



The Independent Medical Expert Group (IMEG)

Report and recommendations on medical and scientific
aspects of the Armed Forces Compensation Scheme

March 2015

Topic 5 – Compensation aspects of Combat Related Complex Lower Limb Injuries

Introduction

1. The recent conflicts in Iraq and Afghanistan have been characterised by novel blast related injury from improvised explosive devices (IED), typically causing brain injury, amputations, perineal trunk and abdominal damage and complex lower limb injury where the limb is retained and reconstructed. Such injuries have occurred in previous wars, but with high mortality. Recent advances have transformed survival but present further challenges including lack of knowledge of the natural history and how best to treat such injuries. Because of the mechanism of injury, wound contamination and deep seated chronic infection of soft tissue and bone including osteomyelitis are common and a stable steady optimum state may never be reached. As the scheme aims to make full and final awards as early as possible, this situation also presents a challenge for the Armed Forces Compensation Scheme (AFCS).

2. Following the Boyce Review of AFCS, which highlighted some unanticipated gaps in the Scheme's cover for combat related injuries, the First IMEG Report (January 2011) made recommendations on combat related traumatic injury to genitalia and to paired organs, including limb amputation. These were accepted by ministers and enacted in legislation. Awards for upper limb loss were revalorised to recognise their greater disabling effects relative to lower limb loss and the less advanced state of upper limb prosthetics. Since that time representations have been made, including during IMEG's visit to Headley Court in March 2014, about the relative values of awards for combat related lower limb, including foot injury, where the damaged limb is retained but seriously compromised with permanent functional limitation or restriction, as compared with awards made for lower limb loss.

3. In Iraq and Afghanistan advances in combat casualty care, opportunity for forward surgery and aero-evacuation have led to unprecedented survival rates from serious injury. In US soldiers in Operation Iraqi Freedom (OIF) the ratio of deaths to wounds has been 1:7, amputations to wounds, 1:45 and amputations to deaths, 1:6. This compares with Second World War figures of deaths to wounds, 1: 1.7, amputations to wounds, 1:90 and amputations to deaths, 1:54 (1).

4. The recent pattern of combat related wounds has been broadly as in previous conflicts but with higher rates of head and neck injury and a lower proportion of chest injuries. Extremity injuries, especially lower limb are the most common survivable very serious injury but best practice clinical management, expected progress and long term prognosis is as yet unknown. In particular, despite now a body of research on the issues, criteria for limb retention and reconstruction as opposed to amputation are not presently available. It would also be a mistake to assume that for future conflicts there will be a similar pattern of injuries.

5. The most common mechanism of injury in Iraq and Afghanistan coalition casualties responsible for 78% injuries in one 2008 series of US troops is blast, particularly due to under vehicle IEDs (2). Primary blast injuries are due to sudden increase in air pressure following an explosion. If

casualties are close to detonations, primary blast injury occurs with high mortality and severe damage to air containing organs and structures i.e. chest and abdomen and middle ear. Secondary blast damage occurs when bomb fragments or debris cause penetrating injury; and is the most common clinical presentation in survivors. Tertiary blast damage is caused by rapid displacement within the blast environment and injury by collision with objects and structures in their path. Quaternary blast injury arises from thermal injury and inhalational effects. These different mechanisms and effects occur to greater or lesser extent in combat lower extremity wounds, dependent on both blast and environmental factors. These include the size of the explosive device, the casualty's proximity to the detonation, structural factors such as whether the explosion occurs in a confined or closed space or in a solid or semi-rigid space such as a ship or a vehicle. The incidence and extent of injury is also affected by blast detection devices as well as vehicle and personal protection. For example, the recent relatively low levels of chest injury in survivors is due to enhanced body armour. Amongst Iraq and Afghanistan survivors because of high mortality, overall primary blast and heat damage effects have been uncommon with secondary blast fragmentation and collision damage in motor vehicles the most frequent mechanisms of extremity injury (3). In in-vehicle foot and ankle injuries collision damage (tertiary blast effect) is the major damage mechanism. This was also seen in ship explosions in the Second World War.

