Amputee Statistical Database for the United Kingdom

1998/99

Information & Statistics Division
The National Health Service in Scotland

on behalf of
National Amputee Statistical Database (NASDAB)

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Contents

Foreword

It is once again a very great pleasure to introduce the National Amputee Statistical Database Annual Report, which is the only published work providing data on amputees from all prosthetic centres through out the United Kingdom. Since our inaugural report was published we have received much favourable comment from the service, and I should like to thank all those who have taken the trouble to express their views in such a helpful and constructive manner.

For those who may be unfamiliar with the report, it describes all new amputations referred to prosthetic centres for the year ending 31st March 1999, and is provided to advise and inform all those who have an interest in the continuing rehabilitation and care of amputees. It is anticipated that the availability of this data will stimulate debate and decision making in delivering the highest possible quality of care.

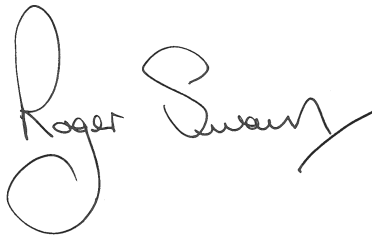
I am sure that most people will have read the Nation Audit Office publication "Fully Equipped" and recognise that equity of service and benchmarking are essential components of that increasingly important topic Clinical Governance. The supporting information cannot be compiled without accurate data recording systems, and I genuinely believe that NASDAB provides the ideal vehicle on which to record these facts. Several initiatives for extending the data content are currently under consideration and the Steering Group will shortly be examining a proposal from the Amputee Medical Rehabilitation Society (AMRS) on formulating a data set for prescription outcomes. As users of this report your thoughts on this proposed dataset would be welcomed and should be directed to Dr Robin Luff as the incomming Chairperson.

Whilst progress is always embraced with open arms, consistency of data is also of paramount importance and the Steering Group have consequently decided that no changes to the existing format will be made for the first three publications.

In this technological age, you will not be surprised to find the NASDAB report is available over the internet and we hope this international availability will encourage other countries to follow our own and Australia's lead. It is possibly worth noting that 1970 data was the latest available to our USA colleagues.

Data collection has not been without its problems this year and as ever, I am indebted to centres for coaxing information from systems struggling to cope with the Year 2000, to BHTA for their continuing support, to all members of the Steering Group for their wealth of experience and wise counsel and to ISD without whom the publication would never come to fruition.

I sincerely hope this years report will cultivate the interest of its predecessor, and help to build a reference work that not only enhances our understanding of the service, but provides valuable indicators to how we may progress in the future.



Steering Group Chairperson,
National Amputee Statistical Database

Current membership of the NASDAB steering group

Ms Jane Chisholm, ISD Scotland (Secretariat)
Mrs Joan Forrest, ISD Scotland
Mr Robert Graham, NHS Purchasing and Supply Agency
Mr Jason Hughes, Cardiff Prosthetic Service Centre
Dr Nick Jayawardhana, Hull Prosthetic Service Centre
Mr Simon Keymer, Cambridge Disablement Services Centre
Mr Peter Knight, ISD Scotland
Dr Robin Luff, Kings College Hospitals Rehabilitation Centre
Dr Sellaiah Sooriakumaran, Roehampton Prosthetic Service Centre (Resigned 01/09/00)
Mrs Kathy Spiller, Wrexham Prosthetic Service Centre
Mr Roger Swain, Nottingham Mobility Centre (Chairperson) (Resigned 01/09/00)
Mrs Sue Walker, Stanmore Disablement Services Centre
Mr Simon Webster, British Healthcare Trades Association
Dr Alastair Weir, West of Scotland Mobility and Rehabilitation Centre

Introduction

This is the second in a series of Annual Reports based on the data provided from prosthetic service centres in the United Kingdom for the year ending 31st March 1999. The first report (ISBN 1 84134 001 4) was published in June 1999. The information contained in this 1998/99 Annual Report is derived from details supplied by centres in England, Northern Ireland, Scotland and, for the first time, Wales.

This year we have been able to present full information from all the prosthetic service centres without exception, and we have included for the first time the Isle of Wight centre.

Points of interest

- There were a total of 5,665 new referrals to prosthetic service centres in the United Kingdom for the year ending 31st March 1999. This is four percent fewer than in 1997/98 (5896); the gender breakdown of referrals are however almost identical.
- The overall median ages of all referrals, male and female are identical to last year (66 and 71 years respectively).
- The provision of information on the *level of amputation* has dramatically improved with this information being recorded in ninety-nine per cent of cases, an improvement overall in recording by centres of fourteen per cent.
- Upper limb amputations accounted for just over four per cent of the total; lower limb amputations accounted for ninety-two per cent of the total; and congenital absence cases accounted for just over three per cent.
- The most common level of amputation remains at a trans-tibial level accounting for forty-eight per cent of **all** referrals (excluding cases which did not specify an amputation level). Only very rarely were patients referred with both upper and a lower limb amputation although this years' number (14 cases) has doubled since last year.
- The recording of cause of amputation improved during 1998/99, with seventy-nine per cent reporting aetiology, compared to seventy-one per cent in 1997/98.
- The most common cause of upper limb amputation remains trauma although this year there has been an increase of almost twenty-five per cent since last year. For lower limbs, dysvascularity was the reported cause in seventy-one per cent of cases where a cause was reported, compared to seventy per cent last year.
- Overall, forty-four per cent of referrals to prosthetic service centres were seen within two weeks of their referral date. This reflects an overall increase from last year of fifteen per cent. This could be due to an improvement in the time patients are seen or it may be an artefact of the data due to better recording practices (see table 16a and 16b).

UK Prosthetic Services

NEW REFERRALS

New referrals

The table below shows the total number of referrals to each of the UK's prosthetic service centres for the four quarters ending 31st March 1999. Overall across the UK, the number of amputees referred has decreased by 4 per cent from last year. Referral numbers in Scotland have again remained consistent. Within the overall decrease, there is considerable variation; Liverpool (Fazackerley) shows a remarkable increase in new referrals of 90.4 per cent, mainly due to better recording practices within the centre.

The quarterly analysis does not support the existence of seasonal variation in the incidence of referral after amputation.

The differing sizes of population served by centres is reflected in the very large variation in numbers of referrals per annum e.g. 5 for Isle of Wight and 371 for Birmingham.

For the first time the total number of registrations (patients 'on the books') at each centre have been presented. The number of new referrals accounts for just under nine per cent of all registrations, this ranges from 2.9% for Isle of Wight and 14.2% for Exeter.

Table 1 New referrals to prosthetic service centres : 1998/99

Prosthetic Service Centre	Quarter ending				Total	Number of registrations	New referrals as % of registrations
	30 Jun '98	30 Sep '98	31 Dec '98	31 Mar '99			
Aberdeen	16	15	11	14	**56**	517	10.8
Belfast	21	31	32	26	**110**	1 657	6.6
Birmingham	79	100	95	97	**371**	4 058	9.1
Bristol	48	20	31	28	**127**	1 870	6.8
Cambridge	38	27	36	34	**135**	1 259	10.7
Cardiff	45	27	35	34	**141**	1 510	9.3
Carlisle	7	13	9	8	**37**	471	7.9
Cleveland	32	35	35	31	**133**	1 125	11.8
Derby	21	15	12	12	**60**	380	15.8
Dundee	20	28	24	23	**95**	780	12.2
Edinburgh	21	31	29	22	**103**	1 363	7.6
Exeter	40	31	42	47	**160**	1 130	14.2
Gillingham	21	37	33	42	**133**	1 939	6.9
Glasgow (Strathclyde University)	7	8	5	4	**24**	509	4.7
Glasgow (Westmarc)	30	37	32	35	**134**	3 150	4.3
Hull	23	19	18	11	**71**	825	8.6
Inverness	7	10	7	9	**33**	285	11.6
Isle of Wight	1	-	-	4	**5**	175	2.9
Leeds	39	30	39	53	**161**	2 339	6.9
Leicester	8	14	20	13	**55**	626	8.8
Liverpool (Fazackerley)	28	53	40	37	**158**	1 269	12.5
London (Charing Cross)	13	14	24	17	**68**	751	9.1
London (Harold Wood)	76	69	66	72	**283**	2 466	11.5
London (Kings)	27	36	20	42	**125**	1 514	8.3
London (Roehampton)	37	15	66	62	**180**	2 986	6.0
London (Stanmore)	39	56	41	47	**183**	1 973	9.3
Luton & Dunstable	23	29	16	28	**96**	812	11.8
Manchester	81	69	66	69	**285**	3 009	9.5
Newcastle	54	55	48	54	**211**	2 031	10.4
Northampton	22	19	20	18	**79**	613	12.9
Norwich	41	28	22	30	**121**	1 241	9.8
Nottingham	44	42	43	51	**180**	1 853	9.7
Oxford	44	34	39	39	**156**	1 834	8.5
Plymouth	23	10	25	40	**98**	1 101	8.9
Portsmouth	41	41	43	30	**155**	1 940	8.0
Preston	48	43	33	33	**157**	1 590	9.9
Ringwood	21	19	18	22	**80**	828	9.7
Sheffield	71	76	67	55	**269**	2 047	13.1
Stoke	33	48	31	35	**147**	1 039	14.1
Sussex	28	33	26	23	**110**	1 552	7.1
Swansea	15	18	23	15	**71**	920	7.7
Wirral	36	30	33	25	**124**	917	13.5
Wolverhampton	24	38	29	28	**119**	1 015	11.7
Wrexham	19	11	18	18	**66**	874	7.6
All centres	**1 412**	**1 414**	**1 402**	**1 437**	**5 665**	**62 143**	**9.1**

