



# Quarterly Afghanistan and Iraq Amputation Statistics

7 October 2001 – 31 December 2013

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## INTRODUCTION

1. This quarterly report provides statistical information on the number of UK Service Personnel who suffered a traumatic or surgical amputation, as a result of deployment in Iraq and Afghanistan. There is information on the number of UK Service Personnel who suffered a traumatic or surgical amputation not as a result of deployment in Iraq or Afghanistan. In addition, the numbers of "significant multiple amputees"<sup>a</sup> and the number of surviving UK Service Personnel with an amputation who have been medically discharged have been provided.
2. This report covers the time period 7 October 2001 to 31 December 2013 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).

## KEY POINTS

3. During the latest quarter, 1 October 2013 to 31 December 2013 (Q3, 2013/14), there were **fewer than five** surviving UK Service Personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>b</sup> (Table 1).
4. During the financial year 2012/13 there were **29** surviving UK Service personnel from Op HERRICK (Table 1) and **fewer than five** from Op TELIC (Table 2), whose injuries included a traumatic or surgical amputation<sup>b</sup>. For the same time period there were a minimum of **11** surviving UK Service personnel whose injuries included a traumatic or surgical amputation<sup>b</sup> not as a result of deployment in Iraq or Afghanistan (Table A1).
5. The numbers of surviving UK Service personnel serving in Afghanistan that suffered amputations was highest during 2009/10 and 2010/11, coinciding with a period of high operational tempo. The number of amputations suffered by UK troops has decreased over the last two years. This was due to a reduction in operational tempo of UK Service personnel as responsibility for security transitions to the Afghanistan National Security Force (ANSF), and a reduction in the numbers of UK Service personnel deploying to Afghanistan.
6. Of the surviving UK Service personnel from Afghanistan whose injuries included a traumatic or surgical amputation<sup>b</sup>, **80** have been medically discharged<sup>c</sup>. Of these, 71 were discharged with a principle cause of musculoskeletal disorders and injuries.
7. Of the surviving UK Service personnel from Iraq whose injuries included a traumatic or surgical amputation<sup>b</sup>, **10** have been medically discharged<sup>c</sup>. Of these, seven were discharged with a principle cause of musculoskeletal disorders and injuries.
8. Of the surviving UK Service personnel not from Afghanistan or Iraq whose injuries included a traumatic or surgical amputation, **17** have been medically discharged. Of these, seven were discharged with a principle cause of musculoskeletal disorders and injuries.

<sup>a</sup> as defined by the Abbreviated Injury Scale (AIS) Dictionary 2005 (Military Edition)

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

<sup>c</sup> As at 31 March 2013

## BACKGROUND

9. 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.
10. To provide a fuller picture of the number of UK Service Personnel who suffered an amputation, Annex A of this report provides statistical information on the number of UK Service Personnel who suffered a traumatic or surgical amputation not as a result of deployment in Iraq or Afghanistan.
11. This report is supporting the MOD's commitment to release information wherever possible.

## DATA, DEFINITIONS AND METHODS

12. Data are compiled by Defence Statistics from five pseudo-anonymised medical data 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 VERITAS, 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.
13. 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), or 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.
14. 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 or illness that resulted in an amputation(s).
15. All surviving UK Service Personnel that have had a surgical or traumatic amputation and are included in this report are cross referenced with the Defence Statistics Deaths Database data to ensure personnel haven't subsequently died as a result of the injuries or illness sustained at a later point in their care pathway.
16. This publication does not include UK Service personnel who have had an amputation since leaving the Armed Forces. Defence Statistics consulted with a subject matter expert in the Complex Trauma team at the Defence Medical Rehabilitation Centre, Headley Court to gauge how many personnel have had an amputation that is attributable to their Service in Iraq or Afghanistan after leaving the Armed Forces. They advised that Service personnel are unlikely to have amputations performed after they leave Service unless involved in further trauma (for example, motorbike accidents/collisions) or for older personnel, disease-related conditions such as peripheral vascular disease or diabetes.

17. 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'.
18. 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).
19. 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.
20. **Table 1** is presented by the quarter/financial 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 (Table 1). 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**). The figures for Iraq amputees (**Table 2**) and non Iraq and Afghanistan amputees (**Table A1**) are presented by the financial year in which the amputation was sustained.
21. Information on the numbers or types of amputations sustained was not provided because it would increase the risk of an individual being identified and compromising their right to medical confidentiality. In addition, there is a risk of compromising operational security by providing information that could be used by the enemy to assess the effectiveness of their attacks, therefore putting UK troops currently in theatre at risk.
22. The tables in this report have been scrutinised to ensure individual identities have not been revealed inadvertently. In line with Defence Statistics rounding policy (May 2009), in keeping with the Office for National Statistics Guidelines, all numbers fewer than five have been suppressed and presented as '~'. Where there is only one number in a row or column that is fewer 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.
23. To ensure that statistics presented in these tables do not disclose individuals' identities we do not present cumulative totals in **Table 1** and **Table 2** and significant multiple amputees are only presented annually in **Table 3**. Non-Iraq and Afghanistan amputees are presented annually in **Table A1**. Tables 2, 3 and A1 will only be updated annually in the first publication of the new financial year.
24. 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.
25. 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.
26. 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.