6. High energy transfer blast injuries are rarely confined to a single limb or part of a limb but affect multiple anatomical sites and range in severity from superficial low-energy wounds due to small fragments, some of which can be managed conservatively, to high-energy bullet and fragment wounds when as many as half of the wounds are associated with fractures, and often significant damage to soft tissue, bone, nerve trunks and blood vessels particularly in the lower limbs. Multiple fractures, penetrating head injury and prolonged hypotension are associated with poor prognosis and high mortality in close proximity blast injury (4).

Complex lower limb injuries – Initial Clinical management

7. Wherever, in civilian or military practice, there are complex lower limb injuries the decision whether or not to amputate presents a difficult choice between an irreversible loss of a limb and an attempt at operative salvage, which may involve lengthy revascularisation and widespread wound excision to remove contaminated soft tissues. There are well-recognised short and medium term risks of both approaches. The consequences of limb retention and salvage include operative mortality, increased because of the high likelihood of multiple procedures and lengthy rehabilitation, and widespread wound contamination, driven in deeply by blast. In a recent retrospective cohort study, over 80 British military Iraq and Afghanistan casualties with severe lower limb injury undergoing salvage were followed up from the time of injury to management on return to the UK. Infection occurred in a quarter of the casualties and was associated, on multivariate analysis, with use of tourniquet in the field, fasciotomy undertaken for developing compartment syndrome and the use of antibiotics during evacuation and in the operating room. In this series a proportion of the infected blast extremity injuries developed deep seated post operative wound infection and, in a few cases (6%), osteomyelitis (1). Failed or only partially successful reconstruction procedures can result in prolonged hospitalisation, multiple operative interventions, lengthy and difficult rehabilitation, psychological trauma, chronic disability and pain, and often ultimately interval amputation.

8. In this situation several scoring systems have been developed in both civilian and military contexts to help early accurate decision-making on clinical management. The Mangled Extremities

Severity Score (MESS) is generally regarded as most useful for combat casualties and is also the most simple taking account of factors such as whether the soft tissue / musculoskeletal injury was low or high energy, the presence and degree of limb ischaemia and hypovolaemic shock and the patient's age (5). Unfortunately the results of application are inconsistent. A 2009 UK study on 77 military patients with 85 ballistic mangled extremity injuries found that MESS was not predictive of the need for primary amputation. Matters were also complicated by overlap in MESS score in the range 7-9 in some patients who had a primary amputation and others who had attempted salvage. However the authors were able to distinguish those requiring early primary amputation and a second group where salvage should be attempted. The factors which assigned the patient to the two groups were the presence or absence of hypovolaemic shock and an ischaemic limb. They also found that a very low MESS score had a negative predictive power for amputation and that such patients should have limb salvage. Age was not relevant (6). Surgical teams must still take difficult decisions in extremity trauma due to ballistic injury. Each situation presents unique challenges to be addressed in the light of all the injuries sustained by the patient, other casualties and available resources.

AFCS aspects

9. AFCS claims can be made in service at any time after injury is sustained or disease presents. The intention is for a full and final award reflecting the life-time disabling effects of the injury / disorder on function which should be made as early as possible, so that the person can have financial certainty and focus on recovery, rehabilitation and reintegration with family and community. Complex lower limb injuries resulting in permanent functional compromise will attract a GIP which ideally should come into payment at service termination and be paid for life.

10. The many uncertainties about management, clinical course and progress mean that even at service termination such injuries may not be in a steady state of maximum medical improvement and the prognosis is unclear. In such circumstances an interim award for two, or a maximum of four years may be appropriate. At review the award will be finalised and the person will have a right of appeal (Art 52 AFCS Order 2011). Usually the interim award will be maintained or increased when the difference between monies already paid and now due are awarded. Occasionally at finalisation, a lower award is appropriate. In that situation no amount of benefit paid, (lump sum or income stream) to that date is recoverable.

