusion of atlantoaxial joint
V37.2 Primary fusion of joint of cervical spine, Posterior fusion of joint of cervical spine nec
V37.3 Primary fusion of joint of cervical spine, Transoral fusion of atlantoaxial joint
V37.4 Primary fusion of joint of cervical spine, Fusion of atlantooccipital joint
V37.8 Primary fusion of joint of cervical spine, Other specified
V37.9 Primary fusion of joint of cervical spine, Unspecified
V38.1 Primary fusion of other joint of spine, Primary fusion of joint of thoracic spine
V38.2 Primary fusion of other joint of spine, Primary posterior interlaminar fusion of joint of lumbar spine
V38.3 Primary fusion of other joint of spine, Primary posterior fusion of joint of lumbar spine nec
V38.4 Primary fusion of other joint of spine, Primary intertransverse fusion of joint of lumbar spine nec
V38.5 Primary posterior interbody fusion of joint of lumbar spine
V38.6 Primary transforaminal interbody fusion of joint of lumbar spine
V38.8 Primary fusion of other joint of spine, Other specified
V38.9 Primary fusion of other joint of spine, Unspecified
V39.1 Revisional fusion of joint of spine, Revisional fusion of joint of cervical spine
V39.2 Revisional fusion of joint of spine, Revisional fusion of joint of thoracic spine
V39.3 Revisional fusion of joint of spine, Revisional posterior interlaminar fusion of joint of lumbar spine
V39.4 Revisional fusion of joint of spine, Revisional posterior fusion of joint of lumbar spine nec
V39.5 Revisional fusion of joint of spine, Revisional intertransverse fusion of joint of lumbar spine nec
V39.6 Revisional posterior interbody fusion of joint of lumbar spine
V39.7 Revisional transforaminal interbody fusion of joint of lumbar spine
V39.8 Revisional fusion of joint of spine, Other specified
V39.9 Revisional fusion of joint of spine, Unspecified
V40.1 Non-rigid stabilisation of spine
V40.8 Other specified stabilisation of spine
V40.9 Unspecified stabilisation of spine
V41.1 Instrumental correction of deformity of spine, Posterior attachment of correctional instrument to spine
V41.2 Instrumental correction of deformity of spine, Anterior attachment of correctional instrument to spine
V41.3 Instrumental correction of deformity of spine, Removal of correctional instrument from spine
V41.8 Instrumental correction of deformity of spine, Other specified
V41.9 Instrumental correction of deformity of spine, Unspecified
V42.1 Other correction of deformity of spine, Excision of rib hump
V42.2 Other correction of deformity of spine, Epiphysiodesis of spinal apophyseal joint for correction of deformity
V42.3 Other correction of deformity of spine, Anterolateral release of spine for correction of deformity and graft hfg
V42.4 Anterior and posterior epiphysiodesis of spine for correction of deformity
V42.5 Anterior epiphysiodesis of spine for correction of deformity
V42.6 Posterior epiphysiodesis of spine for correction of deformity
V42.8 Other correction of deformity of spine, Other specified
V42.9 Other correction of deformity of spine, Unspecified
V43.1 Extirpation of lesion of spine, Excision of lesion of cervical vertebra
V43.2 Extirpation of lesion of spine, Excision of lesion of thoracic vertebra
V43.3 Extirpation of lesion of spine, Excision of lesion of lumbar vertebra
V43.8 Extirpation of lesion of spine, Other specified
V43.9 Extirpation of lesion of spine, Unspecified
V44.1 Decompression of fracture of spine, Complex decompression of fracture of spine
V44.2 Decompression of fracture of spine, Anterior decompression of fracture of spine
V44.3 Decompression of fracture of spine, Posterior decompression of fracture of spine
V44.4 Vertebroplasty of fracture of spine
V44.8 Decompression of fracture of spine, Other specified
V44.9 Decompression of fracture of spine, Unspecified
V45.1 Other reduction of fracture of spine, Open reduction of fracture of spine and excision of facet of spine
V45.2 Other reduction of fracture of spine, Open reduction of fracture of spine nec
V45.3 Other reduction of fracture of spine, Manipulative reduction of fracture of spine
V45.8 Other reduction of fracture of spine, Other specified
V45.9 Other reduction of fracture of spine, Unspecified
V46.1 Fixation of fracture of spine, Fixation of fracture of spine using plate
V46.2 Fixation of fracture of spine, Fixation of fracture of spine using Harrington rod
V46.3 Fixation of fracture of spine, Fixation of fracture of spine using wire
V46.4 Fixation of fracture of spine, Fixation of fracture of spine and skull traction hfq
V46.8 Fixation of fracture of spine, Other specified
V46.9 Fixation of fracture of spine, Unspecified