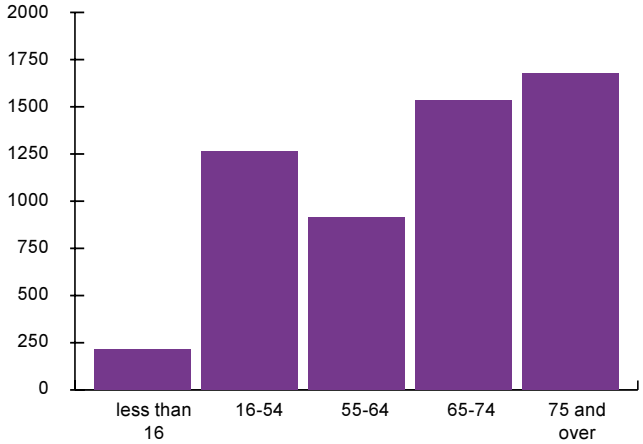
Gender and age

There is a marked gender difference in median age at presentation, the median for males being 66 and for females 71 years of age, the same as last year. There are marked local variations for the median age, with for example the value for males at Plymouth being 72 and at Derby being 48. The median ages for females are 76 years at Sussex and at Wirral whilst at Hull the median age is 63 years.

Table 2 Gender and age ; by prosthetic service centre : 1998/99

	Males							
Prosthetic Service Centre	less than 16	16-54	55-64	65-74	75 and over	No age given	**All ages**	Median Age
Aberdeen	-	10	5	10	11	-	**36**	*68*
Belfast	4	16	12	21	15	-	**68**	*66*
Birmingham	8	51	50	87	57	-	**253**	*67*
Bristol	2	25	15	19	22	-	**83**	*64*
Cambridge	3	18	15	23	30	-	**89**	*69*
Cardiff	1	24	19	34	18	-	**96**	*67*
Carlisle	1	4	2	4	5	-	**16**	*70*
Cleveland	-	19	17	24	22	-	**82**	*67*
Derby	5	23	8	5	6	-	**47**	*48*
Dundee	-	10	11	16	17	1	**55**	*69*
Edinburgh	1	12	15	24	22	-	**74**	*68*
Exeter	2	17	18	13	45	-	**95**	*72*
Gillingham	1	14	17	23	18	-	**73**	*66*
Glasgow (Strathclyde University)	3	4	4	4	1	3	**19**	*58*
Glasgow (Westmarc)	1	19	25	24	15	6	**90**	*63*
Hull	-	14	10	12	11	-	**47**	*64*
Inverness	1	5	3	7	4	1	**21**	*68*
Isle of Wight	-	-	-	1	1	-	**2**	*80*
Leeds	4	37	23	28	25	-	**117**	*63*
Leicester	2	12	4	6	9	-	**33**	*62*
Liverpool (Fazackerley)	2	21	24	34	23	-	**104**	*66*
London (Charing Cross)	1	19	10	10	10	-	**50**	*62*
London (Harold Wood)	6	35	32	62	47	1	**183**	*67*
London (Kings)	2	29	21	15	21	-	**88**	*60*
London (Roehampton)	7	40	16	28	28	-	**119**	*62*
London (Stanmore)	9	42	17	25	25	-	**118**	*60*
Luton & Dunstable	2	11	13	19	26	-	**71**	*70*
Manchester	5	35	54	46	45	-	**185**	*64*
Newcastle	11	38	26	43	38	-	**156**	*65*
Northampton	-	8	11	21	13	-	**53**	*69*
Norwich	2	24	16	21	27	-	**90**	*65*
Nottingham	3	42	21	35	35	-	**136**	*67*
Oxford	5	22	18	30	29	-	**104**	67
Plymouth	2	7	5	24	24	2	**64**	*72*
Portsmouth	1	21	22	24	29	3	**100**	*67*
Preston	5	27	18	32	26	3	**111**	*66*
Ringwood	6	15	7	10	14	-	**52**	*63*
Sheffield	5	48	20	44	41	-	**158**	*66*
Stoke	3	18	13	36	25	-	**95**	*68*
Sussex	1	7	10	22	11	-	**51**	*69*
Swansea	-	9	10	14	13	-	**46**	*70*
Wirral	2	22	11	37	27	-	**99**	*68*
Wolverhampton	3	10	18	34	22	-	**87**	*69*
Wrexham	-	13	12	13	13	-	**51**	*65*
All centres	**122**	**897**	**698**	**1 064**	**966**	**20**	**3 767**	***66***

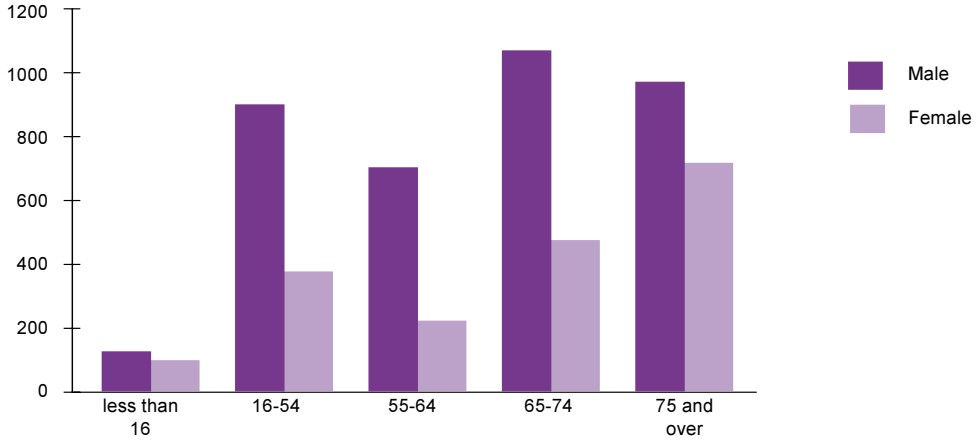
Chart 1a Age : 1998/99



Around one quarter of males, and almost two fifths of females, are aged 75 or over at time of referral. The number of patients under 16 years is relatively small (about 4% of all new referrals) but their need for support from centres, however, will extend over a much longer time frame than other patients. Over half of these young patients are referred as a result of congenital absence; more detail is provided in table 14.