11. In a full and final scheme opportunities for review of awards are limited, taking place only when certain criteria are met. In addition to review on the grounds of error (Article 59 AFCS Order 2011). AFCS legislation provides Service Termination, Exceptional review within 10 years, and Final review powers (Article 55: 56 and 57 AFCS Order 2011). These are designed to ensure fair consistent and equitable outcomes particularly as in this situation, where there can be novel or complex circumstances. In terms of tariff descriptors and awards payable, the most relevant Tables are Table 2 Injury wounds and scarring, and Table 8 Fractures and dislocations. It is departmental policy that DBS Vets operational medical advice, based on the case facts and contemporary medical understanding will routinely inform compensation decisions in these serious injury cases. Unlike amputations, where generally a single descriptor adequately addresses the injury, another feature of these injuries is that several descriptors are the norm for the physical traumatic effects of any retained blast related extremity injury.

12. If we consider a severe complex injury to the lower limb resulting in permanent functional restriction or limitation and involving the area hip to ankle, or hip to knee / knee to ankle, with or without involvement of the foot, the following may be relevant:-

Table 2 - Injury wound and scarring

Award Level 5 Complex injury covering all or most of the area from thigh to ankle or shoulder to wrist, with complications, causing permanent significant functional limitation or restriction.

Award Level 6 Complex injury covering all or most of the area from thigh to knee, knee to ankle, shoulder to elbow or elbow to wrist, with complications, causing permanent significant functional limitation or restriction.

Award Level 7 Complex injury covering all or most of the area from thigh to ankle or shoulder to wrist, causing permanent significant functional limitation or restriction.

Award Level 8 Complex injury covering all or most of the area from thigh to knee, knee to ankle, shoulder to elbow or elbow to wrist, causing permanent significant functional limitation or restriction.

Award Level 7 High energy transfer gunshot wound, deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to bone, soft tissue structures and vascular or neurological structures of the head and neck, torso or limb, with complications, which have required, or are expected to require, operative treatment with residual permanent significant functional limitation or restriction.

Award Level 9 High energy transfer gunshot wound, deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to soft tissue structures and vascular or neurological structures of the head and neck, torso or limb, which have required, or are expected to require, operative treatment with residual permanent significant functional limitation or restriction.

Award Level 11 High energy transfer gunshot wound, deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to soft tissue structures of the head and neck, torso or limb, which have required, or are expected to require, operative treatment with residual permanent significant functional limitation or restriction.

Footnote:

(*) When applied to a limb injury the expression “complex injury” means that the injury affects all or most of the following structures: skin, subcutaneous tissues, muscle, bone, blood vessels and nerves.

(*) When applied to a limb injury the expression “with complications” means that the injury is complicated by at least one of septicaemia, osteomyelitis, clinically significant vascular or neurological injury, avascular necrosis, gross shortening of the limb, mal-united or non-united fracture, or the fact that the claimant has required, or is expected to require, a bone graft.

(*) When applied to a limb injury, the expression “injury covering all or most of the area” means external injury causing direct damage to contiguous areas of the limb circumference. In the case of a lower limb this may include direct damage to the buttocks.

(*) When applied to an injury in this Table, the term “torso” means any part of the chest, back or abdomen including pelvis and perineum.

(*) When applied to any injury, the expression “vital structures” includes major nerve or blood vessels.

(*) An award for injury to a limb or the torso includes compensation for related scarring and damage to, or removal of structures (including skin, subcutaneous tissue, muscle, bone, tendons, ligaments, blood vessels, lymphatics and nerves).

These descriptors apply only from hip to ankle taking no account of damage to the foot.

For comparison, loss of limb (including the foot) is covered by Table 5.

Table 5 - Amputations

Award Level 3 Loss of one leg above knee (hip disarticulation or hemipelvectomy).**

Award Level 5 Loss of one leg at or above knee (trans-femoral or knee disarticulation).

