

# Quarterly Afghanistan and Iraq Amputation Statistics

## 7 October 2001 – 31 December 2011

31 January 2012

### Issued By:

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## INTRODUCTION

1. This quarterly report provides statistical information on the number of Armed Forces personnel who as a result of an injury sustained whilst deployed in Iraq or Afghanistan have suffered a traumatic or surgical amputation. This ranges from the loss of part of a finger or toe up to the loss of entire limbs. In addition, the numbers of "significant multiple amputees" - as defined by the Abbreviated Injury Scale (AIS) Dictionary 2005 (Military Edition) - have been provided on an annual basis. This report covers the time period 7 October 2001 to 31 December 2011 and includes operations from Afghanistan (Op VERITAS, 7 October 2001 – 31 March 2006 and Op HERRICK 1 April 2006 – ongoing) and Iraq (Op TELIC, 1 March 2003 – 21 May 2011).
2. This report has been provided in response to the increasing number of requests for information about injured UK Service Personnel. The MOD are committed to making information on Operational Casualties public but have to draw a line between how much information is provided regularly in the public domain and information which compromise operational security of UK Armed Forces personnel or which risks breaching an individual's right to medical confidentiality. This report is supporting the MOD's commitment to release information wherever possible.
3. The total number of significant multiple amputees recorded in this report (**Table 3**) are a subset of the overall number of amputees (**Tables 1 and 2**). Within each quarter or financial year a significant multiple amputee recorded in one time period (**Table 3**) may have sustained their original amputation in the same or earlier time period (**Tables 1 or 2**).

## CHANGES SINCE THE PREVIOUS PUBLICATION

4. Since the last publication released on 1 November 2011, the following changes have been introduced:
  - New information has been included in the report for the first time. This includes historic data which enables reporting for the period 7 October 2001 – 30 March 2006 and captures amputees for Op VERITAS (Afghanistan) and the start of Op TELIC (Iraq).
  - Information on the number of surviving UK Service personnel from Afghanistan and Iraq whose injuries included a traumatic or surgical amputation<sup>a</sup> and have subsequently been medically discharged from Service has also been included for the first time.
  - Data has been presented by financial year and not calendar year as in previous publications. This is to align the report with the Defence planning and business cycle.
  - Previous reports which were available on the DASA website have been removed to ensure individual identities have not been revealed inadvertently in line with the Office for National Statistics Guidelines.

<sup>a</sup> Includes partial or complete amputations for either upper or lower limbs

- Significant Multiple Amputees (SMAs) were previously provided at the end of each calendar year. However as the presentation of data has changed to financial year, SMAs will now be updated at the end of each financial year to align the statistics with the Defence planning and business cycle. Therefore the next release of SMA information will be released on 1 May 2012.

## KEY POINTS

### PATIENTS AS A RESULT OF DEPLOYMENT IN AFGHANISTAN (OP HERRICK AND OP VERITAS)

5. During the latest quarter, 1 October 2011 to 31 December 2011 (Q3, 2010/11), there were **10** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>. When compared to the previous quarter, 1 July 2011 to 30 September 2011 (Q2, 2010/11), this represents a decrease of five.
6. **2010/11**: During the financial year 2010/11, there were **75<sup>f</sup>** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
7. During 2010/11, **36<sup>f</sup>** UK Service personnel were identified as significant multiple amputees.
8. Using the dataset used to compile the research paper Dharm-datta et al (2011)<sup>b</sup>, there were **less than five** surviving UK Service personnel identified from Op VERITAS (see paragraph 27) whose injuries included a traumatic or surgical amputation<sup>a</sup>.
9. During the overall time period 7 October 2001 to 31 December 2011:
  - a. Q3, 2009/10 recorded the highest number of UK Service personnel who sustained a partial or complete limb amputation as a result of injuries on Op HERRICK with **24** amputees.
  - b. Financial year 2010/11 recorded the highest number of UK Service personnel who sustained a partial or complete limb amputation as a result of injuries on Op HERRICK with **75<sup>f</sup>** amputees.

### PATIENTS AS A RESULT OF DEPLOYMENT IN IRAQ (OP TELIC)

10. During the latest quarter, 1 October 2011 to 31 December 2011 (Q3, 2010/11), there were **no** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
11. **2010/11**: During the financial year 2010/11, there were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
12. During 2010/11, **no** UK Service personnel were identified as significant multiple amputees.
13. During the time period 7 October 2001 to 31 December 2011:
  - a. Financial year 2006/07 recorded the highest financial year number of UK Service personnel who sustained a partial or complete limb amputation as a result of injuries on Op TELIC with **10** amputees.