Females								Gender unspecified	Total	Median Age	
less than 16	16-54	55-64	65-74	75 and over	No age given	All ages	Median Age				Prosthetic Service Centre
1	5	3	3	8	-	**20**	*70*	-	**56**	*69*	Aberdeen
1	11	4	8	18	-	**42**	*72*	-	**110**	*69*	Belfast
8	23	9	30	48	-	**118**	*72*	-	**371**	*68*	Birmingham
2	9	4	8	21	-	**44**	*73*	-	**127**	*68*	Bristol
1	10	4	17	14	-	**46**	*71*	-	**135**	*70*	Cambridge
1	7	6	11	20	-	**45**	*74*	-	**141**	*68*	Cardiff
1	4	1	10	5	-	**21**	*68*	-	**37**	*68*	Carlisle
-	10	7	15	19	-	**51**	*71*	-	**133**	*69*	Cleveland
-	3	3	3	2	-	**11**	*63*	2	**60**	*50*	Derby
-	4	8	11	16	1	**40**	*69*	-	**95**	*69*	Dundee
2	8	1	9	7	2	**29**	*68*	-	**103**	*68*	Edinburgh
1	7	6	22	29	-	**65**	*73*	-	**160**	*73*	Exeter
2	15	10	11	22	-	**60**	*67*	-	**133**	*66*	Gillingham
-	3	1	-	1	-	**5**	*41*	-	**24**	*55*	Glasgow (Strathclyde University)
-	3	11	8	19	3	**44**	*73*	-	**134**	*65*	Glasgow (Westmarc)
-	7	6	4	7	-	**24**	*63*	-	**71**	*64*	Hull
-	4	-	2	5	1	**12**	*69*	-	**33**	*69*	Inverness
-	-	-	2	1	-	**3**	*74*	-	**5**	*74*	Isle of Wight
5	10	6	10	13	-	**44**	*65*	-	**161**	*64*	Leeds
4	5	2	6	5	-	**22**	*65*	-	**55**	*64*	Leicester
1	11	8	16	14	-	**50**	*70*	4	**158**	*68*	Liverpool (Fazackerley)
-	5	3	2	8	-	**18**	*70*	-	**68**	*63*	London (Charing Cross)
5	15	11	27	41	1	**100**	*72*	-	**283**	*69*	London (Harold Wood)
5	12	5	10	5	-	**37**	*61*	-	**125**	*60*	London (Kings)
3	14	11	12	21	-	**61**	*67*	-	**180**	*64*	London (Roehampton)
9	18	6	15	17	-	**65**	*64*	-	**183**	*61*	London (Stanmore)
1	2	2	11	9	-	**25**	*73*	-	**96**	*71*	Luton & Dunstable
7	19	13	17	44	-	**100**	*72*	-	**285**	*67*	Manchester
7	13	1	12	22	-	**55**	*71*	-	**211**	*66*	Newcastle
1	5	3	7	10	-	**26**	*71*	-	**79**	*70*	Northampton
4	6	3	9	9	-	**31**	*67*	-	**121**	*66*	Norwich
4	12	5	8	15	-	**44**	*68*	-	**180**	*67*	Nottingham
3	13	4	9	23	-	**52**	*72*	-	**156**	*68*	Oxford
2	5	2	12	13	-	**34**	*70*	-	**98**	*72*	Plymouth
1	14	4	11	23	2	**55**	*70*	-	**155**	*68*	Portsmouth
-	8	6	16	16	-	**46**	*72*	-	**157**	*67*	Preston
2	5	6	5	10	-	**28**	*68*	-	**80**	*64*	Ringwood
4	23	15	31	38	-	**111**	*69*	-	**269**	*68*	Sheffield
1	8	4	17	22	-	**52**	*73*	-	**147**	*70*	Stoke
-	1	2	12	23	-	**38**	*76*	21	**110**	*72*	Sussex
2	4	3	3	13	-	**25**	*75*	-	**71**	*71*	Swansea
-	5	2	4	14	-	**25**	*76*	-	**124**	*70*	Wirral
1	4	5	10	12	-	**32**	*72*	-	**119**	*69*	Wolverhampton
1	1	1	3	9	-	**15**	*75*	-	**66**	*69*	Wrexham
93	**371**	**217**	**469**	**711**	**10**	**1 871**	***71***	**27**	**5 665**	***68***	**All centres**

Chart 1b Age and gender : 1998/99



Level of amputation

Of the 5 626 patients (5665 less 39) whose amputation level was recorded, the great majority (91.7%) were referred following a lower limb amputation.

The number of upper referrals showed little change in 1998/99 compared to the previous year, however the proportion of partial hand referrals compared to all upper limb referrals increased from 26 per cent in 1997/98 to 31 per cent in 1998/99.

It is encouraging to note that the number of cases, where no level of amputation was recorded, decreased significantly from 886 cases (15%) in 1997/98 to 39 cases (1%) in 1998/99.

Table 3 Level of amputation and congenital absence ; by prosthetic service centre : 1998/99

Prosthetic Service Centre	Upper Limb Amputations[1]									
	Fore-quarter	Shoulder disartic-ulation	Trans-humeral	Elbow disartic-ulation	Trans-radial	Wrist disartic-ulation	Partial hand	Digits	Double upper amp.	**Total**
Aberdeen	-	-	-	-	3	-	-	5	-	**8**
Belfast	-	1	2	-	1	-	2	-	-	**6**
Birmingham	-	1	7	1	6	-	9	-	1	**25**
Bristol	1	1	1	-	-	-	-	-	-	**3**
Cambridge	1	-	2	-	2	-	5	-	-	**10**
Cardiff	-	-	1	-	-	-	2	-	-	**3**
Carlisle	-	-	-	-	2	-	-	-	-	**2**
Cleveland	-	-	-	-	1	-	-	-	-	**1**
Derby	-	-	-	-	-	-	-	-	-	**-**
Dundee	-	-	-	-	-	-	-	-	-	**-**
Edinburgh	1	-	-	-	1	-	-	-	-	**2**
Exeter	-	-	2	1	2	-	-	-	-	**5**
Gillingham	-	-	-	-	2	-	4	-	2	**8**
Glasgow (Strathclyde University)	-	-	1	-	-	-	-	1	-	**2**
Glasgow (Westmarc)	-	1	-	1	1	-	-	-	-	**3**
Hull	-	1	-	-	1	-	-	-	-	**2**
Inverness	-	-	-	-	-	-	-	-	-	**-**
Isle of Wight	-	-	-	-	-	-	-	-	-	**-**
Leeds	-	-	2	-	4	1	3	-	-	**10**
Leicester	-	1	1	-	1	-	-	-	-	**3**
Liverpool (Fazackerley)	-	-	1	-	1	-	-	-	-	**2**
London (Charing Cross)	-	-	-	-	-	-	-	-	-	**-**
London (Harold Wood)	2	1	2	-	1	1	-	-	-	**7**
London (Kings)	-	-	2	-	3	-	2	-	-	**7**
London (Roehampton)	1	-	-	-	3	-	2	-	-	**6**
London (Stanmore)	-	2	2	2	7	1	2	-	1	**17**
Luton & Dunstable	-	-	-	-	-	-	-	-	-	**-**
Manchester	-	-	4	1	3	1	2	3	-	**14**
Newcastle	2	-	1	-	1	1	10	-	-	**15**
Northampton	-	-	-	-	-	-	2	-	-	**2**
Norwich	-	2	2	-	1	-	1	-	-	**6**
Nottingham	-	-	7	-	3	-	3	1	-	**14**
Oxford	-	2	2	1	2	-	5	-	-	**12**
Plymouth	-	-	-	-	-	-	-	-	-	**-**
Portsmouth	1	-	-	1	3	-	1	-	1	**7**
Preston	-	-	4	-	1	-	10	-	2	**17**
Ringwood	1	-	-	-	1	-	2	-	-	**4**
Sheffield	-	2	1	-	6	1	7	-	-	**17**
Stoke	-	-	-	-	2	-	-	-	-	**2**
Sussex	-	1	2	-	-	-	1	-	-	**4**
Swansea	-	-	5	-	-	-	-	-	-	**5**
Wirral	-	1	-	-	1	-	-	-	-	**2**
Wolverhampton	-	-	-	-	-	-	-	-	-	**-**
Wrexham	-	-	-	-	-	-	4	-	-	**4**
All centres	**10**	**17**	**54**	**8**	**66**	**6**	**79**	**10**	**7**	**257**

1 See also the Upper Limb Amputation tables on pages 14-17 for additional details.
2 See also the Lower Limb Amputation tables on pages 20-23 for additional details.
3 See also the Miscellaneous Group of Amputation tables on pages 26-31 for additional details on complex amputations and congenital absence.