Award Level 6 Loss of one leg below knee (trans-tibial).***

Award Level 8 Loss of one foot at ankle distal to the calcaneum

** also applies where stump length or condition precludes satisfactory fitting of a prosthesis

*** includes loss of foot with loss of all or part of calcaneum

Foot and Ankle Injuries

13. The improved survival rates have produced significant numbers of combat related primary complex foot and ankle blast injuries, particularly following under vehicle explosions. When an explosive detonates below a vehicle the first blast pulse delivers an acute short lived high pressure wave which may rupture or deflect the floor of the vehicle impacting the occupants' lower limbs, heel, tibia and knee and spine. This is followed by the second wave which comprises soil and other debris again under pressure. This injury, in its mechanism and effects, mirrors the so-called “deck slap injury” with resulting lower limb fractures first reported in the Second World War when small ships were mined at sea.

14. The pattern of injuries seen in these circumstances differs from that in conventional blast attacks. Barr and colleagues (7) described a series of 50 US naval casualties from mine attacks during the Normandy invasion. 15 sustained calcaneal fractures and other lower limb fractures. Vertebral column bony injury was also common in this series. The adverse effects of primary or secondary blast usually seen in air or water blast were not seen but rather tertiary blast damage accounted for the majority of injuries. Outcomes in these patients were poor. These injuries arise because the high energy blast is conducted through the solid floor of the ship causing rapid deflection or rupture of the floor with physical as well as blast trauma to lower limbs and vertebral column.

15. It has generally been observed that, in patients with multiple injuries in any context, military or civilian, that those with foot and ankle injuries have greater disability than those without foot damage (8). Calcaneal injury is especially associated with high complication rate and poor functional outcome. From January 2006 until December 2008 the records of all UK service personnel sustaining a fractured calcaneum from vehicle explosion were identified for in depth review and follow-up. 40 calcaneal fractures were identified including 10 bilateral and 20 single fractures. In 9 there was an additional spinal fracture of lumbar or thoracic vertebrae. 18 limbs were amputated. Of these 11 were primary amputations in the field; 3 were done within a week of return to the UK and a further 4 had a delayed amputation, mean 19.5 months post injury and for chronic intractable pain. 35 fractures were interarticular; 33 had involvement of the sub-talar joint, 27 calcaneo-cuboid joint and in 25, both joints were involved. The majority of the fractures required fixation and 9 injuries required soft tissue coverage. Infection was common in those undergoing initial limb salvage at the field hospital particularly where there were open fractures. Open fractures, complicated by vascular injury, required amputation much more often than closed fractures. At follow-up, on average thirty three months post incident, only two were able to return to full military duty; 23 were fit for sedentary work or unfit for any military duty. Of those unfit or with limited fitness for military duty there was no difference in the proportion who had amputation or attempted reconstruction (9).

16. A further study of the UK personnel with foot and ankle injuries between January 2006 and Dec 2008 categorized injuries as 1) fore foot 2) mid foot 3) hind foot and 4) tibia. Note was taken of the presence of fractures, open or closed and with or without vascular injury as well as occurrence of infection, end point traumatic osteoarthritis and the need and circumstances of amputation. Clinical end points at final review were:-

- Persisting clinical infection 12 months after injury
- Delayed fracture healing more than 12 months after injury
- Symptomatic post traumatic osteoarthritis or osteomyelitis
- Amputation (of note this might not improve pain, its main indication)

17. There were 69 casualties with 89 foot and ankle injuries. Mean follow-up was 33 months with a standard deviation (SD) of 10.8 months. 22 had isolated lower limb injuries and in over 90% the most severe injury was to the lower limb. Injuries to the hind foot and tibia were most common. Of the 89, 6 (7%) had soft tissue damage only; 38 (43%) had closed fractures and 45 (50%) had open fractures, of which 17 had vascular injury. 13 limbs were amputated at the field hospital and of the 76 injured limbs returning to the UK, 7 required amputation within a week. A further 6 had interval amputation on average 18 months from injury and due to intractable pain. Of the original 69 salvaged limbs 29 (40%) had infections; 15 (22%) had non-union at 12 months post injury and 23 (33%) had symptomatic post traumatic osteoarthritis. At study end, of those with salvaged limbs, 40 had ongoing symptoms and only 23 were asymptomatic. In terms of the injured limbs overall i.e. amputation and salvaged groups, 66 (74%) had symptoms which required continuing clinical interventions, rehabilitation, analgesia; only 9 (14%) were able to return to military duty. Logistic regression analysis confirmed that the presence of infection, open fracture and vascular injury were associated with amputation (10).