27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. This report presents the number of amputees who have been discharged from Service on medical grounds as at 31 March 2013, 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.
33. 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.
34. 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

35. **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 2013, Numbers<sup>2</sup>**

	Date Of Initial Amputation	Financial Year												
		Op VERITAS					Op HERRICK							
		01/02 <sup>3</sup>	02/03	03/04	04/05	05/06	06/07 <sup>4</sup>	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Country Afghanistan	All - Financial Year	~	0	0	0	0	9	17	28	71	75	46	29	
	1 April - 30 June (Q1)		0	0	0	0	~	5	~	5	19	14	11	~
	1 July - 30 September (Q2)		0	0	0	0	~	~	5	22	20	15	8	~
	1 October - 31 December (Q3)	~	0	0	0	0	~	~	15	24	19	10	5	~
	1 January - 31 March (Q4)	0	0	0	0	0	~	6	~	20	17	7	5	

Source: See paragraph 11

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 Defence Statistics rounding policy (see paragraph 21).
  3. 7 October 2001 is the date Op VERITAS commenced.
  4. 1 April 2006 is the date Op HERRICK commenced.
36. During the latest quarter, 1 October 2013 to 31 December 2013 (Q3, 2013/14), there were **fewer than five** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
37. **Financial Year 2012/13:** There were **29** surviving UK Service personnel from Op HERRICK whose injuries included a traumatic or surgical amputation<sup>a</sup>.
38. During 2012/13, 12 UK Service personnel were identified as significant multiple amputees (Table 3).
39. During the overall time period 7 October 2001 to 31 December 2013:
- 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 in Afghanistan 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 in Afghanistan with **75** amputees.
40. The numbers of surviving UK Service personnel that suffered amputations was highest during 2009/10 and 2010/11, coinciding with a period of high operational tempo. The number of amputations suffered by UK troops serving in Afghanistan has decreased over the last two years. This was due to a reduction in operational tempo of UK Service personnel as responsibility for security transitions to the Afghanistan National Security Force (ANSF), and a reduction in the numbers of UK Service personnel deploying to Afghanistan.
41. The MOD also release a monthly British Casualties in Afghanistan Official Statistic, which can be found on the Defence Statistics website ([www.dasa.mod.uk](http://www.dasa.mod.uk)). This statistic provides the number of casualties with a Notification of Casualty (NOTICAS) signal raised of Very Seriously Injured (VSI) and Seriously Injured (SI). This report is presented by calendar year rather than financial year but the peaks in VSI and SI numbers follows the same trend as the amputation statistics, with the highest numbers occurring in 2009 and 2010 when operational tempo was highest.

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

## Iraq

42. **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.
43. Due to the low numbers of amputees, numbers are only presented by financial year. The table will be updated in the release available on 1 May 2014.

**Table 2: UK Service personnel<sup>1</sup> with partial or complete limb amputations sustained as a result of injuries in Iraq, 1 March 2003 – 30 June 2013, Numbers<sup>2</sup>**

Date of Initial Amputation	Numbers
02/03 <sup>3</sup>	~
03/04	~
04/05	~
05/06	~
06/07	10
07/08	6
08/09	~
09/10	~
10/11	~
11/12	0
12/13	~
13/14 <sup>4</sup>	0

Source: See paragraph 11

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 Defence Statistics rounding policy (see paragraph 21).
  3. Data for 2002/03 covers the period 1 to 31 March 2003 (see paragraph 27).
  4. Data for 2013/14 covers the period 1 April 2013 to 30 June 2013, these figures will next be updated on 1 May 2014.
44. During the overall time period 1 March 2003 to 30 June 2013:
- a. Financial year 2006/07 recorded the highest number of UK Service personnel who sustained a partial or complete limb amputation as a result of injuries sustained on operations in Iraq, with **10** amputees.

### Significant Multiple Amputees (SMAs)

45. **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 2013, Numbers<sup>1,2</sup>**

Date became significant multiple amputee	Country	
	Afghanistan	Iraq
2001/02 <sup>3</sup>	0	
2002/03 <sup>4</sup>	0	0
2003/04	0	0
2004/05	0	~
2005/06	0	~
2006/07 <sup>5</sup>	~	0
2007/08	~	0
2008/09	7	0
2009/10	32	0
2010/11	36	0
2011/12	18	0
2012/13	12	0

Source: See paragraph 11

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 Defence Statistics rounding policy (see paragraph 21).
3. 7 October 2001 is the date Op VERITAS commenced
4. 1 March 2003 is the date Op TELIC commenced
5. 1 April 2006 is the date Op HERRICK commenced

46. During 2012/13, **12** UK Service personnel were identified as significant multiple amputees as a result of injuries sustained on Op HERRICK
47. During 2012/13, **no** UK Service personnel were identified as significant multiple amputees as a result of injuries sustained on Op TELIC.
48. During the time period 7 October 2001 to 31 March 2013, 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** amputees.
49. This table will be updated with the Significant Multiple Amputees for the financial year 2013/14 in the release available on 1 May 2014.

