

AROC IMPAIRMENT CODING GUIDELINES

The aim of these guidelines is to assist in correctly classifying a rehabilitation episode according to impairment groups. There are 2 over-riding rules that need to be considered when using these guidelines:

1. The episode should be classified according to the **primary** reason for the **current** episode of rehabilitation care

2. Rehabilitation program names related to funding are not necessarily the same as the impairment group names
(eg. a patient in a debility/reconditioning funding program may be having rehabilitation due to deconditioning related to a cardiac disorder – this episode should be classified to 9.2 Chronic cardiac insufficiency not to 16 Reconditioning/restorative)

Please note that the examples of aetiologic diagnoses that underpin each impairment, which are provided under each impairment group, are not exhaustive.

(1) STROKE

USE this group for cases with the diagnosis of cerebral ischemia due to vascular thrombosis, embolism, or haemorrhage. Ischaemic strokes that then have a haemorrhagic event should be classified as Stroke – Ischaemic.

Do NOT use this group for:

1. cases of brain dysfunction secondary to non-vascular causes such as trauma, inflammation, tumour or degenerative changes.
2. cases of subarachnoid haemorrhage. These should be classified to BRAIN DYSFUNCTION (2)

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
STROKE-haemorrhagic	1.11 Left Body Involvement (Right Brain)	Intracerebral haemorrhage
	1.12 Right Body Involvement (Left Brain)	Other and unspecified intracranial haemorrhage
	1.13 Bilateral Involvement	
	1.14 No Paresis	
	1.19 Other Stroke	

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
STROKE - ischaemic	1.21 Left Body Involvement (Right Brain)	Occlusion and stenosis of precerebral arteries, with cerebral infarction
	1.22 Right Body Involvement (Left Brain)	Occlusion of cerebral arteries, with cerebral infarction
	1.23 Bilateral Involvement	
	1.24 No Paresis	
	1.29 Other Stroke	

(2) BRAIN DYSFUNCTION

Non-traumatic Brain Dysfunction

USE this group cases with such aetiologies as neoplasm including metastases, encephalitis, inflammation, anoxia, metabolic toxicity, or degenerative processes.

Do NOT use this group for cases with hemorrhagic stroke (other than subarachnoid haemorrhage) - These should be classified to STROKE (1).

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
BRAIN DYSFUNCTION	2.11 Non-traumatic subarachnoid haemorrhage	Non-traumatic spontaneous/ berry aneurysm
	2.12 Anoxic brain damage	Anoxic brain damage (Anoxic/ hypoxic encephalopathy)
	2.13 Other non-traumatic brain dysfunction	Encephalitis
		Meningitis
		Neoplasm/tumour of brain or meninges – malignant or benign (includes secondary tumours)
		Neoplasm/tumour of cranial nerves
		Intracranial abscess
		Hydrocephalus
Toxic encephalopathy		

Traumatic Brain Dysfunction

USE this group for cases with motor and/or cognitive disorder secondary to brain trauma.

Definition: A closed head injury is defined as an injury where the meninges remain intact (includes a linear fracture of the skull)

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
BRAIN DYSFUNCTION	2.21 Traumatic, open injury	Skull fracture
		Cerebral laceration and contusion, with open intracranial wound
		Subarachnoid, subdural, extradural, and other unspecified haemorrhage following injury
		Other and unspecified intracranial haemorrhage following injury
BRAIN DYSFUNCTION	2.22 Traumatic, closed injury	Linear skull fracture
		Concussion
		Cerebral laceration and contusion
		Subarachnoid, subdural, extradural and other unspecified haemorrhage following injury
		Other and unspecified intracranial haemorrhage following injury

(3) NEUROLOGICAL CONDITIONS

USE this group for cases with neurological or neuromuscular dysfunctions of various aetiologies.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis	
NEUROLOGICAL CONDITIONS	3.1 Multiple Sclerosis	Multiple Sclerosis	
	3.2 Parkinsonism	Parkinsonism	
	3.3 Polyneuropathy	Hereditary and idiopathic peripheral neuropathy Peripheral neuropathy, inflammatory, toxic, traumatic, or other Brachial plexus or lumbosacral plexus injury	
	3.4 Guillain-Barré Syndrome	Acute inflammatory polyneuritis	
	3.5 Cerebral Palsy	Infantile cerebral palsy	
	3.8 Neuromuscular Disorders		Post poliomyelitis/ post polio syndrome
			Motor neurone disease
			Myasthenia gravis
			Muscular dystrophies and other myopathies
	3.9 Other Neurological disorders		Other extrapyramidal disease and abnormal movement disorders
			Spinocerebellar disease
Disorders of the autonomic nervous system			
Other demyelinating diseases of the central nervous system			

(4) SPINAL CORD DYSFUNCTION

USE this group only if there is a spinal cord/ caudaequina dysfunction.