18. In addition to deck slap injury the foot may also be damaged by anti-personnel mine (APM) injuries. Anti-personnel mines are small explosive devices, which are designed to maim, not kill the dismounted soldier on foot patrol. The aim is to result in an immediate amputation of the foot or produce such destruction to the soft and bony tissues as to make a delayed amputation inevitable. Controversy can equally arise concerning the decision to amputate and the site of amputation. In addition to the foot destruction there is unseen injury involving the lower limb, perhaps extending as high as the knee. This unseen injury compromises devitalised tissue and gross foreign body contamination. Failure to appreciate the extent of hidden injury may result in a too low amputation leading to wound breakdown and a second amputation at a higher level.

AFCS aspects

19. The considerations discussed in relation to the Scheme above also apply to foot injury. It is important to note that almost always serious injury to the foot or feet, certainly combat related blast injury, is part of a multi injury complex affecting other parts of the lower limb and often other parts of the body. Foot injuries themselves are not life threatening but studies both in the Second World War and since confirm high rates of ongoing life limiting disability in the military context. Applicable descriptors and awards for the foot injury itself include:-

Table 2 - Injury wounds and scarring

Award Level 10 Complex injury covering all or most of the foot, with complications, causing permanent significant functional limitation or restriction.

Award Level 7 High energy transfer gunshot wound, deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to bone, soft tissue structures and vascular or neurological structures of the head and neck, torso or limb, with complications, which have required, or are expected to require, operative treatment with residual permanent significant functional limitation or restriction.

Award Level 9 High energy transfer gunshot wound, deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to soft tissue structures and vascular or neurological structures of the head and neck, torso or limb, which have required, or are expected to require, operative treatment with residual permanent significant functional limitation or restriction.

Award Level 11 High energy transfer gunshot wound, deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to soft tissue structures of the head and neck, torso or limb, which have required, or are expected to require, operative treatment with residual permanent significant functional limitation or restriction

Footnote:

(*) When applied to a limb injury the expression “complex injury” means that the injury affects all or most of the following structures: skin, subcutaneous tissues, muscle, bone, blood vessels and nerves.

(*) When applied to a limb injury the expression “with complications” means that the injury is complicated by at least one of septicaemia, osteomyelitis, clinically significant vascular or neurological injury, avascular necrosis, gross shortening of the limb, mal-united or non-united fracture, or the fact that the claimant has required, or is expected to require, a bone graft.

(*) When applied to a limb injury, the expression “injury covering all or most of the area” means external injury causing direct damage to contiguous areas of the limb circumference. In the case of a lower limb this may include direct damage to the buttocks.

(*) When applied to any injury, the expression “vital structures” includes major nerve or blood vessels.

(*) An award for injury to a limb or the torso includes compensation for related scarring and damage to, or removal of structures (including skin, subcutaneous tissue, muscle, bone, tendons, ligaments, blood vessels, lymphatics and nerves).

Table 8 - Fractures and dislocations

Award Level 10 Fractured heels of both feet causing permanent significant functional limitation or restriction.

Award Level 11 Fractured heel of one foot causing permanent significant functional limitation or restriction.

Table 5 - Amputations

Award Level 6 Loss of one leg below knee (trans-tibial).***

Award Level 8 Loss of one foot at ankle distal to the calcaneum.

