IMEG

The Boyce Review of the Armed Forces Compensation Scheme

The Independent Medical Expert Group report and recommendations on medical aspects

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Dear Minister

The Armed Forces Compensation Scheme (AFCS) Independent Medical Expert Group (IMEG) was set up on the recommendation of Lord Boyce's Review of AFCS to advise Ministers on medical aspects of the Scheme. We were asked to address a number of topics identified in Lord Boyce's Review as requiring further investigation. These included:

Injury to external genitalia – in men and women
Brain Injury
Spinal cord injury
Non freezing cold injury
Paired injuries i.e. injuries to organs/body structures which are paired (such as eyes and hands)
Loss of the use of a limb
Mental illness
Hearing loss

We have addressed each of these topics and our accompanying report provides our recommendations and our reasons for making them to you.

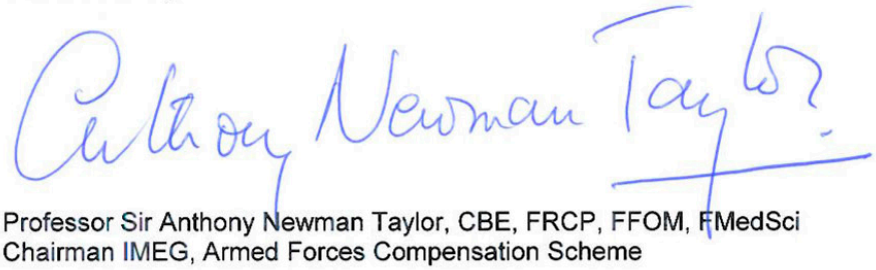
The draft report was circulated to members of the CAC and others with an interest including subject matter experts, the Surgeon General, ACDS(H) Assistant Chief of the Defence Staff (Health) and ACDS (Pers) Assistant Chief of the Defence Staff (Personnel).

The responses to the draft report indicated that our recommendations were generally welcomed and supported. They did not identify reasons to change our recommendations. A number of points were made in relation to compensation for facial disfigurement, multiple sclerosis and hearing loss. These will be considered as part of the IMEG programme during the coming year.

You will know that in addition to the medical experts, each distinguished in their field, IMEG has been fortunate to have as members Lt. Col. Jerome Church, Chief executive BLESMA and Col. David Richmond, a serving officer injured in Afghanistan, Dr Anne Braidwood, Medical Adviser to MoD and Col. Robin Vickers MoD Army Pay Colonel. All members of the Group have contributed fully to our discussions. They have agreed the conclusions and support the recommendations in our report. In addition, several members of IMEG have explained the Scheme and discussed our recommendations with serving forces wounded personnel at Hasler and Headley Court. I would like to acknowledge the valuable support we received on both visits from Mrs Kim Richardson, Chairman Naval Families Federation.

We believe our recommendations are fair to Services personnel, those injured and those who develop illness in service, and fulfil the proper aspirations of the Scheme as articulated in Lord Boyce's review.

Yours sincerely



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Chairman IMEG, Armed Forces Compensation Scheme

INDEPENDENT MEDICAL EXPERT GROUP (IMEG) – LIST OF MEMBERS

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Executive Summary and Recommendations

The Boyce Review of the Armed Forces Compensation Scheme, published in February 2010, advised that MoD set up an independent medical expert group to advise Ministers on medical aspects of the Scheme. To meet the Review deadlines with legislation amendment in February 2011, the group was initially established on an interim basis and referred to as the Interim Independent Medical Expert Group (IIMEG) and asked to consider specific topics which included compensation paid for injury to genitalia, brain injury, spinal cord injury, non freezing cold injury, paired injuries, loss of use of a limb, hearing loss and mental symptoms and illness.

The chairman and membership of the group comprise senior consultants from relevant specialties including trauma, orthopaedics, neurology, audio vestibular medicine, occupational medicine and mental health. The medical adviser to DCDS (Pers) is a member of the group with three lay members who represent the service and ex-service organisations of the Confederation of British Service and ex-Service Organisations, (COBSEO), the in-service representatives on the Central Advisory Committee on Pensions and Compensation (CAC) and, Scheme claimants. The Chairman of the group is a member of the CAC.

Between April and September 2010 the Group met four times with additional discussions with subject matter experts and discussion by email correspondence. The issues considered are complex with some requiring detailed analysis. In September 2010 Minister extended the Group in its present form to March 2012, with review of its future in September 2011. From September 2010 the Group was renamed the Independent Medical Expert Group (IMEG)

In considering the topics some themes and principles have informed the IMEG recommendations.

1 The AFCS is an individual jurisdiction with awards made for injury or illness caused, on balance of probabilities, by service on or after 6 April 2005. The Scheme is lay adjudicated with medical advice, with the intention that decisions are evidence based, taking account of the case facts and contemporary medical understanding of the causes and course of the claimed injury or disorder. IMEG recommendations are objective, impartial, and reflective of best available scientific and medical evidence, from the published peer-reviewed international literature and the expert opinion of members as well as other senior specialists outside the group.

2 The AFCS Tariff has fifteen levels with the highest eleven levels accompanied by a Guaranteed Income Payment (GIP), paid from service termination and for life. The GIP recognises the impact of the injury on capacity for civilian employment. In making its recommendations on the various topics, the IMEG has used the likely effect of the accepted injury on capacity for employment after leaving service and hence GIP band, as an indicator, to place the injury on the tariff and associated level of award.

3 The Boyce Review identified compensation for genital injury, in males and females, and award for any associated effects of sexual dysfunction, loss of fertility and disfigurement as an area of concern. IMEG recommends that where such effects of associated injury are severe but do

not impact on future civilian employability, so that a GIP is inappropriate, enhanced lump sum awards and relevant support should be provided.

4 IMEG recognises the importances of both horizontal and vertical equity in tariff based schemes and in their recommendations have tried to ensure both. This has led to recommended increases in tariff levels for some injuries. Horizontal equity indicates, for instance, that the loss of a hand and any part of the upper limbs is recognised as more disabling than the equivalent loss of foot and part of the lower limb and that loss of use of a limb or structure may be more disabling than loss itself.

5 The Boyce Review recommended review of awards for paired injuries i.e. loss of two organs or structures of a pair. IMEG confirmed that loss of two is more than twice as disabling as the loss of one only and reflected that principle in the recommended tariff revision. IMEG has also considered the particular difficulty where one loss occurs due to service and the other is not service related.

Particular challenges were identified in respect of compensation for hearing loss and mental health. The Boyce Review concluded that hearing loss was not properly catered for in the Scheme and itself recommended some changes to hearing awards which become effective from 3 August 2010. Lord Boyce further recommended that IMEG should consider the threshold level of hearing impairment that warrants award. During the time available we have focussed on hearing loss due to acute acoustic trauma from weapons related impulse noise, this is not presently covered in the Scheme and is a feature of current and recent conflicts. Routine in-service pre and post – deployment audiometry means that changes in hearing levels associated with deployment can be easily detected. Recommendations were made on hearing descriptor and award levels and on the Scheme's approach to tinnitus. Other hearing issues, notably the impairment threshold which should trigger compensation, are complex topics about which there needs to be wider consultation. We have therefore deferred the major part of the work on hearing loss due to chronic noise injury until next year.

The most complex area for consideration has been mental health disorders. Because of the need to focus on tariff changes and insertions and other recommendations for inclusion in legislation in early 2011, we have made specific recommendations on descriptors to better reflect the impact of severe permanent mental health problems on civilian employability. We have however delayed consideration of other important aspects of compensation for mental health disorder until our current work is completed in late 2010. This is because the issues have many different perspectives and there will be a need for careful consideration and discussion, including with Combat Stress.

Recommendations

TOPIC 1 - HEARING LOSS

1. **General**
Having considered the impact of the hearing descriptors on civilian employability, IMEG recommends that awards for Items 6, 9, 12 and 16 should be increased beyond those decided by the Boyce Review.

2. **Acute Acoustic Trauma**
It is recommended that the existing blast damage to ears descriptors are expanded to include hearing loss due to acute weapons related acoustic damage and that new descriptors are added for asymmetrical losses.

Item	Injury	Tariff at 3 Aug 2010	IMEG Level – March 2011
1	Total deafness and loss of both eyes or total deafness and total blindness in both eyes, or total deafness and loss of one eye and total blindness in the other	1	1
6	Total deafness in both ears	6	2
9	Bilateral permanent hearing loss of more than 75dB averaged over 1, 2 and 3 kHz	8	6
12	Total deafness in one ear	9	8
16	Bilateral permanent hearing loss of 50-75dB averaged over 1, 2 and 3 kHz	10	8

Item	Injury	Tariff at 3 Aug 2010	IMEG Level – March 2011
18	Blast injury to ears or acute acoustic trauma due to impulse noise with permanent sensorineural hearing loss in one ear of over 75dB averaged over 1, 2 and 3kHz*	10	10
24	Blast injury to ears or acute acoustic trauma due to impulse noise with permanent sensorineural hearing loss in one ear of 50-75dB averaged over1, 2 and 3kHz*	11	11
34	Blast injury to ears or acute acoustic trauma due to impulse noise*	13	13

* implies that hearing loss in the other ear or in Item 34, in both ears, is less than 50dB averaged over 1, 2 and 3 kHz.

3. **Tinnitus**

I. It is proposed that tinnitus is taken into account in all awards for hearing loss. Table 7 descriptors should be revised with removal of reference to tinnitus. For each descriptor, awards will be made on diagnosis and measured audiometric impairment and the award previously applicable in cases with severe tinnitus will now apply to all cases.

II. No award should be made under the AFCS for tinnitus alone.

III. As in other AFCS tables, where hearing loss is accompanied by psychological symptoms, in the absence of a discrete diagnosis, they are accounted for in the primary award. If service has caused a discrete psychological diagnosis, an additional award may be made.

4. **Compensation Threshold**

IMEG has reviewed the scientific evidence on noise induced hearing loss published in the peer-reviewed literature, with particular attention to papers since 2000. It has not identified any advances in scientific understanding of particular relevance to compensation threshold, but wishes in 2011 to have the opportunity to more fully consider the issues and perspectives, including any new emerging scientific evidence.