Lower Limb Amputations[2]										Miscellaneous Amputations[3]						Total	
Hemi pelvec-tomy	Hip disartic-ulation	Trans-femoral	Knee disartic-ulation	Trans-tibial	Ankle disartic-ulation	Partial foot	Digits	Double lower amp.	**Total**	Cross-site amp.	Triple amp.	Quad-ruple amp.	Con-genital absence	No level	**Total**		Prosthetic Service Centre
-	-	8	-	38	-	-	-	-	**46**	-	-	-	1	1	**2**	**56**	Aberdeen
-	-	35	-	52	-	5	-	5	**97**	-	-	-	7	-	**7**	**110**	Belfast
1	1	124	4	166	4	-	13	23	**336**	1	-	-	6	3	**10**	**371**	Birmingham
-	-	39	3	69	-	-	-	5	**116**	-	-	-	7	1	**8**	**127**	Bristol
-	1	28	1	82	-	2	1	5	**120**	-	1	1	3	-	**5**	**135**	Cambridge
-	-	54	1	67	1	-	1	13	**137**	-	-	-	1	-	**1**	**141**	Cardiff
3	-	17	1	6	-	-	-	6	**33**	1	-	-	1	-	**2**	**37**	Carlisle
-	-	52	3	69	-	-	2	4	**130**	-	-	-	-	2	**2**	**133**	Cleveland
-	-	10	9	18	-	-	-	-	**37**	-	-	-	10	13	**23**	**60**	Derby
-	1	32	-	50	2	-	-	9	**94**	-	-	1	-	-	**1**	**95**	Dundee
-	-	40	1	52	1	-	-	6	**100**	-	-	-	1	-	**1**	**103**	Edinburgh
-	-	47	8	87	3	1	-	4	**150**	-	-	-	2	3	**5**	**160**	Exeter
-	-	62	3	44	-	-	4	7	**120**	1	-	-	3	1	**5**	**133**	Gillingham
-	-	4	-	12	2	-	-	3	**21**	-	-	-	1	-	**1**	**24**	Glasgow (Strathclyde University)
-	-	27	1	98	-	-	-	3	**129**	-	-	-	1	1	**2**	**134**	Glasgow (Westmarc)
-	-	20	2	43	-	1	1	2	**69**	-	-	-	-	-	**-**	**71**	Hull
-	1	12	-	17	-	-	-	1	**31**	-	-	-	1	1	**2**	**33**	Inverness
-	-	2	-	2	1	-	-	-	**5**	-	-	-	-	-	**-**	**5**	Isle of Wight
-	-	58	-	71	-	1	2	7	**139**	-	-	-	12	-	**12**	**161**	Leeds
-	-	15	-	26	1	-	1	1	**44**	-	-	-	8	-	**8**	**55**	Leicester
-	1	63	-	89	1	-	-	-	**154**	-	-	-	2	-	**2**	**158**	Liverpool (Fazackerley)
1	-	22	-	36	1	-	1	5	**66**	-	-	-	1	1	**2**	**68**	London (Charing Cross)
-	-	115	6	124	2	2	3	13	**265**	-	-	-	11	-	**11**	**283**	London (Harold Wood)
-	1	48	-	53	-	3	-	5	**110**	-	-	-	6	2	**8**	**125**	London (Kings)
-	-	75	2	78	1	-	-	3	**159**	-	1	-	13	1	**15**	**180**	London (Roehampton)
1	3	52	-	74	2	2	-	8	**142**	-	-	1	22	1	**24**	**183**	London (Stanmore)
-	2	40	1	45	-	-	-	4	**92**	-	-	-	3	1	**4**	**96**	Luton & Dunstable
-	2	114	4	123	1	-	3	14	**261**	-	1	-	9	-	**10**	**285**	Manchester
1	1	72	1	104	-	-	4	-	**183**	-	-	-	12	1	**13**	**211**	Newcastle
1	-	32	2	35	-	-	2	3	**75**	-	-	-	2	-	**2**	**79**	Northampton
2	3	31	1	65	-	2	-	4	**108**	-	-	-	7	-	**7**	**121**	Norwich
-	1	51	2	96	-	-	-	8	**158**	-	-	-	8	-	**8**	**180**	Nottingham
-	1	50	7	62	1	-	2	10	**133**	2	-	-	9	-	**11**	**156**	Oxford
-	-	32	1	54	-	1	-	1	**89**	-	-	-	9	-	**9**	**98**	Plymouth
1	1	35	15	87	-	-	-	5	**144**	-	1	-	1	2	**4**	**155**	Portsmouth
-	-	75	-	57	-	2	-	6	**140**	-	-	-	-	-	**-**	**157**	Preston
-	-	25	2	40	-	-	-	3	**70**	-	-	1	1	4	**6**	**80**	Ringwood
1	2	111	8	114	3	6	-	-	**245**	-	-	-	7	-	**7**	**269**	Sheffield
-	-	54	4	70	2	-	2	11	**143**	-	-	-	2	-	**2**	**147**	Stoke
-	2	48	-	54	-	1	-	1	**106**	-	-	-	-	-	**-**	**110**	Sussex
-	-	15	1	43	-	3	-	3	**65**	-	-	-	1	-	**1**	**71**	Swansea
-	1	57	3	52	2	3	-	1	**119**	1	-	-	2	-	**3**	**124**	Wirral
-	-	47	2	64	1	-	-	4	**118**	-	-	-	1	-	**1**	**119**	Wolverhampton
-	-	23	1	33	-	-	-	4	**61**	-	-	-	1	-	**1**	**66**	Wrexham
12	**25**	**1 973**	**100**	**2 721**	**32**	**35**	**42**	**220**	**5 160**	**6**	**4**	**4**	**195**	**39**	**248**	**5 665**	**All centres**

Region of residence

This is an additional table which presents the referral patterns from each region to the prosthetic service centres and demonstrates that centres primarily care for local populations. Comparisons between this data in future years will provide a record of changes in referral patterns e.g. as a consequence of the impact of Primary Care Trusts on the activity of English centres. The distribution of centres within regions reflects the population base and geographical factors; centre activity reflects the size of the population and its general health.

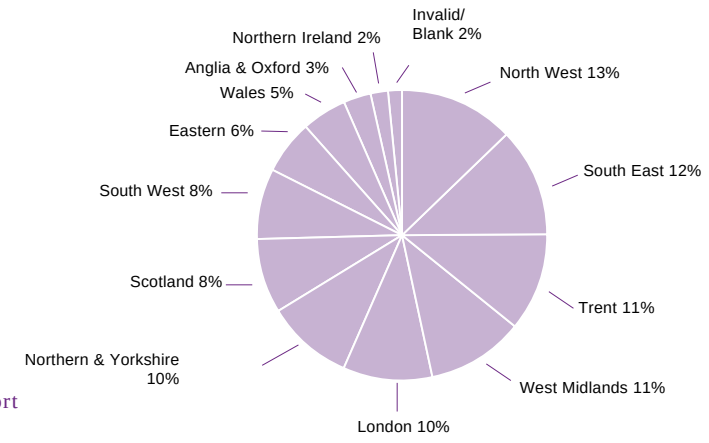
Whilst the recording is greatly improved care should be taken when interpreting the table as it refers to both the previous and the current regional structures in England.