*** includes loss of foot with loss of all or part of calcaneum

20. It is particularly difficult to study and compare outcomes in lower limb injury where the issue of interest is the effect on functional outcome and hence civilian employability and the comparison is of amputation of limb with retention and reconstruction. Foot and ankle injuries are rarely isolated in a combat context and because outcomes and function are assessed in global terms it can be very difficult to define the contribution of any single injury / management to a person's overall functional compromise. In the calcaneal fracture study at follow-up there was no difference in the proportion of casualties fit for sedentary work and unfit for any military duty between the amputee and salvaged limb groups (9).

21. The UK casualty studies generally assume that amputation equates to a poor outcome and low prospect of return to military duty (9) (10). As the authors acknowledge, particularly in the short term, that may be inaccurate. The longer term position is of course yet to be determined as there is little follow-up study of the use of digitised prosthetics and rehabilitation programmes, especially for multiple limb loss, as amputees age in any population. The important issue for the AFCS is function in relation to civilian employability. Military service requires a particularly high level of physical and mental fitness. Equality legislation applies in civilian employment, placing responsibilities on employers in relation to access, job and work station modifications. It is generally accepted that civilian foot and ankle injuries are less severe than combat related injury (10) but even for single lower limb amputation, follow-up employability or functional outcome studies are rare. While no explanation is available, it is of note that one outcome study of civilians with foot and ankle injuries which were salvaged and followed up for 76 months had a 40% rate of return to work (11) while the LEAP (Lower Extremity Assessment Project) in a civilian population with foot and ankle injuries, treated with either reconstruction or amputation, confirmed the military finding (9) that functional outcomes were similar in both amputee and limb retention groups (12).

22. In terms of equity AFCS is an individual jurisdiction and when a causal link to service can be accepted on the balance of probabilities, selection of a descriptor is informed by case specific details. In the context of blast related combat injury although there may be an identified compensable injury, isolated single injuries are uncommon. Set out in the table below is a list of primary lower limb amputations and awards and for comparison the equivalent retained reconstructed limb descriptors. These injuries are all associated with permanent significant functional restriction or limitation.

23. Higher (Levels 1 - 11) AFCS lump sum awards attract an additional income stream the

Guaranteed Income Payment (GIP) paid for life in recognition of reduced civilian employability. Article 34 of the legislation Armed Forces and Reserve Forces Compensation Scheme Order (AFCS) 2011 sets out how the GIP is calculated. GIP is paid in four bands, Band A is based on 100% military salary and relates to Tariff Levels 1 - 4; Band B 75% military salary corresponds to Tariff Levels 5 and 6; Band C is 50% military salary and is triggered by an award at Tariff 7 or 8 and awards at Tariff Levels 9, 10 and 11 attract a Band D 30% GIP. Where multiple injuries are sustained in the one incident Article 34(4) provides that where the first and second descriptors are in the same GIP Band, the GIP awarded is the Band immediately above the Band where the descriptors are specified. The exception is if the descriptors are in Band A when 100% salary still applies. Where the descriptors are in different Bands the highest applicable Band is paid. The military and civilian evidence discussed above strongly suggest that since functional outcomes for equivalent amputated and retained reconstructed lower limbs are broadly similar and it would be equitable if comparable injuries attracted the same GIP band.

Comparison of AFCS awards for permanent combat related lower limb injuries

A - Amputations Tariff Table 5

- i) Bilateral leg amputation where one is hindquarter or hemipelvectomy and other at any level*
Award Level 2 = £470,000 plus Band A GIP (100%)
- ii) Bilateral leg amputations where one is at or above knee and the other at any level
Award Level 3 = £380,000 plus Band A GIP (100%)
- iii) Bilateral loss of legs below knee
Award Level 4 = £290,000 plus Band A GIP (100%)
- iv) Unilateral above knee loss (hip disarticulation or hemipelvectomy)*
Award Level 3 = £ 380,000 plus Band A GIP (100%)
- v) Unilateral loss at or above knee
Award Level 5 = £175,000 plus Band B GIP (75%)
- vi) Unilateral loss below knee
Award Level 6 = £140,000 plus Band B GIP (75%)
- vii) Loss of foot distal to calcaneum
Award Level 8 = £60,000 plus Band C GIP (50%)

*These descriptors apply where stump length or condition precludes satisfactory prosthesis fitting.