5. **Assessment of Hearing for Compensation Awards**

Claims for hearing loss require first a reliable diagnosis. This must rely on an accurate history with, as available, supporting documentary evidence of the relevant incident. IMEG recommends that claims determination of AFCS hearing loss claims must be based on an accurate diagnosis and reliable measures of assessment of hearing. To detect the audiometric pattern and level of hearing loss, quality assured audiometry should be carried out on calibrated equipment by trained operators. Where audiometric tests are inconsistent

with clinical findings, more objective tests of hearing function should be obtained such as cortical evoked response audiometry (cERA) and otoacoustic emissions testing.

6. **Additional Descriptors**
Three new hearing descriptors are recommended:

"Acute physical trauma to ear causing conductive or permanent sensorineural hearing loss in one ear" *Level 13*

"Acute physical trauma to ear causing conductive or permanent sensorineural hearing loss in one ear of 50-75dB averaged over 1, 2 and 3 kHz" *Level 11*

"Acute physical trauma to ear causing conductive or permanent sensorineural hearing loss in one ear of over 75dB averaged over 1, 2 and 3 kHz" *Level 10*

TOPIC 2 - TRAUMATIC INJURY TO MALE AND FEMALE GENITALIA

1. As a general approach, it seems appropriate to recognise as separate; the primary injury(ies) which will determine the lump sum payment and level of the GIP, and then, any associated effects of the anatomical damage on reproduction, sexual activity and continence.

2. The primary injury is likely to be placed in Table 1, Burns and most commonly on Table 2, Injury, Wounds and Scarring.

3. The current AFCS Tariff includes a single reference to sexual dysfunction in Table 4, Item 3 where infertility attracts an award of Level 8 and a Guaranteed Income Payment based on 50% military salary. Infertility has no effect on employability. This is therefore illogical and another approach is needed. As the affected population are young people there is no need for the AFCS approach to include a range of awards varying with claimant age, as in civil awards, but rather a single level of award is merited.

4. Where traumatic physical damage is accompanied by problems with sexual activity (impotence), fertility, bowel and bladder continence or disfigurement, it is recommended there should be an additional one-off supplement of £60,000 (sixty thousand) paid for each condition. For psychological symptoms, otherwise than associated with disfigurement, the approach as in the rest of the Scheme would be to consider that the award for the primary injury already takes account of psychological symptoms, which do not constitute a discrete diagnosis. A separate award for a diagnosed mental disorder will be considered and paid if it is predominantly due to service.

5. The group also recommends that where appropriate and regardless of location in the UK, AFCS recipients of an award for infertility should be entitled to a minimum of three full cycles of IVF treatment, or otherwise approved best practice treatment provided by the NHS.

New descriptors	Additional Tariff lump sum
Incontinence – bowel or bladder or both	£60,000
Impotence	£60,000
Infertility	£60,000
Physical disfigurement	£60,000

TOPIC 3 - NON FREEZING COLD INJURY

1. It is recommended that the current Table 2 descriptors are deleted and replaced by three items as follows:

"Non freezing cold injury which has caused or is expected to cause neuropathic pain and significant functional limitation and restriction at 6 weeks with substantial recovery beyond that time." *Level 14*

"Non freezing cold injury which has caused or is expected to cause neuropathic pain and significant functional limitation and restriction at 6 months with substantial recovery beyond that time." *Level 13 and*

"Non freezing cold injury with persistent local neuropathic pain and severe compromise of mobility or dexterity, and evidence of permanent damage to small nerves on thermal threshold testing." *Level 10*

2. It is only the most severe type of injury which can impact on civilian employability, which attracts a GIP.

3. For the criteria for the Level 10 descriptor to be met, there must be evidence of permanent small nerve damage on objective testing of thermal threshold testing.

4. The recommendations and suggested tariff awards apply to bilateral damage to upper or lower extremities and there should be an appropriate note; where both hands and feet are affected two awards may be payable.

TOPIC 4 - PAIRED INJURIES

1. **Limb loss**
Taking account of the fact that loss of hand or part of upper limb is more disabling than loss of the foot or equivalent part of the lower limb and that the impact of loss of leg below knee and loss of foot with retention of the heel would be different, IMEG recommends:

I. At present loss of both hands is at Level 4 (£290,000) and Level 6 (£140,000) for one. For feet, the equivalents are Level 5 (£175,000) for two and Level 8 (£60,000) for one. A question has arisen as to whether the functional impact of loss of hand and loss of arm below elbow are the same.

II. It was generally agreed that loss of hand alone is less disabling than loss of arm below elbow. It is recommended that awards for loss of hand(s) should remain as now, at Levels 4 (bilateral) and 6 (unilateral).

III. Similarly impact of **loss of leg below knee** and **loss of foot** is different, dependent on retention of the heel.

IV. Where the heel is retained, Level 8 (£60,000) for a single loss of foot and 5 (£175,000) for bilateral loss, are appropriate.

V. Loss of leg below knee to beyond heel would merit Level 6 (£140,000) unilateral and Level 4 (£290,000) bilateral.

VI. We also recommend that the highest level awards should be paid for upper and lower limb losses which anatomically fall short of hemipelvectomy or shoulder disarticulation but where the stump length or condition precludes fitting of an effective prosthesis.

Summary:

Descriptor	Award Level for	
	Two	One
Loss of leg above knee (hip disarticulation)*	2	3
Loss of leg at/above knee	3	5
Loss of leg below knee**	4	6
Loss of foot distal to the calcaneum (heel)	5	8
Loss of arm above elbow (shoulder disarticulation)*	1	2
Loss of arm at /above elbow	2	4
Loss of arm below elbow	3	5
Loss of hand	4	6

* includes circumstances where stump length or condition precludes fitting of prosthesis
** includes loss of foot with loss of all or part of the calcaneum (heel)

2. **Loss of hearing and sight**
At present the Scheme provides greater compensation for loss of eyes than ears. IMEG recommends that the tariff should be revised so that total loss of sight and hearing attract equivalent awards, Level 2 for loss of hearing in two ears and Level 8 for loss of hearing in one ear.

3. **Kidneys**

I. Loss of a kidney or kidneys due to service will not be common or an isolated injury. It is most likely to occur as part of a serious primary traumatic abdominal or back injury, which itself will attract an award and GIP. Where loss of kidneys or kidney failure results from a primary traumatic injury and requires dialysis there will be impact on employability, due to the kidney damage itself. The current level Table 2, Item 2, Level 5 award and associated GIP should be retained.

II. Pre - enlistment medical examination does not routinely include abdominal scans or ultrasound examination, so it is possible that someone with only one kidney and normal renal function may be undetected and enlist. Where abdominal injury and loss of that kidney or of its function then arises as a result of AFCS service, then Table 2, Item 2, Level 5 award would be payable.

III. By contrast where in the presence, pre-injury, of two normal functioning kidneys, the primary injury results in the loss of one kidney or its function, there should be no detectable functional impact, or effect on employability. And so Table 2, Item 21, Level 10 is deleted. In such cases an award and any associated GIP is payable for the primary injury. However the accepted service related loss of kidney is recognised as in (iv) below.

IV. Where any service accepted traumatic injury results in the loss of one kidney or its treatment requires a kidney to be removed without development of chronic renal failure, an additional supplement of £40,000 should be paid. This will not attract GIP.

4. **Loss of Paired Structures or Organs from Service and Non - Service Cause**
These recommendations recognise that, at least in part, the impact of the loss of the second organ is attributable to loss of the first organ in service. We consider that in the case of loss of the second eye, of hearing in the second ear and hand, that AFCS should recognise 100% of the responsibility for the consequences of the loss of the second organ.

I. It is therefore recommended that AFCS adopts the following approach to double injuries where the first is due to service, the one sustained later is not causally related to service and where the post service non accepted injury is **acute loss or loss of use** due to trauma or infection.

- **Eyes and ears:** loss of one is Level 8 and loss of two is Level 2. Accept all responsibility i.e. award Level 2 and band A GIP.
- **Arms or parts of arms, and hands:** award paid appropriate to the double loss including appropriate GIP.

II. Where the loss of, or total loss of use of, the second eye or hearing in one ear, or of hand, arm or part of arm, develops over time due to ageing, degenerative disease e.g. osteoarthritis, atherosclerosis (cerebrovascular or peripheral vascular disease) or diabetes, and or other paired structures i.e.

- Legs or parts of legs
- Foot
- Kidney

AFCS would award half of the difference between the lump sum due for the double and single injuries with GIP increased by one band, except where a band A GIP is already in payment for the single loss.

TOPIC 5 - BRAIN INJURY

1. The group has confirmed that the general approach of AFCS to brain injury including use of Glasgow Coma Score as an indicator of severity was satisfactory.

2. The heading of Table 6 should be amended to Neurological disorders, including spinal, head and brain injuries.

3. **Interim Awards:** Most of the brain injury cases at claim would merit an initial interim award with review and finalisation at one – two years post initial assessment and award notification.

4. **Post traumatic epilepsy**

I. The current Table 6 descriptors include reference to the risk or presence of epilepsy with a footnote confirming that awards for brain injury in Levels 1, 3 or 4 includes compensation for associated epilepsy.

- Table 6 also includes:

Item 9 uncontrolled post head injury epilepsy	Level 4
Item 23 controlled post head injury epilepsy	Level 12

II. We recommend that reference in the descriptors to the presence or risk of epilepsy is removed. Anyone who sustains a head/brain injury may be at risk of epilepsy, which may be difficult to control. The risk of epilepsy is greatest for the most serious brain injuries, attracting the highest awards and presently at Items 1 - 8 of Table 6 above. In these, compensation for epilepsy is already included in the primary award. For all other head injury categories, an additional award for post traumatic epilepsy will be paid. We recommend that approach should be maintained and the footnote "award for brain injury in award Levels 1, 3 or 4 includes compensation for associated epilepsy" should be retained.

5. **Dizziness/balance problems** after brain and head injury. Post traumatic dizziness and/or vertigo may occur after head and neck injury.

I. Because outcomes are variable the suggested approach to compensation where dizziness etc are prominent is to first identify the primary injury and then capture any functional outcomes/symptoms via another descriptor on Table 6.

II. For less profound brain injury or traumatic head injury we recommend deletion of reference to "functionally limiting or restricting impaired balance" in current descriptors at Items 22 and 29 and insertion of a new descriptor attracting a Level 11 award.