Table 4 Region of residence ; by prosthetic service centre : 1998/99

Prosthetic Service Centre	Region[1]																Total
	Northern & Yorkshire	Trent	Anglia & Oxford	West Midlands	North West	Eastern	London	South East	South West	N.I.[2] - East.	N.I.[2] - North.	N.I. [2]- South.	N.I.[2] - West.	Scotland	Wales	Invalid/ Blank	
Aberdeen	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-	**56**
Belfast	-	-	-	-	-	-	-	-	-	42	24	18	26	-	-	-	**110**
Birmingham	-	4	-	356	1	1	-	1	2	-	-	-	-	-	4	2	**371**
Bristol	-	-	-	1	-	-	-	-	118	-	-	-	-	-	-	8	**127**
Cambridge	-	12	81	-	-	41	-	-	-	-	-	-	-	-	-	1	**135**
Cardiff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	141	-	**141**
Carlisle	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**37**
Cleveland	133	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**133**
Derby	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	4	**60**
Dundee	-	-	-	-	-	-	-	-	-	-	-	-	-	95	-	-	**95**
Edinburgh	-	-	-	-	-	-	-	-	-	-	-	-	-	103	-	-	**103**
Exeter	-	-	-	-	-	-	-	-	160	-	-	-	-	-	-	-	**160**
Gillingham	-	-	-	-	-	-	8	121	-	-	-	-	-	-	-	4	**133**
Glasgow (Strathclyde University)	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	**24**
Glasgow (Westmarc)	-	-	-	-	-	-	-	-	-	-	-	-	-	134	-	-	**134**
Hull	41	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**71**
Inverness	-	-	-	-	-	-	-	-	-	-	-	-	-	33	-	-	**33**
Isle of Wight	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	**5**
Leeds	159	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	**161**
Leicester	-	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**55**
Liverpool (Fazackerley)	-	-	-	-	158	-	-	-	-	-	-	-	-	-	-	-	**158**
London (Charing Cross)	-	-	-	-	-	1	62	5	-	-	-	-	-	-	-	-	**68**
London (Harold Wood)	-	-	-	-	-	122	161	-	-	-	-	-	-	-	-	-	**283**
London (Kings)	-	-	-	1	-	-	115	9	-	-	-	-	-	-	-	-	**125**
London (Roehampton)	-	1	1	-	1	1	92	80	2	-	-	-	-	-	1	1	**180**
London (Stanmore)	-	-	1	-	-	48	125	7	-	-	-	-	-	-	-	2	**183**
Luton & Dunstable	-	-	-	-	-	94	-	2	-	-	-	-	-	-	-	-	**96**
Manchester	2	7	-	-	276	-	-	-	-	-	-	-	-	-	-	-	**285**
Newcastle	176	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	**211**
Northampton	-	-	-	-	-	-	-	79	-	-	-	-	-	-	-	-	**79**
Norwich	-	1	90	-	-	30	-	-	-	-	-	-	-	-	-	-	**121**
Nottingham	-	179	-	-	-	-	-	-	-	-	-	-	-	-	-	1	**180**
Oxford	-	-	-	2	-	1	-	133	18	-	-	-	-	-	1	1	**156**
Plymouth	-	-	-	-	-	-	-	-	97	-	-	-	-	-	-	1	**98**
Portsmouth	-	-	-	1	-	1	1	146	3	-	-	-	-	-	-	3	**155**
Preston	-	-	-	-	157	-	-	-	-	-	-	-	-	-	-	-	**157**
Ringwood	-	-	-	-	-	-	-	9	71	-	-	-	-	-	-	-	**80**
Sheffield	-	263	-	-	1	-	-	-	-	-	-	-	-	-	-	5	**269**
Stoke	-	10	-	132	5	-	-	-	-	-	-	-	-	-	-	-	**147**
Sussex	-	-	-	-	-	-	-	89	-	-	-	-	-	-	-	21	**110**
Swansea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	-	**71**
Wirral	-	-	-	-	123	-	-	-	-	-	-	-	-	-	1	-	**124**
Wolverhampton	-	-	-	119	-	-	-	-	-	-	-	-	-	-	-	-	**119**
Wrexham	-	-	-	-	1	-	-	-	-	-	-	-	-	-	65	-	**66**
All centres	**548**	**618**	**173**	**613**	**724**	**340**	**564**	**686**	**471**	**42**	**24**	**18**	**26**	**445**	**284**	**89**	**5 665**

1 See appendix 2 for list of district health authorities included in each region.
2 N.I. = Northern Ireland.

Chart 2 Region : 1998/99



UK Prosthetic Services

UPPER LIMB AMPUTATIONS

Level of amputation by centre

In table 5 below, the numbers of referrals to each centre (shown in table 3) are expressed as a percentage according to level of amputation. It is important to note that for many centres the total number of upper limb amputee referral is very small and comparisons between centres require careful examination of the data.

The more unusual levels of upper limb amputation tend to be referred to centres with special interests.

Table 5 Level of amputation[1] as a percentage of total number; by prosthetic service centre : 1998/99

Prosthetic Service Centre	Level of amputation									Total no. (=100%)
	Fore-quarter	Shoulder disartic-ulation	Trans-humeral	Elbow disartic-ulation	Trans-radial	Wrist disartic-ulation	Partial hand	Digits	Double upper amp.	
	Row percentages [2]									
Aberdeen	0	0	0	0	38	0	0	63	0	8
Belfast	0	17	33	0	17	0	33	0	0	6
Birmingham	0	4	28	4	24	0	36	0	4	25
Bristol	33	33	33	0	0	0	0	0	0	3
Cambridge	10	0	20	0	20	0	50	0	0	10
Cardiff	0	0	33	0	0	0	67	0	0	3
Carlisle	0	0	0	0	100	0	0	0	0	2
Cleveland	0	0	0	0	100	0	0	0	0	1
Edinburgh	50	0	0	0	50	0	0	0	0	2
Exeter	0	0	40	20	40	0	0	0	0	5
Gillingham	0	0	0	0	25	0	50	0	25	8
Glasgow (Strathclyde University)	0	0	50	0	0	0	0	50	0	2
Glasgow (Westmarc)	0	33	0	33	33	0	0	0	0	3
Hull	0	50	0	0	50	0	0	0	0	2
Leeds	0	0	20	0	40	10	30	0	0	10
Leicester	0	33	33	0	33	0	0	0	0	3
Liverpool (Fazackerley)	0	0	50	0	50	0	0	0	0	2
London (Harold Wood)	29	14	29	0	14	14	0	0	0	7
London (Kings)	0	0	29	0	43	0	29	0	0	7
London (Roehampton)	17	0	0	0	50	0	33	0	0	6
London (Stanmore)	0	12	12	12	41	6	12	0	6	17
Manchester	0	0	29	7	21	7	14	21	0	14
Newcastle	13	0	7	0	7	7	67	0	0	15
Northampton	0	0	0	0	0	0	100	0	0	2
Norwich	0	33	33	0	17	0	17	0	0	6
Nottingham	0	0	50	0	21	0	21	7	0	14
Oxford	0	17	17	8	17	0	42	0	0	12
Portsmouth	14	0	0	14	43	0	14	0	14	7
Preston	0	0	24	0	6	0	59	0	12	17
Ringwood	25	0	0	0	25	0	50	0	0	4
Sheffield	0	12	6	0	35	6	41	0	0	17
Stoke	0	0	0	0	100	0	0	0	0	2
Sussex	0	25	50	0	0	0	25	0	0	4
Swansea	0	0	100	0	0	0	0	0	0	5
Wirral	0	50	0	0	50	0	0	0	0	2
Wrexham	0	0	0	0	0	0	100	0	0	4
All centres : %	**4**	**7**	**21**	**3**	**26**	**2**	**31**	**4**	**3**	
All centres : total no.	**10**	**17**	**54**	**8**	**66**	**6**	**79**	**10**	**7**	**257**

1 Excludes congenital absence cases.
2 Due to rounding row percentages may not add up to 100 per cent.

Level of amputation by gender

Just under three quarters of upper limb amputee referrals occur in the 16-64 age range (185 / 257, 72%) with the majority of these being male (133 / 175, 76%). The three most common levels of amputation, trans-humeral, trans-radial and partial hand levels, together account for just over three quarters of these referrals.

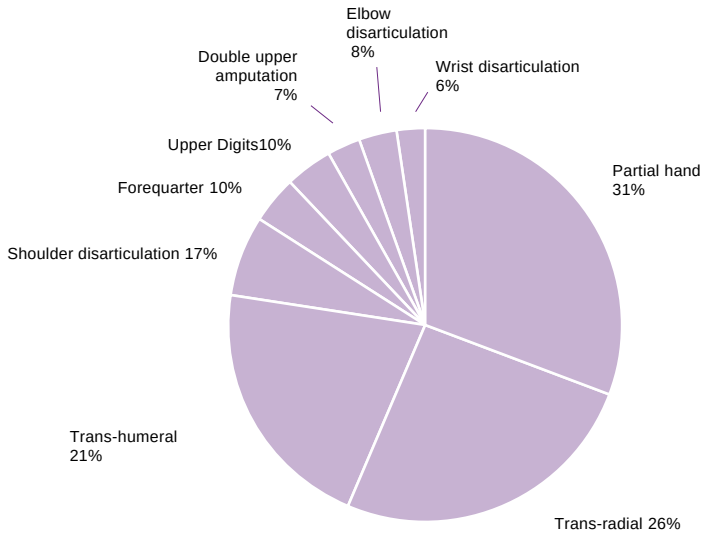
It is interesting to note that in 1998 / 99 there has been a reduction in the number of referrals following forequarter amputation and an increase following shoulder disarticulation compared with 1997 / 98.

