

IMEG

First Report published 19 January 2011 (Topic 6) –
Spinal Injury (SI)



TOPIC 6 - Spinal Injury (SI)

BACKGROUND

As with brain injury, spinal injuries can have a profound impact on quality of life and future employability, which we were concerned to fully capture in the Review. The term Spinal Injury is used here to denote neurological injury to the spinal cord, its lowest part, the conus medullaris, and the intraspinal neural extension, the cauda equina, comprising the nerve roots supplying the pelvis and lower limbs. Together, these form the spinal neuraxis. Damage to the spinal neuraxis results in different outcomes, dependent on the level and severity of damage. Cervical cord injury results in tetraparesis (paralysis of the upper and lower limbs). When the lesion is below the cervical cord, the upper limbs are spared and paraparesis (paralysis of the lower limbs) results. Injury to the spinal cord, conus medullaris or cauda equina result also in other impairments, including bowel and bladder incontinence, impairment of sexual function, impairment of sensory and autonomic functions, and in high cervical cord injury, impairment of breathing requiring ventilatory support.

Typically such injuries arise in combat, but also occur in civilian contexts including road traffic accidents, adventure training and as sporting injuries. From 1 November 2005 until 31 March 2010, about 20 awards have been made, with less than half of these being for cervical cord injuries.

CURRENT TARIFF

The present SCI tariff descriptors are in Table 6 Neurological Disorders and are based exclusively on the lowest anatomical level of spinal cord injury.

Item	Level	Injury
1	1	Spinal Cord injury, at or above vertebra C3.
4	2	Spinal cord injury at vertebra C4, C5 or C6.
5	3	Spinal cord injury at vertebra C7, C8 or T1.
7	4	Spinal cord injury at vertebra T2 to T6.
10	5	Spinal cord injury at vertebra T7 to T10.
13	6	Spinal cord injury at vertebra T11 to L1.
14	7	Spinal cord injury at vertebra below L1.

On the present tariff, three descriptors cover cervical and thoracic level spinal damage, and the same core functional effects attract quite different awards and GIP bands. In reviewing the Scheme's approach to spinal injuries we have focused on the functional effects of injuries regardless of anatomical level of injury.

So that topics are adequately covered and the reasoning transparent, this section of the report is necessarily complex.

SEVERAL ISSUES ARISE

The present SCI tariff descriptors are in Table 6 Neurological Disorders and are based exclusively on the lowest anatomical level of spinal cord injury.

1. Award equivalence with amputations.

The concept of “loss of use of” is central to injury to the spinal neuraxis. Use of a limb requires physical capacity which derives from the presence and competence of the required structures and pathways (motor, sensory, etc). It also depends on attitude and motivation. What we mean by total loss of use of a limb is complete loss of the physical capacity or power to carry out its expected function as compared with a normal person of the same age and sex. This should be objectively verified and not a matter of self report.

The extreme example of “loss of use of” is amputation and for comparison with spinal neuraxis injuries, IMEG recommended Table 5 amputation awards provides:

Descriptor	Award Level	
	Two	One
Loss of arm above elbow(shoulder disarticulation or forequarter)	Level 1 £570,000	Level 2 £470,000
Loss of arm at/above elbow	Level 2 £470,000	Level 4 £290,000
Loss of arm below elbow	Level 3 £360,000	Level 5 £175,000
Loss of leg above knee (hip disarticulation)	Level 2	Level 3
Loss of leg at/above knee	Level 3	Level 5
Loss of leg below knee	Level 4	Level 6

There are obvious issues of horizontal inequity when the present Table 6 tariff awards for spinal cord injuries as set out above are compared with the IMEG recommended Table 5 amputation awards, e.g.

Z Lesions of the cervical spinal cord at any level are likely to cause loss of use/severe impairment in 4 limbs, presently attracting awards at Levels 1-3, compared with Level 1 for Table 5 loss of all 4 limbs.

Z Thoracic and the highest lumbar lesions – leading to loss of use of/severe impairment of lower limb function are paid at Levels 3 - 6, with equivalent amputations on Table 5 at Levels 2 or 3.

Recommendations

I. The spinal injury descriptors and award levels should be revised so that injuries resulting in complete paraparesis, i.e. loss of use of lower limbs, should attract at least Level 2. Partial paraparesis similarly would equate to at least Level 3, and for unilateral partial paralysis Level 5.