"Brain or traumatic head injury with persistent balance symptoms and other functionally limiting neurological damage or permanent sensorineural hearing loss of less than 50dB averaged over 1, 2 and 3 kHz."

6. **Care and support**

I. "Skilled nursing care" has been used in the context of military compensation for many years. Given that care and support may be delivered by family, friends and different health and social services professionals as well as nurses, it is recommended that reference to "skilled nursing care" is deleted and replaced by "professional nursing care" to imply care by trained accredited staff. This should be explained in the legislation.

II. This means that Items 8, 12 and 21 on the current Table 6 tariff should be revised.

Item	Tariff	Descriptor
8	2	Brain injury where the claimant has some limitation on response to the environment, substantial physical and sensory problems and one or more of cognitive, personality or behavioural problems, requiring some professional nursing care and likely to require considerable regular support from other health professionals.
12	4	Brain injury where the claimant has moderate physical or sensory problems, one or more of cognitive personality or behavioural problems, requiring regular help from others with activities of everyday living but not professional nursing care or regular support from other health professionals.
21	8	Brain injury from which the claimant has made a substantial recovery and is able to undertake some form of employment and social life, has no major physical or sensory deficits, but some residual cognitive deficit, behavioural change, or change in personality, alone or in combination.

7. **Brain Injury Differentiation**
To better reflect the functional consequences of brain injury, the following amendments are recommended:

I. Items 3, 3A and 6 are difficult to differentiate clinically and we recommend that the injuries currently at Item 3, 3A and 6 should be combined, with deletion of the descriptors above and replacement by a single new descriptor at Level 1.

"Brain injury resulting in major loss or limitation of responsiveness to the environment, absence or severe impairment of language function and incontinence requires regular professional nursing care."

II. At present awards for Items 12 and 15 do not attract a Band A GIP. While they do not represent the highest level of disability it is difficult to imagine anyone fitting those descriptors would be able to sustain any level of paid work. We recommend awards for Levels 8, 12 and 15 should be revised upward with amalgamation of Items 12 and 15. This new descriptor should attract a Level 4 award, while Item 8 merits a Level 2.

8. **Related Injuries**

I. **Extracerebral injury**
The Scheme needs to cover traumatic arterial injury in the neck, resulting in cerebral infarction. A new descriptor should replace Table 6, Item 20.

"Cerebral infarction due to vascular injury in the neck, resulting in persisting impairment of function and restriction of activities." *Level 12*

- Potentially the resultant cerebral deficit and so functional impact may be quite varied and to cover the details of the functional limitation and restriction there should be an additional descriptor and award from revised tariff Table 6.

II. **Current Item 19** should be deleted. Should such a case present, Article 20, i.e. the ability to make a temporary award and introduce a new descriptor, would be used.

III. **Non traumatic vascular injury**
Current Item 20 should also be deleted. This descriptor applies to brain haemorrhage or cerebral infarction. Where brain haemorrhage is traumatic this is covered by a brain injury descriptor. In the event, in a balance of probabilities Scheme, non-traumatic cerebral infarction or haemorrhage were for acceptance, since there will be a spectrum of disability and outcomes these disorders should be placed on revised Table 6.

IV. **Traumatic head injury**

- The final two descriptors of the current Table 6 tariff should be revised as follows; Item 22 of the current tariff at Level 11 should now read:

"Minor traumatic head injury which has caused or is expected to cause functionally limiting or restricting post traumatic syndrome for more than 52 weeks."

- Item 29 at Level 13, with no GIP becomes:

"Minor traumatic head injury which has caused or is expected to cause functionally limiting or restricting impaired balance or post traumatic syndrome for more than 6 weeks with substantial recovery beyond that date."

- The term "traumatic head injury" should be retained to acknowledge concussive symptoms without permanent cerebral damage and so less severe injury than in traumatic brain injury.

9. **Skull fractures**

I. Skull fractures are included in the fractures table, Table 8. We recommend some changes and extensions.

- Item 59 Simple skull fracture Level 14

- Item 32 Delete current item and replace with

"Fracture of the skull with intracranial or extracerebral haematoma that has not required evacuation." Level 13

- Item 17 Should be retained as now:

"Fracture of skull with sub-dural or extra-dural haematoma which has required evacuation, from which the claimant has made or is expected to make a substantial recovery within 26 weeks" Level 12

II. We also recommend an additional descriptor:

"Depressed skull fracture requiring operative treatment" Level 12

III. In all cases of traumatic brain injury where relevant there should be an additional separate award for skull fracture.

TOPIC 6 – SPINAL INJURY(SI)

1. We recommend deletion of the current spinal injuries on Table 6 and replacement 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*

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

* *"Complete spinal cord, conus medullaris and cauda equina injuries will result in impaired sexual function and bowel and bladder incontinence, while partial spinal cord 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, where relevant, up to 3 complete cycles of NHS delivered IVF treatment.

2. **Late complication of spinal cord injury**

I. 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 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.

II. We recommend there should be a tariff footnote to this effect.

3. **Less severe spinal injuries**

I. Claims arise for traumatic back injuries with incomplete spinal damage, and current Table 9, Item 1 descriptor at Level 7 is used i.e.

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

II. We recommend deletion of Table 9 Item 1 and 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.

4. **Brachial plexus injury**

I. These injuries are almost invariably unilateral and uncommon in a military setting. The present descriptors, based on site i.e. 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

II. Footnote: * *"In each case the injury described is unilateral."*

TOPIC 7 - MENTAL HEALTH DISORDERS

1. To better reflect the impact of the most severe mental health disorders on civilian employability we recommend deletion of the two items of permanent mental health disorder on present Table 3 and replacement by:

> *"Permanent mental disorder causing moderate functional limitation and restriction"*
> Level 8 i.e. 50% GIP
>
> *"Permanent mental disorder causing severe functional limitation and restriction."*
> Level 6 i.e. 75% GIP

2. **Moderate** meaning "unable to undertake work appropriate to experience, qualifications and skills at the time of onset of the illness, but able to work regularly in a less demanding job."

and

3. **Severe** meaning "unable to undertake work appropriate to experience, qualifications and skills at the time of onset of the illness ,and over time able to work increasingly at only less demanding jobs."

Introduction

In his review of the Armed Forces Compensation Scheme (AFCS) Lord Boyce recommended that MoD set up an Independent Medical Expert Group (IMEG) to advise Ministers on medical aspects of the Scheme, reporting through the Central Advisory Committee on Pensions and Compensation, which advises Ministers on pensions and compensation issues. This recommendation was accepted by the Secretary of State.

The Group was set up in March 2010 and asked to consider a number of specific topics recommended for further investigation by Lord Boyce's review. These were the compensation paid for:

Injury to genitalia
Non freezing cold injury
Paired injuries i.e. structures/ organs that are paired
Brain injury
Spinal cord injury
Loss of the use of a limb
Hearing loss
Mental symptoms and illness

Because of the need to meet the tight legislation timetable an interim group was set up by Minister to focus on recommendations for changes to legislation in Feb 2011. These would then apply to claims made and decided from 6 April 2005; whereas subsequent legislative amendments to the Scheme would be prospective, implemented only from the date of legislation.

In its considerations, the IMEG recognised certain themes and principles underlying its recommendations.

1. The AFCS is an individual jurisdiction with awards made for injuries and diseases caused, on the balance of probabilities, by service on or after 6 April 2005. There are time limits to claim and claims can be made while people are still in service. Decisions in the Scheme are made by lay administrators with access to medical advice. The intention is for decisions to be evidence based, dependent on case service and medical facts, reflecting contemporary medical understanding of the cause and course of injuries and disorders. IMEG intends its recommendations to be objective, impartial and reflective of best available scientific and medical evidence, from the published peer-reviewed international literature and the expert opinion of members as well as other senior specialists outside the group.

2. The AFCS Tariff has fifteen levels and, recognising the potential impact of the injury on capacity for civilian employment, the higher tariff lump sum awards are accompanied by a Guaranteed Income Payment (GIP) paid at four levels starting at service termination for life. The likely effect of the accepted injury on capacity for employment after leaving service and so GIP band, is useful, in focussing and finally placing the injury on the tariff.

3. Where the injury is severe but does not impact on future civilian employability the need for appropriate levels of award and support without GIP should be recognised. Such a situation

is injury to external reproductive structures, male and female, which may be associated with sexual dysfunction, loss of fertility, disfigurement and infertility. Here we have recommended an additional lump sum of £60,000 for each problem and for a minimum of three IVF treatments provided by NHS.

4. The importance of both horizontal (across the tables) and vertical (within a table) equity within the Scheme is recognised. It is easier to ensure comparability within than between tariff categories, although we have endeavoured to assure both. Vertical equity has required that we recommend an increase in tariff levels for some injuries. Horizontal equity has required that we recognise, for instance, that the loss of a hand and any part of the upper limb is more disabling than the loss of a foot and equivalent part of the lower limb; also the often greater disability from the loss of the use of a limb than for the loss of a limb. These are reflected in our recommendations for the respective tariffs.

5. Paired injuries - the loss of two organs or structures of a pair (e.g. eyes, ears, hands) is more than twice as disabling as the loss of one. This should be reflected in the tariff and awards made. A particular difficulty is where one loss occurs due to service and the other is not caused by service. Where the loss of the second structure or organ occurs in service and both losses are due to service, the full tariff for loss of both structures is paid. Where the loss of the second organ is in, or out of service but not due to service, the recommendation of the Hancock committee (1947) in relation to war pension was that 50% of the full assessment and award for loss of both structures should be paid. We have recommended this general approach be adopted by AFCS, i.e. the lump sum paid should be half the lump sum due for loss of two structures loss with GIP increased by one band except where a band A GIP is already in payment for the single loss. For acute loss (i.e. due to trauma or infection) of the second eye, loss of hearing in the second ear or loss of part of the second arm or hand we have recommended the full tariff and GIP applicable to bilateral loss should be paid.