Table 6 Level of amputation [1] ; by gender and age : 1998/99

	Males							Females							Not Specified	Total
Level of amputation	less than 16	16-54	55-64	65-74	75 and over	No age given	**All ages**	less than 16	16-54	55-64	65-74	75 and over	No age given	**All ages**		
Forequarter	1	3	-	-	1	-	**5**	-	1	2	2	-	-	**5**	-	**10**
Shoulder disarticulation	-	9	4	1	-	-	**14**	-	1	-	1	1	-	**3**	-	**17**
Trans-humeral	2	30	3	6	1	-	**42**	1	6	1	-	4	-	**12**	-	**54**
Elbow disarticulation	1	3	-	2	-	-	**6**	-	2	-	-	-	-	**2**	-	**8**
Trans-radial	4	30	7	4	2	-	**47**	7	9	1	1	1	-	**19**	-	**66**
Wrist disarticulation	2	1	-	1	-	-	**4**	1	-	1	-	-	-	**2**	-	**6**
Partial hand	6	31	6	2	2	-	**47**	6	20	1	3	2	-	**32**	-	**79**
Upper Digits	-	3	-	-	-	1	**4**	-	6	-	-	-	-	**6**	-	**10**
Double upper amputation	1	1	2	2	-	-	**6**	-	-	1	-	-	-	**1**	-	**7**
All upper limb amputations[1]	**17**	**111**	**22**	**18**	**6**	**1**	**175**	**15**	**45**	**7**	**7**	**8**	**-**	**82**	**-**	**257**

1 Excludes congenital absence cases.

Chart 3 Level of amputation : 1998/99



Cause and level

Of the 187 (73% of the total) referrals where a cause of limb loss was reported, trauma accounted for 62 per cent and neoplasia for 14 per cent.

It should be noted that the completeness of cause of amputation data was relatively poor, no cause being provided in over one quarter of cases (70 / 257, 27%) and 'other causes' given for 13 per cent (34 / 257). Although it is possible to record more detailed information on the cause of amputation, in the majority of trauma cases (79 / 116, 68%) no additional detail was provided by centres.

Table 7 Level of amputation [1] ; by cause of amputation : 1998/99

Cause of amputation	Level of amputation									Total
	Fore-quarter	Shoulder disartic-ulation	Trans-humeral	Elbow disartic-ulation	Trans-radial	Wrist disartic-ulation	Partial hand	Digits	Double upper amp.	
Trauma	**3**	**7**	**21**	**2**	**33**	**1**	**37**	**9**	**3**	**116**
No Additional Detail	1	6	14	-	19	1	27	9	2	79
Mechanical	-	-	2	2	7	-	7	-	1	19
Electrical	2	1	3	-	7	-	3	-	-	16
Thermal	-	-	1	-	-	-	-	-	-	1
Chemical	-	-	1	-	-	-	-	-	-	1
Dysvascularity	**-**	**-**	**1**	**2**	**2**	**-**	**2**	**-**	**-**	**7**
No Additional Detail	-	-	-	-	2	-	1	-	-	3
Non-diabetic Arteriosclerosis	-	-	1	1	-	-	-	-	-	2
Endovascular Chemical Trauma	-	-	-	1	-	-	-	-	-	1
Iatrogenic Vascular Trauma	-	-	-	-	-	-	1	-	-	1
Infection	**1**	**1**	**-**	**1**	**-**	**-**	**1**	**-**	**-**	**4**
No Additional Detail	1	-	-	1	-	-	-	-	-	2
Chronic	-	1	-	-	-	-	1	-	-	2
Neoplasia	**5**	**7**	**7**	**2**	**3**	**1**	**1**	**-**	**-**	**26**
No Additional Detail	1	2	3	1	2	-	-	-	-	9
Benign	-	-	2	-	1	-	-	-	-	3
Malignant - Primary	4	5	2	1	-	1	1	-	-	14
Other	**-**	**1**	**8**	**-**	**10**	**3**	**11**	**1**	**-**	**34**
No Cause Provided	**1**	**1**	**17**	**1**	**18**	**1**	**27**	**-**	**4**	**70**
All causes [1]	**10**	**17**	**54**	**8**	**66**	**6**	**79**	**10**	**7**	**257**

1 Excludes congenital absence cases.

Cause and age

Amongst the younger population (16-54) trauma was the most common cause of limb loss accounting for around 44 per cent of all upper limb cases where the cause of amputation was provided. Although spread across all age categories, the referral incidence as a result of neoplasia is particularly marked in the 65-74 age band accounting for seven of the twenty-six cases reporting neoplasia. As a consequence of the problem of incomplete or partly specified data, referred to earlier at table 7, the figures can be indicative only.

Table 8 Cause of amputation [1]; by age : 1998/99

Cause of amputation	Age Group: less than 16	16-54	55-64	65-74	75 and over	No age given	Total
Trauma	**8**	**82**	**12**	**9**	**4**	**1**	**116**
No Additional Detail	5	56	6	9	2	1	79
Mechanical	-	13	5	-	1	-	19
Electrical	3	11	1	-	1	-	16
Thermal	-	1	-	-	-	-	1
Chemical	-	1	-	-	-	-	1
Dysvascularity	**-**	**5**	**-**	**2**	**-**	**-**	**7**
No Additional Detail	-	2	-	1	-	-	3
Non-diabetic Arteriosclerosis	-	1	-	1	-	-	2
Endovascular Chemical Trauma	-	1	-	-	-	-	1
Iatrogenic Vascular Trauma	-	1	-	-	-	-	1
Infection	**1**	**1**	**1**	**-**	**1**	**-**	**4**
No Additional Detail	1	-	-	-	1	-	2
Chronic	-	1	1	-	-	-	2
Neoplasia	**2**	**8**	**4**	**7**	**5**	**-**	**26**
No Additional Detail	1	3	-	3	2	-	9
Benign	-	2	1	-	-	-	3
Malignant - Primary	1	3	3	4	2	-	14
Other	**9**	**16**	**6**	**1**	**2**	**-**	**34**
No Cause Provided	**12**	**44**	**6**	**6**	**2**	**-**	**70**
All causes	**32**	**156**	**29**	**25**	**14**	**1**	**257**

1 Excludes congenital absence cases.

Chart 4a Cause of amputation : 1998/99 *including* 'No cause provided'

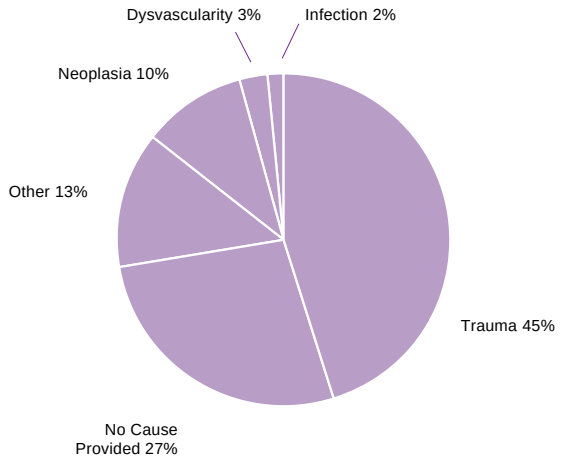
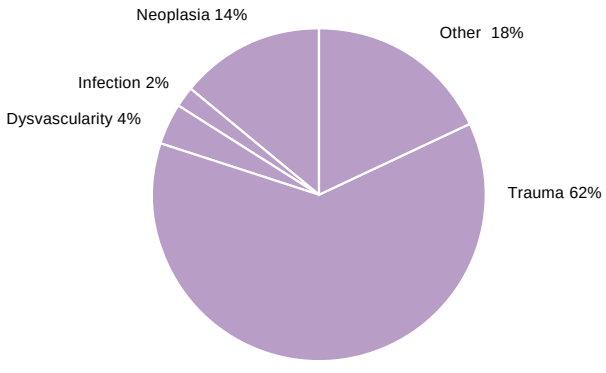


Chart 4b Cause of amputation : 1998/99 *excluding* 'No cause provided'



UK Prosthetic Services

LOWER LIMB AMPUTATIONS

Level of amputation by centre

Just over half of amputees presented with trans-tibial amputations (53%); trans-femoral amputations accounted for 38 per cent of the total. There is substantial local variation in trans-tibial and trans-femoral (TT:TF) proportions. Thus at Cambridge (120 cases) the ratio is 68%:23% and at Swansea (65 cases) it is 66%:23%; by contrast, at Carlisle (33 cases) it is 18%:52%.