### MEDICAL DISCHARGES

14. Of the surviving UK Service personnel from Afghanistan whose injuries included a traumatic or surgical amputation, partial or complete, for either upper or lower limbs, **14** have been medically discharged. Of the 14 UK Service personnel medically discharged, 11 were discharged as a result of musculoskeletal disorders and injuries.
15. Of the surviving UK Service personnel from Iraq whose injuries included a traumatic or surgical amputation, partial or complete, for either upper or lower limbs, **eight** have been medically discharged. Of the eight UK Service personnel medically discharged, six were discharged as a result of musculoskeletal disorders and injuries.

<sup>a</sup> Includes partial or complete amputations for either upper or lower limbs

<sup>b</sup> Dharm-datta S; Etherington, J.; Mistlin A. & Clasper J, 2011, Outcome of amputees in relation to military Service, *Journal of Bone and Joint Surgery - British Volume*, Vol 93-B, Issue SUPP\_1, 52

## DATA, DEFINITIONS AND METHODS

16. Data are compiled by Defence Analytical Services and Advice from five sources:
- The Joint Theatre Trauma Register (JTTR), which commenced during 2003 to improve the care of the seriously injured patient from the point of injury to the point of discharge from hospital treatment.
  - The Complex Trauma Database managed by the Defence Medical Rehabilitation Centre, Headley Court which commenced in June 2008 to record information on patients receiving in-patient care on the complex trauma ward.
  - The Prosthetics Database managed by the Defence Medical Rehabilitation Centre, Headley Court which commenced in June 2006 to record information on patients fitted with a prosthetic limb(s).
  - The Defence Patient Tracking System (DPTS) which commenced on 8 October 2007. The DPTS was set up to enable the capture of tracking data for aeromedically evacuated patients at the place where healthcare is being delivered along the care pathway.
  - UK Service personnel who have sustained a partial or complete limb amputation as a result of injuries on Op HERRICK and Op TELIC prior 1 April 2006 have been identified from the dataset used to compile the following research paper: Dharm-datta, S; Etherington, J.; Mistlin A. & Clasper J, 2011, Outcome of amputees in relation to military Service, Journal of Bone and Joint Surgery - British Volume, Vol 93-B, Issue SUPP\_I, 52.
17. A live UK Service personnel is defined as an *amputee* if they have an injury coded in the JTTR as Amputation (traumatic), partial or complete, for either upper or lower limbs using the Abbreviated Injury Scale (AIS) Dictionary 2005 (Military Edition), and live UK Service personnel who had a surgical amputation performed either at the field hospital or at a UK hospital (the majority of these will be at the Royal Centre for Defence Medicine). A traumatic or surgical amputation can range from the loss of part of a finger or toe up to the loss of entire limbs.
18. Live personnel are defined as either those undergoing treatment at Camp Bastion Field Hospital or the Royal Centre for Defence Medicine (RCDM) or those being discharged from hospital after receiving treatment for the injuries that resulted in an amputation(s).
19. The data from the JTTR is cross referenced with the Complex Trauma Database, the Prosthetics Database and the DPTS. Doctors may recommend and/or patients may elect to have an amputation at any point during their care pathway, thus any additional live UK Service personnel identified as an amputee from these data sources have been included in this report. These data sources are live systems that are constantly being updated. This means that occasionally figures can change, any amendments made since the last release have been indicated by an 'r'.
20. Significant multiple amputees are defined as live UK Service personnel who have suffered limb amputations at or above the wrist or ankle on more than one limb (that is, they have lost at least two hands and/or feet) using the Abbreviated Injury Scale (AIS) Dictionary 2005 (Military Edition).
21. The Abbreviated Injury Scale (AIS) was introduced by the American Medical Association and the Association for the Advancement of Automotive Medicine in 1971 to provide researchers with a simple numerical method for ranking and comparing injuries by severity and to standardise the terminology used to describe injuries.
22. Tables are presented by the quarter/year in which the amputation was sustained, for patients that have a surgical and/or elective amputation this may not be in the same quarter/year in which the injury was sustained. If a UK Service personnel suffers more than one amputation over a period of time as a result of injuries sustained in the same incident then in this statistical publication they will be counted within the quarter/financial year where they sustained their first amputation (**Tables 1 and 2**). If any subsequent amputation results in the individual being a significant multiple amputee then in these statistics they will be counted within the year where they became a significant multiple amputee (**Table 3**).
23. The tables in this report have been scrutinised to ensure individual identities have not been revealed inadvertently. In line with DASA's rounding policy (May 2009), in keeping with the Office for National Statistics Guidelines, all numbers less than five have been suppressed and presented as '~'. Where there is only one number in a row or column that is less than five, the

next smallest number (or numbers where there are tied values) has also been suppressed so that numbers cannot simply be derived from totals.