6. In addition we recognise particular challenges for the Scheme in regard to hearing loss and mental health.

   I. Lord Boyce's Review found that hearing loss was not properly catered for in the Scheme and recommended some changes to tariff values for hearing descriptors, which were introduced into legislation on 3rd August 2010. Lord Boyce further recommended that consideration of the threshold level of hearing impairment that warrants award and other issues should be referred to the IMEG. During the time available, we have focussed on an issue not presently covered in the Scheme and important in recent and current conflicts i.e. hearing loss due to acute acoustic trauma from weapons related impulse noise and/or blast injury. Routine in service pre and post – deployment audiometry means that a change in hearing levels associated with deployment can be easily detected. We have made recommendations on descriptors and award levels. Other hearing issues, notably the impairment threshold which should trigger compensation, are complex topics with diverse perspectives about which we need to consult widely. We have therefore deferred this part of the work on hearing loss due to chronic noise injury loss until next year.

   II. The most complex area we have been asked to consider has been mental health disorders. We have recommended that the tariff for severe disabling persistent mental illness should be increased to a level which attracts a GIP of 75%. However, because of the need to focus on tariff changes and insertions and other recommendations for inclusion in legislation in early 2011, we have similarly delayed consideration of several other important issues, on which we wish to take expert external advice, until our current work is completed in late 2010.

Topic 1 - Hearing Loss

Under the War Pensions Scheme the majority of hearing loss claims relate to sensorineural hearing loss due to chronic noise exposure over usually ten or more years. Modern Health and Safety standards and practice apply in the armed forces and the AFCS only covers injury caused since 2005. As a result AFCS claims for chronic noise induced sensorineural hearing loss are uncommon. The recent and current conflicts have led to acute acoustic trauma, weapons related hearing loss from short lived exposure to high intensity noise. IMEG has considered both types of hearing loss, making specific recommendations in regard to acute acoustic trauma. We have also considered the published evidence on chronic noise induced hearing loss with particular focus on the appropriate threshold hearing loss for compensation.

The Boyce Review revalorised Table 7 awards provided for hearing loss. It maintained the current level for Items 1 and 6, which relate to total deafness, while increasing awards for all other descriptors by one tariff level. These changes were incorporated in legislation from 3 August 2010.

TABLE 7 – SENSES

Hearing descriptors since April 2005 until Boyce recommendations.

		Award Level		
Item	Injury	2005	12 August 2008	3 August 2010
1	Total deafness and loss of both eyes, or total deafness and total blindness in both eyes, or total deafness and loss of one eye and total blindness in the other	1	1	1
6	Total deafness in both ears	6	6	6
9	Bilateral permanent hearing loss of more than 75dB averaged over 1, 2 and 3 kHz with severe persistent tinnitus	9	9	8
12	Total deafness in one ear	10	10	9
14	Bilateral permanent hearing loss of more than 75dB averaged over 1, 2 and 3 kHz, with mild or no tinnitus	10	10	9

Award Level				
Item	Injury	2005	12 August 2008	3 August 2010
16	Bilateral permanent hearing loss of 50-75dB averaged over 1,2 and 3kHz, with severe persistent tinnitus	11	11	10
18	Blast injury to ears with permanent sensorineural hearing loss in one ear of over 75dB averaged over 1, 2 and 3 kHz with severe persistent tinnitus		11	10
24	Blast injury to ears with permanent sensorineural hearing loss in one ear of 50-75dB averaged over 1, 2 and 3kHz with severe persistent tinnitus		12	11
25	Blast injury to ears with permanent sensorineural hearing loss in one ear of over 75dB averaged over 1, 2 and 3 kHz with mild or no tinnitus		12	11
26	Bilateral permanent hearing loss of 50-75dB averaged over 1, 2 and 3 kHz with mild or no tinnitus	11	13	12
33	Blast injury to ears with permanent sensorineural hearing loss in one ear of 50-75dB averaged over 1, 2 and 3 mHz with mild or no tinnitus	13	13	12
34	Blast injury to ears		14	13

In terms of AFCS claims, there has been a steady increase in claims both for hearing loss and for blast injury, with more than 300 awards paid between 1 November 2005 and 31 March 2010.

PARTICULAR ISSUES CONSIDERED BY IMEG

1. Weapons related acute acoustic trauma
2. How to compensate for tinnitus
3. Scientific advances in noise induced hearing loss relevant to compensation threshold
4. Assessment of hearing

1. Weapons Related Acute Acoustic Trauma

In 2008 reports emerged of acute hearing problems in both US and UK personnel returning from Afghanistan. This triggered an MOD review of hearing protection, the quality of audiometry and operator training, hearing surveillance policy and a pilot study of hearing in personnel returning from conflict zones. Concerns have been raised about the accuracy of diagnosis of noise induced hearing loss and about the causes and functional significance of notches and dips at 4kHz. This work continues.

When the AFCS Tariff was being constructed, it was considered that MOD practice on noise induced hearing loss prevention and protection applying on and after April 2005 should make claims and awards for hearing loss due to service less common and covered by the descriptors "bilateral permanent sensorineural hearing loss" and "blast injury to ears". The tariff did not anticipate the need to cater for hearing loss due to acute acoustic trauma from weapons related impulse noise.

Argument

Acute blast damage to ears from Improvised Explosive Devices (IED) and acoustic trauma due to weapons/gunshot damage are a feature of recent and current conflicts and it is important that the AFCS is properly able to reflect the consequences for hearing loss of acute acoustic trauma due to impulse noise and blast damage. Typically blast damage and acute acoustic trauma cause an acute hearing loss and tinnitus, which may be unilateral, bilateral or asymmetrical. There can be acute pain in one or both ears. Hearing loss may improve after the blast or noise, but there is often a degree of residual permanent sensorineural hearing loss. In these cases, the audiometric pattern will differ from that before deployment. The pattern is variable and classic audiometric evidence of noise induced injury (high frequency notch) may not be present. Similarly tinnitus may be present or absent and if present, temporary or permanent. AFCS claims can be made in service and in service policy of routine interval audiometry, including pre and post deployment should allow early detection of impulse-related acute acoustic trauma.

In assigning tariff levels for injuries and disabilities, the AFCS takes account of the impact on function, including consideration of whether the capacity for civilian employment is compromised and, if so, to what degree. The resultant allocation of a Guaranteed Income Payment band focuses the range of tariff award which might apply. Significant unilateral or asymmetrical loss of hearing can adversely affect the ability to detect directionality of sound and perceive speech in the presence of background noise and so limit some civilian employments. This is reflected in the Boyce recommended tariff values for blast injury to ears or acute acoustic trauma, which attract a 30% GIP for significant unilateral hearing loss and a 50% GIP where hearing loss is significant and bilateral.

Recommendations

I. The impact on capacity for civilian employment when applied to the other Table 7 hearing descriptors, including Items 6 and 12 which refer to total deafness, indicates that awards for Items 6 and 12 and also for 9 and 16 should be increased above that recommended by Lord Boyce.

II. It is recommended that the existing blast damage to ears descriptors are expanded to include hearing loss due to acute weapons related acoustic damage and that new descriptors are added for asymmetrical losses.

Item	Injury	Tariff at 3 Aug 2010	IIMEG Level – March 2011
1	Total deafness and loss of both eyes, or total deafness and total blindness in both eyes, or total deafness and loss of one eye and total blindness in the other	1	1
6	Total deafness in both ears	6	2
9	Bilateral permanent hearing loss of more than 75dB averaged over 1, 2 and 3 kHz	8	6
12	Total deafness in one ear	9	8
16	Bilateral permanent hearing loss of 50 - 75dB averaged over 1, 2 and 3kHz	10	8
18	Blast injury to ears or acute acoustic trauma due to impulse noise with permanent sensorineural hearing loss in one ear of over 75dB averaged over 1, 2 and 3kHz*	10	10
24	Blast injury to ears or acute acoustic trauma due to impulse noise with permanent sensorineural hearing loss in one ear of 50 - 75dB averaged over 1,2 and 3kHz*	11	11
34	Blast injury to ears or acute acoustic trauma due to impulse noise*	13	13

* implies that hearing loss in the other ear or in Item 34, in both ears, is less than 50dB averaged over 1, 2 and 3 kHz

III. To acknowledge bilateral compensable damage proposed new descriptors are:

Level 7 "Blast injury to ears or acute acoustic trauma due to impulse noise with permanent bilateral sensorineural hearing loss of 50-75 dB averaged over 1, 2 and 3 kHz."

Level 5 "Blast injury to ears or acute acoustic trauma due to impulse noise with permanent bilateral sensorineural hearing loss of over 75 dB averaged over 1, 2 and 3 kHz."

Level 6 "Blast injury to ears or acute acoustic trauma due to impulse noise with bilateral permanent sensorineural hearing loss of 50-75 dB averaged over 1, 2 and 3 kHz in one ear and over 75 dB averaged over 1, 2 and 3 kHz in the other."

2. How to Compensate for Tinnitus

AFCS Current Approach

At present hearing descriptors and awards on Table 7 are differentiated on the basis of the presence or absence of tinnitus. There is presently no category on Table 7 for tinnitus alone.

Argument

Tinnitus is common in adults in the UK and can have many origins. There is no generally accepted reliable or objective means of assessment. Internationally, no fault compensation schemes have varying approaches to tinnitus, which range from exclusion from compensation to payment of a fixed sum when certain criteria are met, as to its duration, severity e.g. disturbs sleep, and where it accompanies a type and level of hearing loss, which itself attracts an award. The latter is the approach of the War Pensions and Industrial Injuries Schemes. In the UK tinnitus is not recognised as a lone disability for social security benefits.

Recommendations

I. It is proposed that tinnitus is taken into account in all awards for hearing loss. Table 7 descriptors should be revised with removal of reference to tinnitus. For each descriptor, awards will be made on diagnosis and measured audiometric impairment and the award previously applicable in cases with severe tinnitus will now apply to all cases.

II. No award should be made under the AFCS for tinnitus alone.

III. As in the other AFCS tables where hearing loss is accompanied by psychological symptoms, in the absence of a discrete diagnosis, they are accounted for in the primary award. If service has caused a discrete psychological diagnosis, an additional award may be made.

3. Scientific Advances in Noise Induced Hearing Threshold Relevant to Compensation Threshold

Recommendation

IMEG has reviewed the scientific evidence on noise induced hearing loss published in the peer - reviewed literature, with particular attention to papers since 2000. It has not identified any advances in scientific understanding of particular relevance to compensation threshold, but wishes in 2011 to have the opportunity to more fully consider the issues and perspectives, including any new or emerging scientific evidence.