All of these categories, having a GIP based on, or above, 50% salary will be paid in addition to the Armed Forces Independence Payment (AFIP).

B - Injury wounds and scarring lower limb injury equivalents Tariff Table 2

- i) Bilateral complex injury with complications covering thigh to ankle and feet
Award Level 5 times 2 and Level 10 times 2 = £350,000 + £54,000 = £404,000 plus Band A GIP (100%)

- ii) Bilateral complex injury with complication thigh to knee
Award Level 5 x 2 = £350,000 plus Band A GIP (100%)
- iii) Bilateral complex injury with complications knee to ankle and foot
Award Level 6 x 2 and level 10 x 2 = £280,000 + £54,000 = £334,000 plus band A GIP (100%)
- iv) Unilateral complex injury with complications thigh to ankle and foot
Award Level 5 and Level 10 = £175,000 + £27,000 = £202,000 plus Band B GIP (75%)
- v) Unilateral complex injury with complications thigh to knee
Award Level 6 = £140,000 plus Band B GIP (75%)
- vi) Unilateral complex injury with complications knee to ankle and foot
Award Level 6 and Level 10 = £140,000 + £27,000 = £167,000 plus Band B GIP (75%)
- vii) High energy transfer GSW deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to bone, soft tissue structures and vascular or neurological structures of limb with complications Award Level 7 = £90,000 plus Band C GIP (50%)
- viii) High energy transfer deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to soft tissue or vascular or neurological structures no complications Award Level 9 = £40,000 plus Band D GIP (30%)
- ix) High energy transfer deeply penetrating missile fragmentation or other penetrating injury (or all or any combination of these) with clinically significant damage to soft tissue structures
Award Level 11 = £15,500 plus Band D GIP (30%)

Again categories paid GIP based on 50% salary or more will be eligible to claim for AFIP.

Discussion:

24. We are considering here awards for the primary injury only. It is assumed that psychological symptoms are included in the basic Tariff Award unless a discrete diagnosable mental health disorder is present and meets the criteria set out in legislation when an additional award will; be paid. Gunshot wounds (GSW), missile fragmentation etc differ from complex injury simply in being more circumscribed. Dependent on the facts of the case it is for the decision-maker with medical advice to decide the most appropriate descriptor in line with the evidence.

25. Experience of claims is that for the most severe bilateral injuries retention and reconstruction is uncommon; an exception is where the damage is asymmetrical with one limb likely to require much more operative intervention etc. This means that comparison between the most serious proximal amputations and reconstructed limbs is a bit artificial. It is also in every case dependent on the case specific facts. Below as an indicator is a comparator list, based on the lists above.

Bilateral injury with Band A GIP

Limb Loss

Retained Limb

A above knee (i) or (ii) and B (i)	£470,000 / 380,000	£404,000
A below knee (iii) and B	£290,000	£334,000

Unilateral injury with Band A GIP for A (iv) otherwise Band B

	Limb Loss	Retained Limb
A above knee (iv) or (v) and B (iv)	£380,000 / 175,000	£202,000
A below knee (vi) and B (vi)	£140,000	£167,000

The Band A GIP for unilateral above knee loss hip disarticulation / hemipelvectomy reflects the inability to wear a prosthesis.

In conclusion although perhaps not readily appreciated, the Tariff Levels for amputation and for retained limbs with similar degree of injury attract similar levels of AFCS compensation, consistent with current evidence of outcome. Survival of these complex extremity injuries is a hallmark of the Iraq and Afghanistan conflicts. Yet there remain many unanswered questions. IMEG strongly supports urgent collaborative longitudinal studies into best practice management, and outcomes, and will maintain routine oversight of developments.

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