It is interesting to note that all centres in Scotland report higher ratios of trans-tibial amputations compared to trans-femoral amputations which is in contrast to most of the centres in England and Wales. By far the highest incidence of knee disarticulation amputations were presented at Derby (37 cases), 24 per cent compared to the UK average of 2 per cent.

Table 9 Level of amputation[1] as a percentage of total number; by prosthetic service centre : 1998/99

Prosthetic Service Centre	Level of amputation									Total no. (=100%)
	Hemi pelve-tomy	Hip disartic-ulation	Trans-femoral	Knee disartic-ulation	Trans-tibial	Ankle disartic-ulation	Partial foot	Digits	Double lower amp.	
	Row percentages [2]									
Aberdeen	0	0	17	0	83	0	0	0	0	46
Belfast	0	0	36	0	54	0	5	0	5	97
Birmingham	0	0	37	1	49	1	0	4	7	336
Bristol	0	0	34	3	59	0	0	0	11	116
Cambridge	0	1	23	1	68	0	2	1	4	120
Cardiff	0	0	39	1	49	1	0	1	9	137
Carlisle	9	0	52	3	18	0	0	0	18	33
Cleveland	0	0	40	2	53	0	0	2	3	130
Derby	0	0	27	24	49	0	0	0	0	37
Dundee	0	1	34	0	53	2	0	0	10	94
Edinburgh	0	0	40	1	52	1	0	0	6	100
Exeter	0	0	31	5	58	2	1	0	3	150
Gillingham	0	0	52	3	37	0	0	3	6	120
Glasgow (Strathclyde University)	0	0	19	0	57	10	0	0	14	21
Glasgow (Westmarc)	0	0	21	1	76	0	0	0	2	129
Hull	0	0	29	3	62	0	1	1	3	69
Inverness	0	3	39	0	55	0	0	0	3	31
Isle of Wight	0	0	40	0	40	20	0	0	0	5
Leeds	0	0	42	0	51	0	1	1	5	139
Leicester	0	0	34	0	59	2	0	2	2	44
Liverpool (Fazackerley)	0	1	41	0	58	1	0	0	0	154
London (Charing Cross)	2	0	33	0	55	2	0	2	8	66
London (Harold Wood)	0	0	43	2	47	1	1	1	28	265
London (Kings)	0	1	44	0	48	0	3	0	5	110
London(Roehampton)	0	0	47	1	49	1	0	0	2	159
London (Stanmore)	1	2	37	0	52	1	1	-	6	142
Luton & Dunstable	0	2	43	1	49	0	0	0	4	92
Manchester	0	1	44	2	47	0	0	1	5	261
Newcastle	1	1	39	1	57	0	0	2	0	183
Northampton	1	0	43	3	47	0	0	3	4	75
Norwich	2	3	29	1	60	0	2	0	4	108
Nottingham	0	1	32	1	61	0	0	0	5	158
Oxford	0	1	38	5	47	1	0	2	8	133
Plymouth	0	0	36	1	61	0	1	0	1	89
Portsmouth	1	1	24	10	60	0	0	0	3	144
Preston	0	0	54	0	41	0	1	0	4	140
Ringwood	0	0	36	3	57	0	0	0	4	70
Sheffield	0	1	45	3	47	1	2	0	0	245
Stoke	0	0	38	3	49	1	0	1	8	143
Sussex	0	2	45	0	51	0	1	0	1	106
Swansea	0	0	23	2	66	0	5	0	5	65
Wirral	0	1	48	3	44	2	3	0	1	119
Wolverhampton	0	0	40	2	54	1	0	0	3	118
Wrexham	0	0	38	2	54	0	0	0	7	61
All centres:%	**0**	**0**	**38**	**2**	**53**	**1**	**1**	**1**	**4**	
All centres: total no.	**12**	**25**	**1 973**	**100**	**2 721**	**32**	**35**	**42**	**220**	**5 160**

1 Excludes congenital absence cases.
2 Due to rounding row percentages may not add up to 100%

Level of amputation by gender

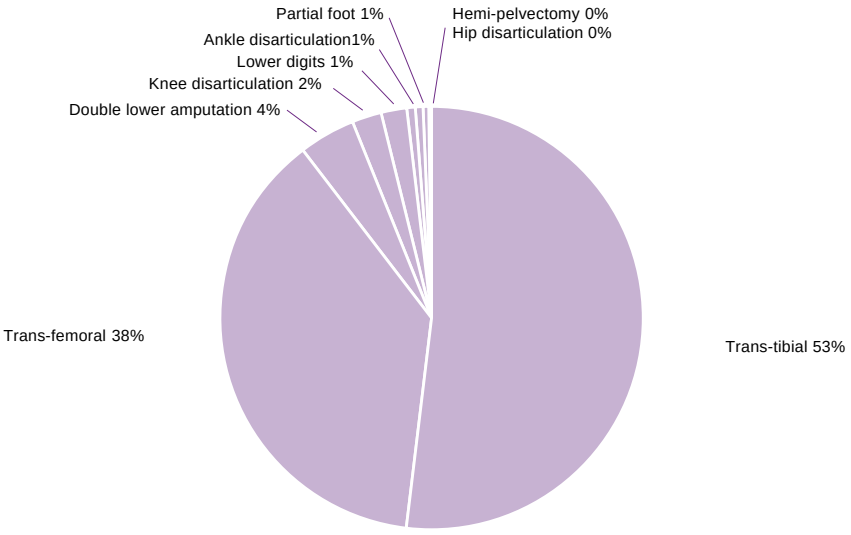
Two thirds of lower limb amputees referred in 1998/99 were male (67%). Just over half of all amputations in males were at the trans-tibial level (54%) with a slightly lower proportion in females (50%); the great majority of the remaining amputations were at the trans-femoral level (37.1% males and 40.6% females). It is clear that the incidence of trans-femoral amputation increases with age in women.

Table 10 Level of amputation[1]; by gender and age : 1998/99

	Males							Females							Not Specified	Total
Level of amputation	less than 16	16-54	55-64	65-74	75 and over	No age given	**All ages**	less than 16	16-54	55-64	65-74	75 and over	No age given	**All ages**		
Hemi-pelvectomy	-	8	1	-	-	-	**9**	-	1	1	1	-	-	**3**	-	**12**
Hip disarticulation	2	10	2	2	1	-	**17**	-	5	3	-	-	-	**8**	-	**25**
Trans-femoral	6	241	237	427	366	6	**1 283**	7	82	79	189	321	1	**679**	11	**1 973**
Knee disarticulation	-	13	13	16	16	1	**59**	1	9	3	7	20	1	**41**	-	**100**
Trans-tibial	23	393	374	536	528	10	**1 864**	5	150	105	239	338	7	**844**	13	**2 721**
Ankle disarticulation	5	17	-	4	2	-	**28**	-	1	1	-	2	-	**4**	-	**32**
Partial foot	2	8	3	5	1	-	**19**	-	8	-	4	3	-	**15**	1	**35**
Lower digits	1	12	2	5	8	-	**28**	-	7	2	1	4	-	**14**	-	**42**
Double lower amputation	5	33	32	47	36	-	**153**	5	17	10	20	13	1	**66**	1	**220**
All lower limb amputations[1]	**44**	**735**	**664**	**1 042**	**958**	**17**	**3 460**	**18**	**280**	**204**	**461**	**701**	**10**	**1 674**	**26**	**5 160**

1 Excludes cases of congenital absence.

Chart 5 Level of amputation : 1998/99



Cause and level

The preponderance of dysvascularity as a cause of amputation is clearly evident (56% of all lower limb amputations). It is important to note the reported incidence of lower limb amputation arising from dysvascularity has increased from 49 per cent in 1997 / 98 to 56 per cent in 1998 / 99. In contrast the incidence of amputation purely from diabetes, at 692 cases, shows a small increase over last year. The most common level of amputation among neoplasia cases is at a trans-femoral level, accounting for around 50 per cent.

Although the aim is to collect more detailed information on the cause of amputation, only the most basic level of detail was submitted in 1998 / 99 accounting for just under 40 per cent of dysvascularity cases, and in half of trauma cases.