4.Assessment of Hearing

Claims for hearing loss require first a reliable diagnosis. This must rely on an accurate history with, as available, supporting documentary evidence of the relevant incident.

Recommendation

IMEG recommends that claims determination of AFCS hearing loss claims must be based on an accurate diagnosis and reliable measures of assessment of hearing. To detect the audiometric pattern and level of hearing loss, quality assured audiometry, carried out on calibrated equipment

by trained operators. Where audiometric tests are inconsistent with clinical findings, more objective tests of hearing function should be obtained such as cortical evoked response audiometry (cERA) and otoacoustic emissions testing.

5. Other Tariff Revisions

Because the effects of physical trauma to the ear have been claimed under AFCS two further descriptors are proposed:

> "Acute physical trauma to ear causing conductive or permanent sensorineural hearing loss in one ear." Level 13

> "Acute physical trauma to ear causing conductive or permanent sensorineural hearing loss in one ear of 50 - 75dB averaged over 1, 2 and 3 kHz." Level 11

> "Acute physical trauma to ear causing conductive or permanent sensorineural hearing loss in one ear of over 75dB averaged over 1, 2 and 3 kHz." Level 10

Topic 2 - Traumatic Injury to Genitalia (Male and Female)

Severe multiple injuries and burns due to blast injury from Improvised Explosive Devices have characterised recent and current conflicts. Involvement of the abdomen, pelvis and perineum can cause traumatic physical damage to both male and female reproductive structures and organs and excretory organs, leading to compromised fertility and sexual function, urinary and faecal continence. Such injuries can be associated with severe disfigurement and consequent severe psychological trauma. Where serious damage or loss of external genitalia leads to disfigurement, these will impact on self image, confidence and self worth. Such effects can occur in both men and women.

While there have been very few claims for these, it is essential the Scheme recognises the potentially devastating effects in young men and women.

Other categories of injuries recognised in the Scheme can also cause sexual dysfunction and continence problems (e.g. spinal cord injury). We are here only concerned with conditions which have followed traumatic physical injury to male and female reproductive organs and structures and to excretory function (urinary tract and lower bowel).

Argument

As a general approach it seems appropriate to recognise as separate: the primary injury(ies), which will determine the lump sum payment and level of the GIP, and separately any associated effects of the anatomical damage on reproduction, sexual activity and continence.

The primary injury is likely to be placed in Table 1, Burns and especially Table 2, Injury, Wounds and Scarring.

Item	Level	Injury
10	7	Complex injury to abdomen, including pelvis, with complications, causing permanent significant functional limitation and restriction.
15	8	Injury to abdomen, including pelvis, with complications, causing permanent significant functional limitation and restriction.
16	8	Complex injury to abdomen, including pelvis, causing permanent significant functional limitation and restriction.
18	9	Injury to abdomen, including pelvis, causing permanent significant functional limitation and restriction.
29	11	High velocity gun shot wound, deep shrapnel fragmentation or one or more puncture wounds (or all or any combination of these injuries) to the head and neck, chest, back, abdomen or limb, with damage to one or more vital structures causing permanent significant functional limitation and restriction.

33	11	Complex injury to abdomen, including pelvis, with complications, causing or expected to cause significant functional limitation and restriction at 26 weeks, with substantial recovery beyond that date.
39	12	High velocity gun shot wound, deep shrapnel fragmentation or one or more puncture wounds (or all or any combination of these injuries) to the head and neck, chest, back and abdomen or limb with substantial recovery.
40	12	Traumatic injury to genitalia requiring treatment resulting in severe permanent damage or loss.
42	12	Complex injury to abdomen, including pelvis, causing or expected to cause significant functional limitation and restriction at 26 weeks, with substantial recovery beyond that date.
44	13	Injury to abdomen, including pelvis, with complications, causing or expected to cause significant functional limitation and restriction at 26 weeks, with substantial recovery beyond that date.
57	14	Traumatic injury to genitalia requiring treatment resulting in moderate permanent damage.

The current AFCS Tariff includes a single reference to sexual dysfunction in Table 4, Item 3 where Infertility attracts an award of Level 8 and a Guaranteed Income Payment based on 50% military salary. Infertility has no effect on employability. This is therefore illogical and a different approach is needed. As the affected population are young people there is no need for the AFCS approach to include a range of awards varying with claimant age, as seen in civil awards, but rather a single level of award is merited.

Recommendations

I. Where traumatic physical damage is accompanied by problems with sexual activity (impotence), fertility, bowel and bladder continence or disfigurement, it is recommended there should be an additional one-off supplement of £60,000 (sixty thousand) paid for each condition. For psychological symptoms, otherwise than associated with disfigurement, the approach as in the rest of the Scheme would be to consider that the award for the primary injury already takes account of psychological symptoms, which do not constitute a discrete diagnosis. A separate award for a diagnosed mental disorder will be considered and paid if it is predominantly due to service.

II. The group also recommends that where appropriate and regardless of location in the UK, AFCS recipients of an award for infertility should be entitled to a minimum of three full cycles of IVF treatment, or otherwise approved best practice treatment provided by the NHS.

New descriptors	Additional Tariff lump sum
Incontinence – bowel or bladder or both	£60,000
Impotence	£60,000
Infertility	£60,000
Physical disfigurement	£60,000

Topic 3 - Non Freezing Cold Injury

BACKGROUND

Non-freezing cold injury (NFCI), especially of the lower limbs, has been a military concern for UK troops since the Napoleonic and Crimean Wars. It occurs more frequently among those previously affected and in Afro-Caribbean troops. There is now substantial evidence, particularly from Scandinavia, that NFCI can cause damage to nerve fibres which, although usually reversible, may also be permanent. The affected limb (usually the foot) goes through various stages of vasoconstriction, with associated paresthesiae and pain. In most cases these symptoms improve with time; some suffer continuing cold sensitivity but not pain. However much remains unknown about the pathogenesis and mechanism of continuing disease.

Since the Falklands conflict, when about 100 cases were reported in total, there has been a steady decline in numbers of cases, until the winter of 2005 when there was a sudden increase to over 200 cases. This was mainly associated with army winter training in damp cold conditions in the UK. Following investigation, a number of measures and reminder actions, including a Joint Service Publication and a Surgeon General's Policy Letter, were introduced to increase awareness and vigilance amongst medical staff, the chain of command and troops themselves.

AFCS Current Approach

About 100 AFCS awards have been made between 1 April 2005 and 31 March 2010. These are for the two current cold injury descriptors in Table 2. These are:

- Item 66 - "Cold injury which has caused or is expected to cause symptoms and significant functional limitation and restriction at 6 weeks with substantial recovery beyond that time." Level 15

- And Item 62 - "Cold injury with persisting symptoms and significant functional limitation and restriction." Level 14

Argument

There is relatively little reliable information in the literature on prognosis of non-freezing cold injury, primarily because of a lack of follow-up of those affected. The majority of cases tend to improve spontaneously, usually within six months, and would not meet the criteria for severe injury. A small number of more serious cases are likely to have observable changes from the outset, with blistering and early gangrene in the worst cases. In such cases there is likely to be an adverse impact on civilian employability.

Where claims are made for cases with continuing symptoms 6 months after exposure, it is recommended an interim award is made. Where symptoms persist at review, objective thermal

threshold testing should be undertaken in a specialist neurological laboratory to confirm impairment of function in small sensory nerve fibres.

Recommendations

I. It is recommended that the current Table 2 descriptors are deleted and replaced by three items as follows:

"Non-freezing cold injury which has caused or is expected to cause neuropathic pain and significant functional limitation and restriction at 6 weeks with substantial recovery beyond that time" Level 14

"Non-freezing cold injury which has caused or is expected to cause neuropathic pain and significant functional limitation and restriction at 6 months with substantial recovery beyond that time." Level 13

"Non-freezing cold injury with persistent neuropathic pain and severe compromise of mobility or dexterity, and evidence of permanent nerve damage on thermal threshold testing." Level 10

II. It is only the most severe type of injury, which can impact on civilian employability, which attracts a GIP.

III. For the criteria for the Level 10 descriptor to be met, there must be evidence of permanent nerve damage on objective testing of thermal threshold testing and expert neurological assessment.

IV. The recommendations and suggested tariff awards apply to bilateral damage to upper or lower extremities and there should be an appropriate note; where both hands and feet are affected two awards may be payable.

V. Non-freezing cold injury, the most common climate related injury in the armed forces context, is distinct from, but overlaps with freezing cold injury. Cold injury will be the topic of future separate consideration.

Topic 4 - Paired Injuries

In their consideration of injuries to paired organs and structures (e.g. eyes, ears and limbs) IMEG were guided by two important principles:

a) Loss of or injury to two paired structures or organs is considerably more disabling than twice the loss of one organ or structure e.g. loss of one eye versus loss of both eyes, (i.e. multiplicative not additive).

b) Loss of the upper limb (complete or partial) is more disabling than the equivalent loss of the lower limb (e.g. hand versus foot).

In considering the appropriate levels of award IMEG considered the impact of the loss of one and of both structures or organs on capacity for future civilian employment (reflected in GIP). IMEG's recommendations reflect this. To be clear, Levels 1 – 4 attract 100% GIP, Levels 5 and 6 attract 75% GIP, Levels 7 and 8 attract 50% GIP and Levels 9, 10 and 11 , 30% GIP.

AFCS Current Approach

Tariff tables which importantly include paired injuries include Table 5, Amputations and Table 7 Senses.

TABLE 5 – AMPUTATIONS

Item	Level	Injury
1	1	Loss of both legs (above or below knee) and both arms (above or below elbow).
4	2	Loss of both legs above knee (hip disarticulation or hemipelvectomy).
5	2	Loss of both arms above elbow (shoulder disarticulation or forequarter).
6	2	Loss of both legs above or below knee (not hip disarticulation or hemipelvectomy) and one arm (above or below elbow.
7	2	Loss of both arms above or below elbow (not shoulder disarticulation or forequarter) and one leg (above or below knee).
8	3	Loss of both legs at or above knee (trans-femoral or knee disarticulation).
9	3	Loss of both arms at or above elbow (trans-humeral or elbow disarticulation).
12	4	Loss of both legs below knee (trans-tibial).