Do NOT use this group for post spinal surgery, unless the surgery has resulted in dysfunction of the spinal cord/ caudaequina.

A detailed coding guideline for patients with spinal cord injury, disease and damage is contained in the appendix to assist in the coding of patients. It is suggested that this be reviewed when considering patients with these conditions to ensure the most accurate code relevant for patient is used.

Non-traumatic Spinal Cord Dysfunction

USE this group for cases with quadriplegia/paresis and paraplegia/paresis of non-traumatic (i.e., **medical or post-operative**) origin.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis	
SPINAL CORD DYSFUNCTION	4.111 Paraplegia, Incomplete	Tuberculosis/ infective processes involving the vertebral column	
	4.112 Paraplegia, Complete	Neoplasm/ tumour of spinal column or spinal meninges, malignant or benign (includes secondary tumours)	
	4.1211 Quadriplegia, Incomplete, C1-4	Neoplasm of other parts of nervous system, of unspecified nature	
	4.1212 Quadriplegia, Incomplete, C5-8		Transverse myelitis
			Intraspinal or paraspinal abscess
			Dissection of aorta
	4.1221 Quadriplegia, Complete, C1-4		Aortic aneurysm, ruptured
			Spontaneous haematoma
			Spondylosis with myelopathy

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
	4.1222 Quadriplegia, Complete, C5-8	Spinal infarction
		Intervertebral disc disorder with myelopathy
	4.13 Other Non-traumatic Spinal Cord Dysfunction	Spinal stenosis in cervical region (if deficits include weakness)
		Spinal stenosis, other than cervical (if deficit includes weakness)
		Late effects of spinal cord injury
		Pathological fracture with associated spinal cord dysfunction
		An unavoidable/recognised surgical complication resulting in spinal cord dysfunction following surgery for the above conditions

Traumatic Spinal Cord Dysfunction

USE this group for cases with quadriplegia/paresis and paraplegia/paresis secondary to trauma (accident/injury).

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
SPINAL CORD DYSFUNCTION	4.211 Paraplegia, Incomplete	Fracture of vertebral column with spinal cord injury
	4.212 Paraplegia, Complete	Spinal cord injury without evidence of spinal bone injury
	4.2211 Quadriplegia, Incomplete, C1-4	Spinal cord dysfunction resulting from surgical misadventure
	4.2212 Quadriplegia, Incomplete, C5-8	
	4.2221 Quadriplegia, Complete, C1-4	
	4.2222 Quadriplegia, Complete, C5-8	
	4.23 Other Traumatic Spinal Cord Dysfunction	

(5) AMPUTATION

USE this group for cases in which the major deficit is partial or complete absence of a limb.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
AMPUTATION – NOT resulting from a trauma	5.11 Single Upper Amputation Above the Elbow	Neoplasm of bones or cartilage and other soft tissue of limb
		Secondary neoplasm of bone
	5.12 Single Upper Amputation Below the Elbow	Diabetes with neurologic manifestations or diabetes with peripheral circulatory disorders
		Hereditary and idiopathic peripheral neuropathy
	5.13 Single Lower Amputation Above the Knee (includes through the knee)	Inflammatory and toxic neuropathy
		Atherosclerosis of the extremities
		Peripheral vascular disease, unspecified
		Arterial embolism and thrombosis, extremities
	5.14 Single Lower Amputation Below the Knee	Buerger’s disease
		Acquired deformity or injury affecting limbs
		Aneurysm of extremities
		Amputation stump complication/ revision
	5.15 Double Lower Amputation Above the Knee (includes through the knee)	Haemangioma
	Vasculitis (eg scleroderma, SLE)	
	Connective tissue disorders	
	Gangrene	
5.16 Double Lower Amputation Above/Below the Knee	Infective processes (eg osteomyelitis/	
	Congenital limb loss (when prosthesis required) required)	
5.17 Double Lower Amputation Below the Knee		
5.18 Partial Foot Amputation (includes single/double)		
5.19 Other Amputation		

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
AMPUTATION – as a result of Trauma	5.21 Single Upper Amputation Above the Elbow	Traumatic amputation (complete) (partial)
	5.22 Single Upper Amputation Below the Elbow	
	5.23 Single Lower Amputation Above the Knee (includes through the knee)	
	5.24 Single Lower Amputation Below the Knee	
	5.25 Double Lower Amputation Above the Knee (includes through the knee)	
	5.26 Double Lower Amputation Above/Below the Knee	
	5.27 Double Lower Amputation Below the Knee	
	5.28 Partial Foot Amputation (includes single/double)	
	5.29 Other Amputation	

(6) ARTHRITIS

USE this group for cases in which the major disorder is arthritis of all aetiologies.