24. To ensure that statistics presented in these tables do not disclose individuals' identities we do not present cumulative totals in **Tables 1 and 2** and significant multiple amputees are only presented annually in **Table 3**. This table will only be updated annually in the April publication.
25. Since 2001, the Royal Centre for Defence Medicine (RCDM), based at the University Hospital Birmingham Foundation Trust (UHBFT), has been the main receiving unit for military casualties evacuated from an operational theatre. In the Birmingham area, military patients can benefit from the concentration of five specialist hospitals (including Queen Elizabeth) to receive the appropriate treatment. Queen Elizabeth is at the leading edge in the medical care of the most common types of injuries (e.g. polytrauma) our casualties sustain, and the majority of casualties will be treated there, but others may be transferred to another hospital (in Birmingham or elsewhere) if that is where the best medical care can be given.
26. Military patients will require further rehabilitation care following initial hospital treatment, in most cases they are referred to the Defence Medical Rehabilitation Centre (DMRC) at Headley Court in Surrey, which provides advanced rehabilitation and includes inpatient facilities. The prosthetics department is also located at the DMRC at Headley Court, fitting limbs to amputee patients.
27. Operation VERITAS is the name for UK operations in Afghanistan which started in October 2001. The UK was involved in Afghanistan alongside Coalition forces, led by the US under Operation Enduring Freedom (OEF), from the first attacks in October 2001.
28. Operation HERRICK is the name for UK operations in Afghanistan which started in April 2006. UK Forces are deployed to Afghanistan in support of the UN authorised, NATO led International Security Assistance Force (ISAF) mission.
29. Operation TELIC is the name for UK operations in Iraq which started in March 2003. There was a drawdown of troops in July 2009 and Operation TELIC closed on 21 May 2011. UK Forces were deployed to Iraq to support the Government's objective to remove the threat that Saddam posed to his neighbours and his people and, based on the evidence available at the time, disarm him of his weapons of mass destruction. The Government also undertook to support the Iraqi people in their desire for peace, prosperity, freedom and good government.
30. Medical discharges are the result of a number of specialists (medical, occupational, psychological, personnel, etc) coming to the conclusion that an individual is suffering from a medical condition that pre-empts their continued service in the Armed Forces. Statistics based on these discharges do not represent measures of true morbidity or pathology. At best they indicate a minimum burden of ill-health in the Armed Forces. Furthermore, the number and diversity of processes involved with administering a medical discharge introduce a series of time lags, as well as impact on the quality of data recorded.
31. Information on amputees medically discharged was sourced from electronic personnel records and manually entered paper documents from medical boards. The primary purpose of these medical documents is to ensure the appropriate administration of each individual patient's discharge. Statistical analysis and reporting is a secondary function.
32. Although Medical Boards recommend medical discharges they do not attribute the principal disability leading to the board to Service. A Medical Board could take place many months or even years after an event or injury and it is not clinically possible in some cases to link an earlier injury to a later problem which may lead to a discharge. Decisions on attributability to Service are made by the Service Personnel and Veterans' Agency.
33. This report presents the number of Afghanistan and Iraq amputees who have been discharged from Service on medical grounds as at 31 March 2011, regardless of the primary or secondary conditions for which they have been medically discharged. This section will be updated in the first report released after the 'Medical Discharges in the UK Regular Armed Forces' report which is released in July of each year.
34. If a decision has been taken to medically discharge an individual from the Military the specific Defence Medical Services health team who have been caring for that individual will begin a liaison with appropriate civilian healthcare providers (e.g. General Practitioner / Primary Health Care Team / civil mental health team / NHS Trust) to ensure the transfer of care and patient history takes place.

35. Additionally the MOD have specialist health social workers who manage the individual's wider resettlement issues, liaising with relevant civil agencies such as local housing authorities, financial authorities, service welfare and charitable organisations; again to endeavor that the individual's transfer into the civilian environment is as smooth and as seamless as possible.