Item	Level	Injury
13	4	Loss of both arms below elbow (trans-radial).
14	4	Loss of both hands (wrist disarticulation) or where amputation distal to that site has led to permanent total loss of use of both hands.
15	5	Loss of both feet distal to the calcaneum or where amputation distal to that site has led to permanent total loss of use of both feet.

TABLE 7 – SENSES

Item	Level	Injury
2	2	Loss of eyes.
3	2	Total blindness in both eyes.
6	6	Total deafness in both ears.
8	8	Loss of one eye or total blindness in one eye.
12	10	Total deafness in one ear.

1. Limb Amputations

Considering points a) and b) above for the most serious injuries the following descriptors currently attract a Level 1 award:

- loss of both arms and both legs
- loss of both eyes or sight of both eyes and either both legs or both arms
- total deafness and loss of either both legs or both arms and
- total deafness and loss of both eyes or blindness

NB these descriptors apply to any level of limb loss.

There are currently three other variants for loss of upper and lower limbs dependent on level of amputation:

I. Loss of leg above knee/hip disarticulation and loss of arm above elbow/shoulder disarticulation: in keeping with the enormity of such injuries, where it is often impossible to wear a prosthesis, these merit a Level 3 award for unilateral loss (£380,000)*. Bilateral loss is set at Level 2 (£470,000). This distinguishes from the Level 1 injuries, affecting two body systems above. Whether Level 1 or 2 is allocated for bilateral loss, the principle of more than doubling of award to reflect impact on function cannot be met unless by revising downwards the Level 3 award for a single loss. This is unacceptable.

II. Loss of limb at/above knee or at/above elbow, are at Level 5 (£175,000) and for two such injuries, Level 3 (£360,000).

III. Similarly, where the loss is below knee or elbow, Level 6 (£140,000) and Level 4 (£290,000) apply.

In the more common cases (ii) and (iii), the principle of a more than doubling of award for bilateral loss is met.

(* all awards are as recommended by Lord Boyce)

The AFCS Tariff currently treats upper and lower limb loss similarly. Reflecting modern thinking on differential disabling effects between upper and lower limbs and modern prosthetics, it is recommended that current tariff awards should remain for lower limbs, with upward adjustment for upper limb loss as follows:

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 hand and foot. At present loss of both hands is at Level 4 (£290,000) and Level 6 (£140,000) for one. For feet, the equivalents are Level 5 (£175,000) for two and Level 8 (£60,000) for one. It is recommended that awards for loss of hand(s) should remain as now, at Levels 4 (bilateral) and 6 (unilateral).

- Similarly impact of loss of leg below knee and loss of foot would be different, dependent on retention of the heel. Where the heel is retained, Levels 8 (£60,000) for a single loss of foot and 5 (£175,000) for bilateral loss, is appropriate. Loss of leg below knee to beyond heel would merit Level 6 (£140,000) unilateral and 4 (£290000) bilateral. The foot loss descriptor needs to be amended to reflect the anatomical loss.

- We also recommend that the highest level awards should be paid for upper and lower limb losses which anatomically fall short of hemipelvectomy or shoulder disarticulation but where the stump length or condition precludes fitting of an effective prosthesis.

Recommendations

In summary we recommend:

Descriptor	Award Level	
	Two	One
Loss of leg above knee (hip disarticulation)*	2	3
Loss of leg at/above knee	3	5
Loss of Leg below knee**	4	6
Loss of foot distal to the calcaneum (heel)	5	8

Descriptor	Award Level	
Loss of arm above elbow (shoulder disarticulation)*	1	2
Loss of arm at /above elbow	2	4
Loss of arm below elbow	3	5
Loss of hand	4	6

*includes circumstances where stump length or condition precludes fitting of prosthesis
**includes loss of foot with loss of all or part of the calcaneum (heel)

2. Sensory Losses

At present visual loss or loss of the eyes attracts greater compensation than for total deafness / loss of hearing in one or two ears ** . (**total deafness should be defined as audiometric loss of 100 dB or more averaged over 1, 2 and 3 kHz).

Current awards are as follows:

Descriptor	Award Level	
	Two	One
Loss of eyes/blindness	2	8
Total deafness /loss of hearing	6	10

Argument

Total loss of hearing in one ear is potentially as disabling as the loss of one eye that attracts a 50% GIP. Complete blindness or loss of both eyes is obviously a severe injury with significant impact and no corrective means. Total deafness in both ears due to service would be highly unusual. It is unlikely to be an isolated injury but perhaps associated with a head injury. In that circumstance, cochlear implant might be especially problematic. Even where cochlear implant is appropriate, there are technical and user training challenges, which are likely to impact on employability.

Recommendation

It is therefore recommended that the tariff should be revalorised so that total loss of hearing and total loss of sight attract equivalent awards.

- Awards for total deafness/loss of hearing in two or one ears are increased to Levels 2 and 8 respectively.

3. Other Paired Structures - Kidneys

AFCS Current Approach

At present the tariff includes entries for: serious permanent damage to, or loss of, one kidney at Table 2, Item 21, Level 10, and for loss of both kidneys or chronic renal failure Table 2, Item 2, Level 5.

Argument and Recommendations

I. Loss of a kidney or kidneys due to service will not be common or an isolated injury. It is most likely to occur as part of a serious primary traumatic abdominal or back injury, which itself will attract an award and GIP. Where loss of kidneys or kidney failure results from a primary traumatic injury and requires dialysis there will be impact on employability, due to the kidney damage itself. The current level Table 2, Item 2, Level 5 award and associated GIP should be retained.

II. Pre - enlistment medical examination does not routinely include abdominal scans or ultrasound examination, so it is possible that someone with only one kidney and normal renal function may be undetected and enlist. Where abdominal injury and loss of that kidney or of its function then arises as a result of AFCS service, then Table 2, Item 2, Level 5 award would be payable.

III. By contrast where in the presence, pre - injury of two normal functioning kidneys, the primary injury results in the loss of one kidney or its function, there should be no detectable functional impact, or effect on employability, and so Table 2, Item 21, Level 10 is deleted. In such cases, an award and any associated GIP is payable for the primary injury. However the accepted service related loss of kidney is recognised as in (iv) below.

IV. Where any service accepted traumatic injury results in the loss of one kidney or its treatment requires a kidney to be removed without development of chronic renal failure, an additional supplement of £40,000 should be paid. This will not attract GIP.

4. Loss of Paired Structures/Organs From Service and Non-Service Causes

Argument

Loss of two structures or organs due to service may take place in one incident or in two:

I. Where two service related incidents and accepted injuries are involved, Article 18 AFCS applies. This applies to arms or parts of arms – feet - hands – kidneys – legs or parts of legs - total loss of sight in both eyes and total loss of hearing in both ears. Here the lump sum payable when the second accepted injury is sustained is the award for the paired injury, minus the award already made for the first injury. The GIP paid for the first injury is replaced by the GIP applicable for injury to the pair of organs or like parts of the body.

II. A different situation is where two structures or organs are lost, and in the one case it is due to service and the other, a non-service cause, The War Pensions Scheme recognised this situation by a method discussed in the 1947 Hancock report. This said that:

- where in service one organ of a pair is damaged or lost from a non-service cause and the second subsequently from a service cause, the Ministry accepts liability for the whole of the resulting loss of function.

- where one organ is lost due to service and the other subsequently, either in service or post-service, from a non-service cause, and the assessment of the double injury is less than 100% but more than twice the assessment of the single injury, the Scheme accepts liability for half of the total loss of function i.e. loss of one organ is 30% and loss of two is 80% so we accept 40%.

- a second rule was added in 1954 called the "halving Rule" where the assessment of the accepted injury and the subsequent non accepted injury together is 100%, then the assessment is increased by half of the difference between the current assessment and the 100%.

III. These rules recognise that, at least in part, the impact of the loss of the second organ is attributable to loss of the first organ in service. We consider that in the case of loss of the second eye, of hearing in the second ear and of the hand, that AFCS should recognise 100% of the responsibility for the consequences of the loss of the second organ.

Recommendations

I. It is therefore recommended that AFCS adopts the following approach to double injuries where the first is due to service, the one sustained later is not causally related to service and where the post service non accepted injury is acute loss or loss of use due to trauma or infection involving:

- Eyes and ears: loss of one is Level 8 and loss of two is Level 2. Accept all responsibility i.e. award Level 2 and band A GIP.

- Arms or parts of arms, and hands: award paid appropriate to the double loss including appropriate GIP.

II. Where the same structures are involved, but loss of the second organ or total loss of its function, develops more gradually due to ageing ,or degenerative disease e.g. osteoarthritis, atherosclerosis (cerebrovascular or peripheral vascular disease) or diabetes and for all other combinations i.e.

- Legs or parts of legs

- Foot

- Kidney

AFCS would make an additional award of half of the lump sum due for the difference between the single and double injuries. GIP would increase by one band except where a band A GIP (based on 100% of the base figure) applies and that rate of GIP is already in payment.

e.g. where one leg is lost below knee due to service, a lump sum award of Level 6 i.e. £140,000 is made, with band B GIP payable from service termination. If the other leg is subsequently lost below knee, due to a disease process, the award paid is half the difference between that and the award for loss of two legs below knee, £ 290,000 i.e. a total of £215,000 and the GIP rises to band A.

Future Work

We recognise we have not addressed a number of related issues which include bilateral fractures. In general in the armed forces population the pattern is of full recovery. However we do recognise there may be particular problems e.g. heels and mid - foot fractures and will consider these more fully in the future.

Topic 5 - Brain Injury

Brain, spinal and brachial plexus injury can have devastating consequences with at worst, inability to lead an independent life. This needs to be properly reflected in the Scheme. These matters are complex and this section of the report and that following, on spinal injury, necessarily reflect this.

The group reviewed the Scheme's general approach to brain injury and amended the descriptors and award levels to better recognise and differentiate injury severity, associated functional deficits, dependence on others, and reduced civilian employment prospects. Where possible the descriptors are based on objectively verifiable criteria and clinical measures routinely collected in brain injury patients.