II. The present Table 6 spinal cord injury table does not deal with the possibility of a severe or complete monoparesis, and so an additional descriptor is appropriate at Level 3:

III. Taking into account these factors, we recommend the following

Z Delete the current SCI descriptors

Z Replace as follows:

Level	Injury
1	Cervical Spinal Cord injury where the claimant requires ventilatory support and there is complete tetraparesis *
1	Cervical spinal cord injury with complete or near complete tetraparesis*
1	Cervical spinal cord injury with minimal upper limb function and complete/near complete paraparesis*
2	Cervical spinal cord injury with some useful upper limb function e.g. able to shave or feed himself and complete/near complete paraparesis*
2	Thoracic spinal cord injury with complete paraparesis*
3	Thoracic spinal cord injury with partial paraparesis*
2	Injury to conus medullaris or cauda equina giving rise to complete paraparesis*
3	Injury to conus medullaris or cauda equina giving rise to partial paraparesis or severe monoparesis*
4	Injury to conus medullaris or cauda equina giving rise to partial asymmetric paraparesis*
6	Injury to conus medullaris or cauda equina giving rise to partial monoparesis*

2. Continence and Sexual Dysfunction.

Recommendations

I. None of the proposed descriptors makes reference to continence problems or sexual dysfunction, effects which are inevitable components of moderate or severe spinal neuraxis injury. All the proposed descriptors should be qualified by a footnote.

* "Complete spinal cord, conus medullaris and cauda equina injuries will result in loss of sexual function, together with bowel and bladder incontinence, while partial spinal neuraxis injuries may have variable effects on sexual function and continence. AFCS awards for all these injuries, complete or partial, are based on the assumption that sexual function and continence are impaired to a variable extent."

II. IMEG also recommends that, where clinically relevant, recipients of AFCS awards for all such injuries should receive appropriate treatment, including, as required, up to three complete cycles of NHS delivered IVF treatment.

3. Late complication.

Recommendations

A recognised late complication of spinal cord injury is the development of a post traumatic syrinx. This typically develops years after the original injury, and presents with a worsening of a partial

spinal cord deficit or a rise in the anatomical level of the neurological signs, or both. There needs to be awareness of this late complication, which should prompt appropriate review. IMEG recommends that there should be a Tariff footnote to this effect.

4. Less severe spinal injuries.

In the Scheme, cases seen so far include traumatic back injuries with incomplete spinal neuraxis damage, where Table 9, Item 1 descriptor presently set at Level 7 is used. The current wording is:

“Traumatic back injury with partial spinal cord injury causing permanent significant functional limitation and restriction.”
Level 7

Recommendations

We recommend:

I. deletion of Table 9, Item 1

II. introduction of two new descriptors:

“Traumatic spinal injury with partial spinal cord, conus or cauda equina damage causing persistent major functional limitation and restriction”
Level 4

“Traumatic spinal injury resulting in partial paresis of lower and / or upper limbs with substantial recovery, restoration of upper and lower limb motor and sensory function, including useful ability to walk.”
Level 7

III. These descriptors should be included in both Table 9, musculoskeletal disorders, and Table 6 with suitable cross reference.

IV. Included for completeness in this section is the Review of BRACHIAL PLEXUS INJURY. These injuries are almost invariably unilateral and are uncommon in a military setting, but the present descriptors, based on pre and post ganglionic damage are inadequate. Recommended new descriptors are:

“Complete brachial plexus injury* with avulsion of the roots from the spinal cord, resulting in complete flaccid paralysis and sensory loss, with persistent severe central pain.”
Level 1

“Complete brachial plexus injury* with avulsion of the roots from the spinal cord, resulting in complete flaccid paralysis and sensory loss, without persistent severe central pain.”
Level 2

“Partial brachial plexus injury* in which spontaneous recovery and/or operative treatment has led to some restoration of useful function in the arm at the shoulder and elbow, but with no restoration of useful function in the hand.”
Level 2.

“Partial brachial plexus injury* in which spontaneous improvement and/or operative treatment has led to some restoration of useful function in the arm and hand.”
Level 5

“Mild brachial plexus injury* with substantial recovery of arm and hand function, resulting in good restoration of manual dexterity.”
Level 8

Footnote: *in each case the injury described is unilateral.

V. Lumbo sacral plexus injuries are almost invariably associated with significant primary traumatic damage to the pelvis, notably penetrating injury to the pelvis and are best dealt with as complications of such injury.