## FINDINGS

### Afghanistan

36. **Table 1** presents the number of UK Service personnel who have sustained a partial or complete limb amputation as a result of injuries in Afghanistan.

**Table 1: UK Service personnel<sup>1</sup> with partial or complete limb amputations sustained as a result of injuries in Afghanistan, 7 October 2001 – 31 December 2011, Numbers<sup>2,3</sup>**

	Date Of Initial Amputation	Financial Year										
		Op VERITAS					Op HERRICK					
		01/02 <sup>4</sup>	02/03	03/04	04/05	05/06	06/07 <sup>5</sup>	07/08	08/09	09/10	10/11	11/12
Country Afghanistan	All - Financial Year	~	0	0	0	0	9	17	28	71	75 <sup>f</sup>	..
	1 April - 30 June (Q1)		0	0	0	0	~	5	~	5	19 <sup>f</sup>	14
	1 July - 30 September (Q2)		0	0	0	0	~	~	5	22	20	15 <sup>f</sup>
	1 October - 31 December (Q3)	~	0	0	0	0	~	~	15	24	19	10
	1 January - 31 March (Q4)	0	0	0	0	0	~	6	~	20	17	

Source: See paragraph 14

1. Includes Naval Service personnel, Army personnel including those from the Gibraltar Regiment, RAF personnel and Reservist personnel. Civilians and other Nations Service personnel have been excluded.
  2. Data presented as "~" has been suppressed in accordance with DASA's rounding policy (see paragraph 21).
  3. ".." denotes data not available.
  4. 7 October 2001 is the date Op VERITAS commenced.
  5. 1 April 2006 is the date Op HERRICK commenced.
37. During the latest quarter, 1 October 2011 to 31 December 2011 (Q3, 2010/11), there were **10** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>. When compared to the previous quarter, 1 July 2011 to 30 September 2011 (Q2, 2010/11), this represents a decrease of five.
38. **Financial Year 2010/11:** There were **75<sup>f</sup>** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
39. During 2010/11, **36<sup>f</sup>** UK Service personnel were identified as significant multiple amputees (**Table 3**).
40. **Financial Year 2009/10:** There were **71** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
41. During 2009/10, **32** UK Service personnel were identified as significant multiple amputees.
42. **Financial Year 2008/09:** There were **28** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
43. During 2008/09, **seven** UK Service personnel were identified as significant multiple amputees.
44. **Financial Year 2007/08:** There were **17** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
45. During 2007/08, **less than five** UK Service personnel were identified as significant multiple amputees.
46. **Financial Year 2006/07:** There were **nine** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
47. During 2006/07, **less than five** UK Service personnel were identified as significant multiple amputees.
48. During the **financial years 2002/03 – 2005/06**, there were **no** surviving UK Service personnel from Op VERITAS whose injuries included a traumatic or surgical amputation<sup>a</sup>.

<sup>a</sup> Includes partial or complete amputations for either upper or lower limbs

49. During the financial years 2002/03 – 2005/06, there were **no** UK Service personnel were identified as significant multiple amputees.
50. **Financial Year 2001/02<sup>a</sup>**: There were **less than five** surviving UK Service personnel from Op VERITAS whose injuries included a traumatic or surgical amputation<sup>a</sup>.

#### Iraq

51. **Table 2** presents the number of UK Service personnel who have sustained a partial or complete limb amputation as a result of injuries in Iraq.

**Table 2: UK Service personnel<sup>1</sup> with partial or complete limb amputations sustained as a result of injuries in Iraq, 7 October 2001 – 31 December 2011, Numbers<sup>2,3</sup>**

	Date Of Initial Amputation	Financial Year									
		Op TELIC									
		02/03 <sup>4</sup>	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12
Country Iraq	All - Financial Year	~	~	~	~	10	6	~	~	~	..
	1 April - 30 June (Q1)		0	0	0	~	~	0	~	~	0
	1 July - 30 September (Q2)		0	0	~	~	~	~	0	0	0 <sup>1</sup>
	1 October - 31 December (Q3)		0	~	~	~	~	0	0	0	0
	1 January - 31 March (Q4)	~	~	0	0	~	0	0	0	0	