Brain injury may typically be sustained in combat, or as in civilian society, in road traffic accidents, or adventure training. There is a spectrum of severity but traumatic brain injury is the most common cause of death in young men. From 1 November 2005 until 31 March 2010 there have been 70 AFCS awards for brain injuries of all levels of severity. Of these fewer than 10 have been in Levels 1 - 4.

AFCS Current Approach

TABLE 6

Item	Level	Injury
2	1	Brain injury with persistent vegetative state. [(a)]
3	1	Brain injury where epilepsy is present (or where there is a high risk of epilepsy) and the claimant has reflex activity but has little or no meaningful response to the environment, no language or double incontinence double incontinence and requires full time skilled nursing care. [(b)]
3A	2	Brain injury where epilepsy is present (or where there is a high risk of epilepsy) and full-time skilled nursing care is required, and the claimant has two of the following: reflex activity but little or no meaningful response to the environment, no language or double incontinence. [(ab)]
6	3	Brain injury where epilepsy is present (or where there is a high risk of epilepsy) where the claimant has limited response to the environment; substantial physical and sensory problems; and requires regular skilled nursing care. [(c)]

Item	Level	Injury
8	4	Brain injury where epilepsy is present (or where there is a high risk of epilepsy) where the claimant has some limitation on response to the environment; some physical and sensory problems; and one or more of cognitive, personality or behavioural problems but does not require skilled nursing care [(d)]
12	5	Brain injury with some risk of epilepsy, where the claimant has moderate physical or sensory problems; one or more of cognitive personality or behavioural problems and requires some help from others with activities of everyday living but not personal or nursing care [(d)]
15	7	Brain injury with some persisting physical or sensory problems, one or more of cognitive, personality or behavioural problems and requires occasional help from others with activities or everyday living [(d)] or [(e)]
19	11	Brain injury from which the claimant has made, or is expected to make, a substantial recovery beyond 26 weeks, except for residual objectively verified vertigo, [(f)]
20	11	Brain haemorrhage or stroke which has caused, or is expected to cause, persistent significant functional limitation and restriction at 26 weeks, but where there has been or is expected to be, a substantial recovery beyond that date.
21	11	Brain injury from which the claimant has made a substantial recovery and is able to resume work and social life with no significant physical , sensory or cognitive deficits but some residual problems with concentration and memory disinhibited mood, personality change or depression.

Specific Issues and Recommendations

1. The group first confirmed that the general approach of AFCS to brain injury including use of Glasgow Coma Score as an indicator of severity was satisfactory.

2. The heading of Table 6 should be amended to Neurological disorders, including spinal, head and brain injuries.

3. **Interim Awards.**
Although the Scheme time limits provide seven years to claim and in most cases service causation is rarely in doubt, many claims for brain injury are lodged within a few weeks or months of the index event. Most of these cases at claim would merit an initial interim award with review and finalisation at one to two years post initial assessment and award notification.

4. **Post traumatic epilepsy.**
The current Table 6 descriptors include reference to the risk or presence of epilepsy with a footnote confirming that awards for brain injury in Levels 1, 3 or 4 include compensation for associated epilepsy.

- Table 6 also includes:

Item 9 - uncontrolled post head injury epilepsy	Level 4
Item 23 - controlled post head injury epilepsy	Level 12

I. We recommend that specific reference to the presence or risk of epilepsy in descriptors is removed. Anyone who sustains a head/brain injury may be at risk of epilepsy, which may be very difficult to control. Risk of epilepsy is greatest for the most serious brain injuries, attracting the highest awards and presently at Items 1 - 8 of Table 6 above. In these, compensation for epilepsy is already included in the primary award. For all other head injury categories, an additional award for post traumatic epilepsy is paid.

II. We recommend that this approach should be maintained and the footnote "awards for brain injury in award Levels 1, 3 or 4 include compensation for associated epilepsy " should be retained.

5. **Psychological symptoms and illness.**
As elsewhere in the Scheme where symptoms which do not constitute a discrete diagnosable disorder are present, they are accounted for in the basic primary injury award. If criteria for a stand alone disorder are met and this is due to service, then an additional award may be made.

6. **Dizziness / balance problems** are common after brain and head injury. Where head trauma occurs with or without skull fracture, labyrinthine concussion may cause hearing and/or balance symptoms. The balance symptoms usually recover spontaneously or with appropriate physiotherapy. The prognosis for tinnitus is more variable and is highly dependent on other factors, particularly severity of any hearing loss, associated injuries and psychological disorders. The prognosis for sensorineural hearing loss is poor with a low likelihood of recovery.

Benign positional vertigo of paroxysmal type is common after minor head injury. In most young patients the condition spontaneously recovers, with periods of relapse and remission, but eventual complete recovery. In some cases this may take months or years.

Fractures of the base of the skull, involving the temporal bone are of two types. Most frequently, these are longitudinal fractures which do not usually affect the inner ear, although there may be conductive hearing loss due to a ruptured tympanic membrane and associated labyrinthine concussion. Where a transverse basal skull fracture occurs this may damage the membranous labyrinth as well as the seventh and eighth cranial nerves producing permanent sensorineural hearing loss and acute onset nausea and vertigo, loss of balance and nystagmus towards the unaffected side. In unilateral fractures the balance symptoms may resolve over a few days but it may take many weeks for substantial resolution of symptoms, which occurs via central compensation. However, many will experience minor residual balance symptoms, and a minority will remain significantly impaired as a result of symptoms of imbalance. Bilateral transverse base of skull fractures result in total permanent hearing impairment and profound imbalance, which will improve to some extent with rehabilitation, but with residual significant, permanent balance problems.

Recommendation

I. Again because outcomes are variable, the suggested approach to compensation, when dizziness and associated symptoms are prominent, is to first identify the primary injury and then capture any functional outcomes/symptoms via another descriptor in Table 6.

II. For less profound brain injury or traumatic head injury we recommend deletion of reference to "functionally limiting or restricting impaired balance" in current descriptors at Items 22 and 29, and insertion of a new descriptor attracting a Level 11 award:

"Brain or traumatic head injury with persistent balance symptoms and other functionally limiting neurological damage or permanent sensorineural hearing loss of less than 50dB averaged over 1, 2 and 3 kHz."

7. **Care and support.**
Brain injury severity is reasonably reflected by the degree of dependence on others. The phrase "skilled nursing care" has been used in the context of military compensation for many years. Given that care and support may be delivered by family, friends and different health and social services professionals as well as nurses, it is recommended that reference to "skilled nursing care" is deleted and replaced by "professional nursing care", to imply care by trained accredited staff. This should be explained in the legislation. This means that Items 8, 12 and 21 in the current Table 6 tariff should be revised:

Item	Level	Injury
8	2	Brain injury where the claimant has some limitation of response to the environment, substantial physical and sensory problems; and one or more of cognitive, personality or behavioural problems, requiring some professional nursing care and likely to require considerable regular support from other health professionals.
12	4	Brain injury where the claimant has moderate physical or sensory problems, one or more of cognitive personality or behavioural problems, requiring regular help from others with activities of everyday living, but not professional nursing care or regular support from other health professionals.
21	8	Brain injury from which the claimant has made a substantial recovery and is able to undertake some form of employment and social life, has no major physical or sensory deficits, but some residual cognitive deficit, behavioural change, or change in personality, alone or in combination.

8. **Brain Injury differentiation.**
A reason for a tariff based Scheme is to support consistent equitable decision-making and the different descriptors in the table should be clinically distinct. To better reflect the functional consequences of brain injury, the following amendments are recommended

I. Items 3, 3A and 6 are difficult to differentiate clinically and we recommend that the injuries currently at Items 3, 3A and 6 should be combined, with deletion of the descriptors above and replacement by a single new descriptor:

"Brain injury resulting in major loss or limitation of responsiveness to the environment, absence or severe impairment of language function and incontinence. Requires regular professional nursing care."

At this level of severity, a Level 1 award is appropriate.

II. At present awards for Items 12 and 15 do not attract a Band A GIP. While they do not represent the highest level of disability, it is difficult to imagine anyone fitting those descriptors who would be able to sustain any level of paid work. We recommend awards for Levels 8, 12 and 15 should be revised upward, with amalgamation of Items 12 and 15. This new descriptor should attract a Level 4 award, while Item 8 merits a Level 2.

III. We therefore recommend the following amendments to Table 6 and descriptors and award levels as set out below. Item numbers relate to numbers on present Table 6. Current Items 3, 3A and 6 are replaced by a single new descriptor at tariff 1, while similarly, current Items 12 and 15 are covered by a new descriptor at tariff 4. New descriptor at tarif 4. We also advise deletion of reference to Glasgow Coma Score (GCS) in the actual descriptors.

Item	Level	Injury
2	1	Brain injury with persistent vegetative state.
3, 3A, 6	1	Brain injury resulting in major loss or limitation of responsiveness to the environment, absence or severe impairment of language function and incontinence. Requires regular professional nursing care.
8	2	Brain injury where the claimant has some limitation of response to the environment, substantial physical and sensory problems and one or more of cognitive, personality or behavioural problems, requiring some professional nursing care and likely to require considerable regular support from other health professionals.
12 15	4	Brain injury where the claimant has moderate physical or sensory problems, one or more of cognitive, personality or behavioural problems, requiring regular help from others with activities of everyday living, but not professional nursing care or regular support from other health professionals.
21	8	Brain injury from which the claimant has made a substantial recovery and is able to undertake some form of employment and social life, has no major physical or sensory deficits, but some residual cognitive deficit, behavioural change or change in personality, alone or in combination.

9. **Related Injuries**

I. **Extracerebral injury.** The Scheme needs to cover traumatic arterial injury in the neck, resulting in cerebral infarction.

II. The group agreed a new descriptor for Table 6 to replace Item 20.

"Cerebral infarction due to vascular injury in the neck, resulting in persisting impairment of function and restriction of activities." *Level 12*

III. Potentially the resultant cerebral deficit, and so functional impact, may be quite variable in nature and severity, and to cover the details of the functional limitation and restriction there should be again be an additional descriptor and award from revised tariff Table 6.

IV. Current Item 19 should be deleted. Should such a case present, Article 20, i.e. the ability to make a temporary award and introduce a new descriptor, would be used.