Do NOT use for cases entering rehabilitation immediately after joint replacement, even if the procedure was performed secondary to arthritis. These should be classified to POST ORTHOPAEDIC SURGERY (8.211 – 08.26)

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
ARTHRITIS	6.1 Rheumatoid arthritis	Rheumatoid arthritis
		Juvenile chronic polyarthritis
		Chronic post-rheumatic arthropathy
	6.2 Osteoarthritis	Osteoarthritis and allied disorders
	6.9 Other Arthritis	Psoriatic arthropathy
		Scleroderma
		Systemic lupus erythematosus
		Systemic sclerosis
		Dermatomyositis
		Polymyositis
		Pyogenic arthritis
		Other and unspecified arthropathies
		Fibromyalgia
Ankylosing spondylitis		

(7) PAIN SYNDROMES

USE this group for cases in which the primary purpose for this rehabilitation episode is pain management.

Do NOT use this group if pain management is only one component of the patient's rehabilitation program. These should be classified to the group representing the primary impairment.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
PAIN SYNDROMES	7.1 Neck Pain	Various aetiologies
	7.2 Back Pain	
	7.3 Extremity Pain	
	7.4 Headache (includes migraine)	
	7.5 Multi-site pain	
	7.9 Other Pain (includes abdominal/chest wall)	

(8) ORTHOPAEDIC CONDITIONS

USE this group for cases in which the major disorder is post-fracture of bone or post-arthroplasty (joint replacement).

Fracture (*includes dislocation*)

USE when joint replacement (arthroplasty or hemiarthroplasty) is part of the fracture treatment (eg if rehabilitation follows a hip replacement for hip fracture).

AROC Impairment Group	AROC Impairment Group Code	
FRACTURE	8.111 Fracture of Hip, unilateral	includes #NOF
	8.112 Fracture of Hip, bilateral	includes #NOF
	8.12 Fracture of shaft of femur	excludes femur involving knee joint
	8.13 Fracture of pelvis	
	8.141 Fracture of knee	includes patella, femur involving knee joint, tibia or fibula involving knee joint
	8.142 Fracture of lower leg, ankle, foot	
	8.15 Fracture of upper limb	includes hand, fingers, wrist, forearm, arm, shoulder
	8.16 Fracture of spine	excludes where the major disorder is pain
	8.17 Fracture of multiple sites	multiple bones of same lower limb, both lower limbs, lower with upper limb, lower limb with rib or sternum. Excludes with brain injury (classify to 14.2) or with spinal cord injury (classify to 14.3)
	8.19 Other orthopaedic fracture	includes jaw, face, rib, orbit or sites not elsewhere classified

Post Orthopaedic Surgery

USE this group for all orthopaedic surgery cases, including the revision or repair of previous orthopaedic surgery.

Do NOT use this group when orthopaedic surgery is part of acute fracture management. These should be classified to 8.111 – 8.19.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
POST ORTHOPAEDIC SURGERY	8.211 Unilateral hip replacement	Psoriatic arthropathy
	8.212 Bilateral hip replacement	Pyogenic arthritis
		Rheumatoid arthritis
	8.221 Unilateral knee replacement	Juvenile chronic polyarthritis
		Chronic post-rheumatic arthropathy
	8.222 Bilateral knee replacement	Osteoarthritis and allied disorder
		Other and unspecified arthropathies
8.231 Knee and hip replacement same side	Ankylosing spondylitis	
	Mechanical complication of internal orthopedic device, implant and graft	

	8.232	Knee and hip replacement different sides	Infection and inflammatory reaction due to internal orthopedic device, implant and graft
	8.24	Shoulder replacement or repair	Other complications due to internal orthopedic or prosthetic device, implant and graft
			Neoplasm of bone and articular cartilage
			Secondary neoplasm of bone
	8.25	Post spinal surgery	Includes nerve root injury (laminectomy, spinal fusion, discectomy) Includes spinal deformity surgery Excludes spinal cord, caudaequina/major nerve root dysfunction (classify to 4)
	8.26	Other orthopaedic surgery	Other and unspecified disorders of joint
			Pathologic fracture requiring surgical intervention
Osteotomy			
		Bone Lengthening	

Soft Tissue Injury

USE this group for cases where there has been significant soft tissue injuries requiring rehabilitation but no fracture.