Source: See paragraph 14

1. Includes Naval Service personnel, Army personnel including those from the Gibraltar Regiment, RAF personnel and Reservist personnel. Civilians and other Nations Service personnel have been excluded.
  2. Data presented as “~” has been suppressed in accordance with DASA’s rounding policy (see paragraph 21).
  3. “..” denotes data not available.
  4. Data for this year cover the period 1 to 31 March 2003 (see paragraph 27).
52. During the latest quarter, 1 October 2011 to 31 December 2011, there were **no** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>b</sup>.
53. **Financial Year 2010/11**: There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
54. During 2010/11, **no** UK Service personnel were identified as significant multiple amputees.
55. **Financial Year 2009/10**: There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
56. During 2009/10, **no** UK Service personnel were identified as significant multiple amputees.
57. **Financial Year 2008/09**: There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
58. During 2008/09, **no** UK Service personnel were identified as significant multiple amputees.
59. **Financial Year 2007/08**., There were **six** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
60. During 2007/08, **no** UK Service personnel were identified as significant multiple amputees
61. **Financial Year 2006/07**: There were **10** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
62. During 2006/07, **no** UK Service personnel were identified as significant multiple amputees.
63. **Financial Year 2005/06**: There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
64. During 2005/06, **less than five** UK Service personnel were identified as significant multiple amputees.
65. **Financial Year 2004/05**: There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical an amputation<sup>a</sup>.

<sup>a</sup> Between 1 March and 31 March 2001

<sup>b</sup> Includes partial or complete amputations for either upper or lower limbs

66. During 2004/05, **less than five** UK Service personnel were identified as significant multiple amputees.
67. **Financial Year 2003/04:** There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
68. During 2003/04, **no** UK Service personnel were identified as significant multiple amputees.
69. **Financial Year 2002/03:** There were **less than five** surviving UK Service personnel from Op TELIC whose injuries included a traumatic or surgical amputation<sup>a</sup>.
70. During 2002/03<sup>b</sup>, **no** UK Service personnel were identified as significant multiple amputees.

### Significant Multiple Amputees (SMAs)

71. **Table 3** presents the number of UK Service personnel who have sustained significant multiple amputations as a result of injuries in Afghanistan and Iraq. This table is a subset of **Tables 1 and 2**.

**Table 3: UK Service personnel with Significant Multiple Amputations (SMAs) sustained as a result of injuries in Afghanistan and Iraq, 7 October 2001 – 31 March 2011, Numbers<sup>1,2,3</sup>**

Date became significant multiple amputee	Country	
	Afghanistan	Iraq
2001/02 <sup>4</sup>	0	
2002/03 <sup>5</sup>	0	0
2003/04	0	0
2004/05	0	~
2005/06	0	~
2006/07 <sup>6</sup>	~	0
2007/08	~	0
2008/09	7	0
2009/10	32	0
2010/11	36 <sup>f</sup>	0

Source: See paragraph 14

1. Includes Naval Service personnel, Army personnel including those from the Gibraltar Regiment, RAF personnel and Reservist personnel. Civilians and other Nations Service personnel have been excluded.
  2. Data presented as “~” has been suppressed in accordance with DASA’s rounding policy (see paragraph 21).
  3. “..” denotes data not available.
  4. Start of Operation VERITAS – 7 October 2001
  5. Start of Operation TELIC – 1 March 2003
  6. Start of Operation HERRICK – 1 April 2006
72. During the time period 7 October 2001 to 31 March 2011, 2010/11 recorded the highest annual number of UK Service personnel who sustained significant multiple amputations as a result of injuries in Afghanistan with **36<sup>f</sup>** amputees.
73. This table will be updated with the Significant Multiple Amputees for the financial year 2011/12 in the release available on 1 May 2012.

### Medical Discharge

74. Of the surviving UK Service personnel from Afghanistan whose injuries included a traumatic or surgical amputation, partial or complete, for either upper or lower limbs, **14** have been medically discharged. Of the 14 UK Service personnel medically discharged, 11 were discharged as a result of musculoskeletal disorders and injuries.

<sup>a</sup> Includes partial or complete amputations for either upper or lower limbs

<sup>b</sup> The financial year 2002/03 includes the month 1-31 March 2003

75. Of the surviving UK Service personnel from Iraq whose injuries included a traumatic or surgical amputation, partial or complete, for either upper or lower limbs, **eight** have been medically discharged. Of the eight UK Service personnel medically discharged, six were discharged as a result of musculoskeletal disorders and injuries.