V. Non traumatic vascular injury Current Item 20 should also be deleted, as it applies to brain haemorrhage or cerebral infarction of any aetiology. Where brain haemorrhage is traumatic this should be covered by a brain injury descriptor. Where, in a balance of probabilities scheme, non-traumatic cerebral infarction or haemorrhage is accepted, since there will be a spectrum of disability and outcomes, it is recommended that these disorders are dealt with using revised Table 6.

VI. **Traumatic head injury.** As discussed above under Dizziness/balance problems after head injury, the final two descriptors of the current Table 6 tariff should be revised as follows:

- Item 22 of the current tariff at Level 11 should now read:

"Minor traumatic head injury which has caused or is expected to cause functionally limiting or restricting post traumatic syndrome for more than 52 weeks."

- And Item 29 at Level 13, with no GIP becomes:

"Minor traumatic head injury which has caused or is expected to cause functionally limiting or restricting impaired balance or post traumatic syndrome for more than 6 weeks with substantial recovery beyond that date."

VII. The term "traumatic head injury" should be retained to acknowledge concussive symptoms without permanent cerebral damage, and so less severe injury than in traumatic brain injury.

The recommended revised Table 6 Brain and Head injury table is below:

Item	Level	Injury
2	1	Brain injury with persistent vegetative state
3, 3A 6	1	Brain injury resulting in major loss or limitation of responsiveness to the environment, absence or severe impairment of language function and incontinence. Requires regular professional nursing care.
8	2	Brain injury where the claimant has some limitation of response to the environment, substantial physical and sensory problems and one or more of cognitive, personality or behavioural problems, requiring some professional nursing care and likely to require considerable regular support from other health professionals.
12 15	4	Brain injury where the claimant has moderate physical or sensory problems, one or more of cognitive, personality or behavioural problems, requiring regular help from others with activities of everyday living, but not professional nursing care or regular support from other health professionals.
20	12	Cerebral infarction due to vascular injury in the neck, resulting in persisting impairment of function and restriction of activities.

Item	Level	Injury
21	8	Brain injury from which the claimant has made a substantial recovery and is able to undertake some form of employment and social life, has no major physical or sensory deficits, but some residual cognitive deficit, behavioural change or change in personality, alone or in combination.
22	11	Minor traumatic head injury which has caused or is expected to cause functionally limiting or restricting post traumatic syndrome for more than 52 weeks.
29	13	Minor traumatic head injury which has caused or is expected to cause functionally limiting or restricting impaired balance or post traumatic syndrome for more than 6 weeks, with substantial recovery beyond that date.

10. Skull fractures

Skull fractures are included in the table of fractures, Table 8, presently as set out below:

Item	Level	Injury
17	12	Fracture of the skull with sub-dural or extra-dural haematoma which has required evacuation, from which the claimant has made, or is expected to make a substantial recovery within 26 weeks.
32	13	Fracture of skull with sub-dural or extra-dural haematoma which has not required evacuation.
59	14	Simple Skull fracture.

Recommendations

We recommend some changes and extensions.

I. Item 17 should be retained, as above.

II. We recommend deletion of Item 32 and replacement with:

"Fracture of the skull with intracranial, extracerebral haematoma that has not required evacuation." Level 13

III. We also recommend an additional descriptor:

"Depressed skull fracture requiring operative treatment" Level 12

IV. The recommended skull fracture descriptors in Table 8 will now be:-

Item	Level	Injury
17	12	Fracture of skull with sub-dural or extra-dural haematoma which has required evacuation, from which the claimant has made or is expected to make a substantial recovery within 26 weeks.
32	13	Fracture of the skull with intracranial, extracerebral haematoma that has not required evacuation.
	12	Depressed skull fracture requiring operative treatment.

V. Finally we recommend that in all cases of traumatic brain injury where relevant, there should be an additional stand alone award for skull fracture.

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 injury.

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

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:

	Award Level	
Descriptor	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.

- 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.

- 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

- Delete the current SCI descriptors
- 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 eg 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 sever 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.

Topic 7 - Mental Health Disorders

Mental health disorders and their associated health care and support among Armed Service personnel and veterans are currently the subject of considerable attention and activity. This includes the recently published review, into NHS services for the armed forces community, written by Dr Andrew Murrison, M.P. for the Prime Minister, and with special focus on mental health.

While UK data on veterans' mental health are incomplete, more information is available on serving personnel. The Armed Forces are a selected younger and healthier population than the equivalent general community. There is emphasis in service on resilience building, stigma reduction, promotion and awareness of good mental health, prevention and early detection of problems and onward referral for specialist help. Levels and types of mental health problems among serving personnel are comparable with the general population. There is a problem with heavy drinking in a significant minority, but otherwise a low frequency of substance abuse and severe, enduring psychotic mental health disorders. Mental health problems are generally multifactorial; many of those who become ill in service may suffer problems related to domestic issues, relationship problems at home or in the workplace. Much current interest and concern focuses on PTSD attributed to the psychological trauma of war, its frequency, outcomes and wider social consequences. PTSD however is only one, and not the most common, mental health disorder associated with combat related traumatic psychological injury.

A recently reported longitudinal study of 10,000 UK Armed Forces personnel serving between 2003 and 2009 found that, among deployed personnel, 4% reported symptoms of probable PTSD, whereas 20% reported symptoms of common mental health disorders (e.g. anxiety, depression) and 13% alcohol misuse. PTSD was more common among those engaged in a combat role and in deployed reservists. Alcohol misuse was more common in deployed regular troops. There is further evidence, from other studies, that PTSD is associated in some 80% of cases, with other psychological problems, most commonly depressive symptoms and alcohol misuse. The relationship of these co-morbid disorders to psychological trauma and to each other has been the subject of many studies, which include studies of twins, but remains unresolved. Expert advice is that while traumatic psychological injury may be followed by increased alcohol consumption, it probably does not itself cause alcohol misuse.

AFCS Current Approach

Currently AFCS considers mental health disorders not in relation to particular diagnoses, but generically. Reflecting the fact that physical disease and injury inevitably cause psychological symptoms and sometimes illness, awards for all the descriptors throughout the tariff tables, take account of mental symptoms where they do not constitute a recognised diagnosis. For an AFCS award to be made currently for a mental health disorder, the symptoms must meet the criteria for a disorder included in the ICD or DSM classification and be made by a relevant accredited medical specialist. Severity and hence award paid is then assessed based on associated "functional limitation and restriction" and actual or anticipated duration of incapacity.

Between 1 November 2005 and 31 March 2010 there were 295 awards for a descriptor from Table 3 descriptors as below:

a) "Mental disorder which has caused or is expected to cause functional limitation and restriction at 6 weeks, from which the claimant has made or is expected to make a substantial recovery within 26 weeks." Level 14

b) "Mental disorder which has caused or is expected to cause functional limitation and restriction at 26 weeks, from which the claimant has made or is expected to make, a substantial recovery within 2 years." Level 13

c) "Mental disorder which has caused or is expected to cause functional limitation and restriction at 2 years from which the claimant has made or is expected to make a substantial recovery within 5 years." Level 12

d) "Mental disorder causing functional limitation and restriction which has continued or is expected to continue for 5 years." Level 10

e) "Permanent mental disorder causing moderate functional limitation and restriction." Level 9

f) "Permanent mental disorder causing severe functional limitation and restriction." Level 8

Argument

A fundamental principle of the AFCS is compensation for the impact of attributable injury illness or disease on capacity for civilian employment, paid as GIP. Capacity for work is an important measure of functional limitation caused by mental health disorders. At present there are two categories of " permanent" mental disorder each attracting a 50% GIP. Lord Boyce's Review recommended that for the most severe mental health problems, GIP should be at 75%.

Recommendation:

I. It is recommended that current Items (e) and (f) above, should be deleted and replaced by:

"Permanent mental disorder causing moderate functional limitation and restriction."
Level 8 i.e. 50% GIP

"Permanent mental disorder causing severe functional limitation and restriction."
Level 6 i.e. 75% GIP

II. **with "moderate"** meaning "unable to undertake work appropriate to experience, qualifications and skills at the time of onset of the illness, but able to work regularly in a less demanding job."

and

III. **"Severe"** meaning "unable to undertake work appropriate to experience, qualifications and skills at the time of onset of the illness and over time able to work only in increasingly less demanding jobs".

Further Work

There are several additional important areas concerning mental health, which need to be addressed. These include:

1. The basis for the diagnosis of mental health disorders. In the absence of objective measures (such as pathological changes in tissue or characteristic imaging patterns), diagnosis is based on a characteristic cluster of symptoms. At present the criteria for diagnosis are set out in two international classification systems (ICD 10 and DSM IV) which can disagree on their diagnostic criteria and sometimes even on the existence of disorders. This is a very unsatisfactory situation and clear guidance about this needs to be provided to decision makers in AFCS.

2. The diagnosis of mental health disorders and their subsequent effective treatment has important consequences for an individual, independent of a claim under AFCS. It is therefore essential that the diagnosis should be accurate, made by a suitably qualified person with experience of traumatic psychological injury preferably in the military context. If such direct experience is not met, there needs to be clear evidence of understanding, cultural sensitivity and affinity.

3. Psychological illness is necessarily based on self reported symptoms. Because of the important implications of the diagnosis and associated disability, there is a need to consider whether further confirmatory evidence should be obtained and if so from whom and by what means. This should probably, at the least, include information from the treating clinician(s) of the clinical management and type and duration of treatment received by each claimant.

4. The types of disorders likely to be accepted on balance of probabilities as predominantly due to service include the common mental health disorders. For these, best practice interventions leading to, at least, improved function are now recognised. A compensation issue, to be further explored, is the possible routine use of interim awards, with finalisation of awards on receipt of evidence that an adequate course of a quality assured effective intervention delivered by an accredited mental health professional has been completed.

5. The basis for severity and so compensation paid in the Scheme is functional capacity. There is a need to consider how best this can be measured in a valid and consistent manner.

In its considerations to date of mental health disorders, IMEG has been concerned to ensure that it fully considers and makes recommendations on those issues, which are for inclusion in new legislation in February 2011. Focus on these has meant less time for the other important issues listed above, which have therefore not yet received sufficient attention. In particular, it has not been possible to take wider opinion, including from Combat Stress and other Veterans groups, to inform future recommendations. It is proposed that this further work on mental health disorders will form a major plank of our work during 2011.

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