DO NOT use this group for cases where there is a fracture in addition to soft tissue injuries. These should be classified to 8.111 – 8.19.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
SOFT TISSUE INJURY	8.3 Soft Tissue Injury	Severe sprains, ligament tears, rotator cuff tears Rhabdomyolysis Severe crush injuries Falls resulting in severe soft tissue injury but no fractures

(9) CARDIAC

USE for cases in which the purpose of this rehabilitation episode is to address poor activity tolerance secondary to cardiac insufficiency or general deconditioning due to cardiac disorder.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
CARDIAC DISORDERS	9.1 Cardiac disorder following recent onset of new cardiac impairment	Acute myocardial infarction
		Cardiac myopathy
		Post cardiac surgery
	9.2 Chronic cardiac insufficiency	Coronary atherosclerosis Ischemic heart disease Heart failure Cardiac myopathy
	9.3 Heart or heart/lung transplant	

(10) PULMONARY

USE for cases in which the purpose of this rehabilitation episode is to address poor activity tolerance secondary to pulmonary insufficiency.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
PULMONARY	10.1 Chronic Obstructive Pulmonary Disease	
	10.2 Lung Transplant	
	10.9 Other Pulmonary Disorders	Chronic bronchitis Post pneumonia Emphysema Asthma Bronchiectasis Pulmonary insufficiency following trauma, surgery

(11) BURNS

USE for cases in which the purpose of this rehabilitation episode is to address burns to major areas of skin and/or underlying tissue.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
BURNS	11 Burns	

(12) CONGENITAL DEFORMITIES

USE for cases in which the purpose of this rehabilitation episode is to address an anomaly or deformity of the nervous or musculoskeletal system that has been present since birth.

- 12.1 Spina Bifida
- 12.9 Other Congenital Deformities

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
CONGENITAL DEFORMITIES	12.1 Spina Bifida	Spina Bifida
	12.9 Other congenital deformities	Arthrogyrosis
		Other congenital anomalies of nervous system Osteogenesis imperfecta

(13) OTHER DISABLING IMPAIRMENTS

USE 13.1 for cases in which the major disorder is lymphoedema. Use 13.3 for cases in which the major disorder is conversion disorder.

USE 13.9 for cases that cannot be classified into any other impairment group. This group should be rarely used.

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
OTHER DISABLING IMPAIRMENTS	13.1 Lymphoedema	
	13.3 Conversion Disorder	
	13.9 Other Disabling Impairments	This group should be rarely used.

(14) MAJOR MULTIPLE TRAUMA

USE for trauma cases with complex management due to involvement of **multiple systems or sites**, where specialised rehabilitation is required for each of the impairments.

Do NOT use for multiple fractures. These should be classified to FRACTURE OF MULTIPLE SITES (8.17).

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
MAJOR MULTIPLE TRAUMA	14.1 Brain + Spinal Cord Injury (spinal cord/ caudaequina/ spinal nerve root (major plexus or multiple roots))	
	14.2 Brain + Multiple Fracture/Amputation	
	14.3 Spinal Cord (spinal cord/ caudaequina/ spinal nerve root (major plexus or multiple roots)) + Multiple Fracture/Amputation	
	14.9 Other Multiple Trauma	

(15) DEVELOPMENTAL DISABILITIES

USE for patients who have significant intellectual disabilities

Do NOT use for cases of cerebral palsy. These should be classified to CEREBRAL PALSY (3.5)

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
DEVELOPMENTAL DISABILITIES	15.1 Developmental Disabilities	

(16) RE-CONDITIONING/ RESTORATIVE

USE for cases with generalized deconditioning not attributable to any of the other Impairment Groups (eg. where deconditioning is due to a cardiac disorder classify as 9.2; where deconditioning is due to pulmonary insufficiency classify as 10.2).

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
RECONDITIONING/ RESTORATIVE	16.1 Re-conditioning/ restorative following surgery	Muscular wasting and disuse atrophy, not elsewhere classified
		Unspecified disorder of muscle, ligament and fascia
	16.2 Re-conditioning/ restorative following medical illness	Chronic fatigue syndrome
		Other malaise and fatigue
	16.3 Cancer rehabilitation	Deconditioning as a result of cancer or treatment for cancer.

(18) COVID CONDITIONS

USE when the primary reason for rehabilitation is for COVID.

If rehabilitation is being provided for a different impairment but a previous COVID diagnosis or long COVID has interfered with the rehabilitation, code the appropriate COVID comorbidity.

If a patient contracts COVID during their rehabilitation stay, but returns to the same rehabilitation program code COVID as a complication.