### Medical Discharges

50. 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, **80 (29%)** have been medically discharged<sup>a</sup>.
51. Of the 80 UK Service personnel medically discharged, 71 were discharged with a principal cause of musculoskeletal disorders and injuries. The remaining nine UK Service personnel have been medically discharged with one of the following principal causes; Factors influencing health status, Ear and mastoid process disease or Mental and behavioural disorders.
52. 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, **10 (33%)** have been medically discharged<sup>a</sup>.

<sup>a</sup> As at 31 March 2013

53. Of the 10 UK Service personnel medically discharged, seven were discharged with a principal cause of musculoskeletal disorders and injuries. Information on the principal cause leading to medical discharge for the remaining three UK Service personnel has not been provided to ensure that the statistics presented do not disclose individuals identities.
54. The next update for medical discharges is due in the release scheduled for 31 July 2014.



## ANNEX A - Amputations as a result of injuries or illness sustained in locations other than Afghanistan or Iraq, 7 October 2001 - 31 March 2013.

1. In addition to the information presented in Tables 1 and 2 of the Quarterly Afghanistan and Iraq Amputation Statistic, the table below presents the number of surviving UK Service personnel whose injuries included a traumatic or surgical amputation, partial or complete for either upper or lower limbs as a result of injuries sustained in locations that were not Afghanistan or Iraq.
2. This includes personnel deployed on other operations that aren't Op VERITAS, Op HERRICK or Op TELIC and personnel that have been injured or had an amputation as a result of an illness in non-operational environments.
3. Due to the low numbers of amputees, numbers are only presented by financial year. Table A1 will be updated in the release available on 1 May 2014.
4. This information is sourced from three of the five data sources detailed in paragraph 19: The Complex Trauma Database, the Prosthetics Database and the Defence Patient Tracking System (DPTS). The Prosthetics database is the earliest recorded dataset for amputations data, commencing in June 2006. Subsequently, only UK Service Personnel that continued to receive treatment for their injuries after June 2006 will have been counted in the datasets. As such, the number of amputees provided in Table A1 should be considered as a MINIMUM.
5. **Table A1** presents the number of surviving UK Service personnel who have sustained a partial or complete limb amputation as a result of injuries sustained in locations that were not Afghanistan or Iraq.

**Table A1: UK Service personnel<sup>1</sup> with partial or complete limb amputations sustained as a result of injuries in locations that were not Iraq or Afghanistan, 7 October 2001 – 31 March 2013, Numbers<sup>2</sup>**

Date of Initial Amputation	Numbers
All	53
01/02 <sup>3</sup>	~
02/03	~
03/04	~
04/05	~
05/06	~
06/07	~
07/08	~
08/09	~
09/10	8
10/11	7
11/12	9
12/13	11

Source: Complex Trauma database, Prosthetics Database, Defence Patient Tracking System (see paragraph 11)

<sup>1</sup> 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.

<sup>2</sup> Data presented as “~” has been suppressed in accordance with Defence Statistics rounding policy (see paragraph 21).

<sup>3</sup> Covers the time period 7 October 2001 to 31 March 2002.

6. During the overall time period 7 October 2001 to 31 March 2013:
  - a. There were a minimum of **53** surviving UK Service personnel who sustained a partial or complete limb amputation as a result of injuries sustained in locations other than Iraq or Afghanistan.
  - b. In addition to the 53, there are **four** surviving UK Service personnel with an amputation where there is no further information about the date of amputation, thus the amputation may have occurred during this time period.

- c. Financial year 2012/13 recorded the highest number of UK Service personnel who sustained a partial or complete limb amputation as a result of injuries sustained in locations other than Iraq or Afghanistan, with **11** amputees.
7. Of the 53 surviving UK Service Personnel whose injuries includes a traumatic or surgical amputation, partial or complete, for either upper or lower limbs, **17 (32%)** have been medically discharged<sup>a</sup>. Of the 17 UK Service Personnel medically discharged, seven were discharged with a principle cause of musculoskeletal disorders and injuries. The remaining 10 UK Service personnel have been medically discharged with one of the following principal causes; Factors influencing health status, Nervous system disorder or Neoplasms.
8. There are an additional **five** surviving UK Service Personnel present in the above datasets with an amputation prior to 7 October 2001<sup>b</sup>.

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<sup>a</sup> As at 31 March 2013

<sup>b</sup> None of the five personnel have been medically discharged, as at 31 March 2013