See also [Guide for the collection and coding of COVID-19 COVID AROC data](#)

AROC Impairment Group	AROC Impairment Group Code	Aetiologic Diagnosis
COVID CONDITIONS	18.1 COVID with pulmonary issues	COVID diagnosis with pulmonary impairments as the major reason requiring rehabilitation
	18.2 COVID with deconditioning	COVID diagnosis with deconditioning as the major reason requiring rehabilitation
	18.9 COVID all other	

Appendix 1

Interim recommendations on the coding of spinal cord injury for the Australasian Rehabilitation Outcome Centre (AROC) data collection.

prepared by Dr Peter New, Dr Ruth Marshall and Raymond Cripps
July 2011

Spinal cord injury (SCI) has been defined as "... the occurrence of an acute, traumatic lesion involving neural elements in the spinal canal (spinal cord and cauda equina) resulting in resolving or permanent neurological deficit.(1) It is well documented, however, that damage to the 'neural elements in the spinal canal (spinal cord and cauda equina) resulting in resolving or permanent neurological deficit' can also arise from non traumatic causes. The descriptive label given to these types of SCI include the following: Non-traumatic spinal cord injury (NT-SCI), spinal cord disease (medical subject database – [MeSH] URL www.ncbi.nlm.nih.gov/sites/entrez?db=mesh) and spinal cord lesion (eg Journal *Spinal Cord* Editors Page and published manuscripts from April 2007, onwards). The most common term used in the medical literature appears to be non-traumatic spinal cord injury.

Currently, there is no specific internationally agreed definition on exactly what conditions should be considered as NT-SCI. In many situations this would appear to be clear cut. In some situations, however, the correct classification is not always so evident. There is a potential, therefore for variation in classification of the aetiology of SCI. This can affect the quality of data collected for research and outcomes measurement.

There is currently an international working group that is progressing towards a uniform taxonomy for the classification of SCI, including consideration of how traumatic SCI and NT-SCI conditions should be defined and classified. It is estimated that this process will not be completed until the end of 2011, at the earliest. An audit of 2006 AROC data submissions that examined the coding and classification of SCI revealed a number on inconsistencies in the conditions that are described as SCI. For the purpose of trying to provide a degree of clarification regarding the classification of SCI, and to improve the accuracy of AROC data, the following interim recommendations are made regarding how patients admitted for rehabilitation should have their impairment classified for the purposes of AROC data collection.

1. It is recommended that the term spinal cord injury only be used to include lesions affecting the neural elements in the spinal canal, i.e. the spinal cord and cauda equina.
2. The following impairments are excluded from the AROC spinal cord injury classification:
 - multiple sclerosis
 - polyneuropathy
 - Guillain Barre syndrome
 - cerebral palsy

- neuromuscular disorders including motor neuron disease
- nerve root lesions
- poliomyelitis

All of these above diagnoses should be classified under “neurological conditions”

- spina bifida

Although from a neurological perspective Spina Bifida is a cause of NT-SCI, this is classified separately in the AROC impairment system under “congenital deformities”

3. Traumatic spinal cord injury

Spinal cord injury should be classified as traumatic if there is an external force or wound, typically resulting from violence or accident, that results in a spinal cord injury, as defined above. The most common causes in Australia are motor vehicle accidents, falls, collisions with another person or object, water related accidents and other sporting activities, gun shots and explosives and stabbing injuries.

4. Non traumatic spinal cord injury

The most common causes of non traumatic spinal cord injury include the following: infection, tumours, inflammation (e.g. transverse myelitis or meningoencephalomyelitis), vascular (spontaneous cord haematoma or spinal cord infarction), degenerative myelopathy from spinal canal stenosis, with or without disc prolapse, with no obvious documented preceding trauma, endocrine and metabolic (B12 deficiency, Paget’s, ankylosing spondylitis), and a range of other less common conditions.

5. The “grey zone” regarding classification of aetiology of spinal cord injury

There are a number scenarios where the classification of aetiology not clear. For example:

- i) cord infarction that occurs in the setting of elective aortic aneurysm repair
- ii) trauma with a vertebral fracture and no initial spinal cord injury that is operated on and due to surgical complications results in a spinal cord infarction.

It is suggested that until the international working party formulates specific guidelines, these scenarios should be classified as NT-SCI as the mechanism of damage, accepting that there is an external cause that contributes.

These interim guidelines are currently under review.

References

- 1 Thurman DJ, Sniezek JE, Johnson D, Greenspan A, Smith SM. Guidelines for Surveillance of Central Nervous System Injury. Atlanta: Centres for Disease Control & Prevention; 1995: 1-106