Table 11 Level of amputation [1] ; by cause of amputation : 1998/99

Cause of amputation	Level of amputation									Total
	Hemi pelve-tomy	Hip disartic-ulation	Trans-femoral	Knee disartic-ulation	Trans-tibial	Ankle disartic-ulation	Partial foot	Digits	Double lower amp.	
Trauma	**-**	**7**	**114**	**12**	**232**	**10**	**6**	**7**	**12**	**400**
No Additional Detail	-	5	55	4	114	6	5	4	4	197
Mechanical	-	1	20	3	54	3	-	1	4	86
Electrical	-	1	39	5	62	1	1	1	3	113
Thermal	-	-	-	-	-	-	-	-	1	1
Chemical	-	-	-	-	2	-	-	1	-	3
Dysvascularity	**1**	**5**	**1 127**	**56**	**1 533**	**11**	**17**	**7**	**108**	**2 865**
No Additional Detail	-	3	440	24	605	1	10	1	29	1 113
Diabetes Mellitus	-	-	181	9	445	8	4	2	43	692
Non-diabetic Arteriosclerosis	-	2	371	19	367	-	2	2	23	786
Embolism	-	-	24	-	11	-	-	-	2	37
Vasospatic Conditions	-	-	7	-	8	-	-	-	-	15
Endovascular Chemical Trauma	1	-	-	-	3	-	1	-	-	5
Buergers Disease	-	-	3	-	7	-	-	-	1	11
Iatrogenic Vascular Trauma	-	-	-	-	-	-	-	-	1	1
Arteritis	-	-	4	-	6	1	-	1	1	13
Venous Disease	-	-	97	4	81	1	-	1	8	192
Infection	**1**	**1**	**65**	**6**	**86**	**1**	**3**	**3**	**6**	**172**
No Additional Detail	-	-	21	4	24	1	2	2	-	54
Acute	-	-	18	1	18	-	1	-	3	41
Chronic	1	1	26	1	44	-	-	1	3	77
Neurological Disorder	**-**	**-**	**23**	**-**	**77**	**1**	**-**	**2**	**7**	**110**
No Additional Detail	-	-	14	-	28	-	-	-	2	44
Diabetic Neuropathy	-	-	6	-	34	-	-	2	3	45
Infective	-	-	2	-	4	-	-	-	2	8
Spina Bifida	-	-	-	-	9	1	-	-	-	10
Poliomyelitis	-	-	-	-	1	-	-	-	-	1
Peripheral Nerve Injury	-	-	1	-	1	-	-	-	-	2
Neoplasia	**5**	**9**	**56**	**1**	**33**	**-**	**2**	**3**	**1**	**110**
No Additional Detail	1	3	18	1	11	-	1	1	-	36
Benign	-	-	1	-	1	-	-	-	-	2
Malignant - Primary	4	5	37	-	21	-	1	2	1	71
Malignant - Secondary	-	1	-	-	-	-	-	-	-	1
Other	**3**	**1**	**165**	**5**	**204**	**4**	**2**	**3**	**26**	**413**
No Cause Provided	**2**	**2**	**423**	**20**	**556**	**5**	**5**	**17**	**60**	**1 090**
All causes [1]	**12**	**25**	**1 973**	**100**	**2 721**	**32**	**35**	**42**	**220**	**5 160**

1 Excludes congenital absence cases.

Cause and age

The majority of amputations as a result of trauma occur in the relatively young (<54, 61%). The figures demonstrate clearly the strong association between dysvascularity as a cause of limb loss, and increasing age.

It is worth noting that the cause of amputation was omitted in around one fifth of cases (1090 / 5160). Although a slight improvement on last year, there is still considerable variation in the completeness in recording aetiology across centres.

The information in the table should be analysed with care and any conclusions drawn from it should reflect this.

Table 12 Cause of amputation [1] ; by age : 1998/99

Cause of amputation	Age Group						Total
	less than 16	16-54	55-64	65-74	75 and over	No age given	
Trauma	**12**	**233**	**50**	**48**	**57**	**-**	**400**
No Additional Detail	8	110	22	27	30	-	197
Mechanical	-	59	9	8	10	-	86
Electrical	3	63	18	12	17	-	113
Thermal	1	-	-	-	-	-	1
Chemical	-	1	1	1	-	-	3
Dysvascularity	**5**	**329**	**520**	**949**	**1 042**	**20**	**2 865**
No Additional Detail	3	130	190	368	415	7	1 113
Diabetes Mellitus	-	94	141	237	209	11	692
Non-diabetic Arteriosclerosis	-	65	137	266	317	1	786
Embolism	-	4	7	11	15	-	37
Vasospatic Conditions	-	4	3	4	4	-	15
Endovascular Chemical Trauma	-	4	1	-	-	-	5
Buergers Disease	-	8	-	2	1	-	11
Iatrogenic Vascular Trauma	-	-	1	-	-	-	1
Arteritis	-	1	3	4	5	-	13
Venous Disease	2	19	37	57	76	1	192
Infection	**9**	**39**	**23**	**37**	**62**	**2**	**172**
No Additional Detail	5	11	5	15	16	2	54
Acute	3	6	3	8	21	-	41
Chronic	1	22	15	14	25	-	77
Neurological Disorder	**-**	**27**	**19**	**31**	**31**	**2**	**110**
No Additional Detail	-	6	9	13	15	1	44
Diabetic Neuropathy	-	10	9	13	13	-	45
Infective	-	4	1	1	1	1	8
Spina Bifida	-	7	-	2	1	-	10
Poliomyelitis	-	-	-	1	-	-	1
Peripheral Nerve Injury	-	-	-	1	1	-	2
Neoplasia	**9**	**48**	**14**	**13**	**25**	**1**	**110**
No Additional Detail	3	15	3	5	9	1	36
Benign	-	1	-	1	-	-	2
Malignant - Primary	5	32	11	7	16	-	71
Malignant- Secondary	1	-	-	-	-	-	1
Other	**15**	**110**	**68**	**112**	**107**	**1**	**413**
No Cause Provided	**12**	**229**	**175**	**315**	**336**	**23**	**1 090**
All causes [1]	**62**	**1 015**	**869**	**1 505**	**1 660**	**49**	**5 160**

1 Excludes congenital absence cases.

- Not applicable.
.. Not available

Chart 6a Cause of amputation : 1998/99 *including* 'No cause provided'

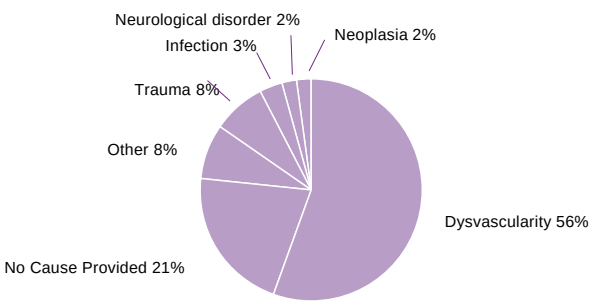
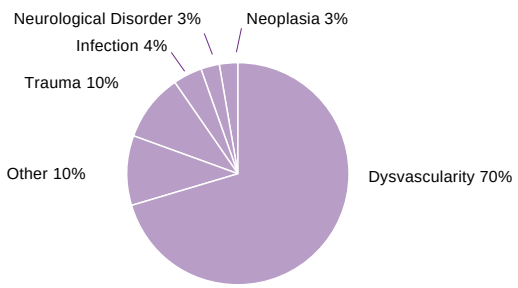


Chart 6b Cause of amputation : 1998/99 *excluding* 'No cause provided'



UK Prosthetic Services

MISCELLANEOUS

Multiple amputations

A cross site presentation is defined as the synchronous presentation of upper and lower limb deficiencies. The numbers are small but this subgroup is important to identify since the care costs for each case can be substantial.

Table 13 Multiple amputation ; by prosthetic service centre, cause of amputation [1], gender and age : 1998/99

Prosthetic Service Centre	Cause of amputation	Males					Females			Total
		less than 16	16 - 54	55-64	No age given	Total	less than 16	55-64	Total	
Cross site amputation		**-**	**3**	**1**	**-**	**4**	**-**	**2**	**2**	**6**
Birmingham	No Cause Provided	-	-	1	-	**1**	-	-	**-**	**1**
Carlisle	Trauma - No Additional Detail	-	1	-	-	**1**	-	-	**-**	**1**
Gillingham	Dysvascularity - Diabetes Mellitus	-	-	-	-	**-**	-	1	**1**	**1**
Oxford	Total	-	1	-	-	**1**	-	1	**1**	**2**
	Trauma - Mechanical	-	-	-	-	**-**	-	1	**1**	**1**
	Dysvascularity - Arteritis	-	1	-	-	**1**	-	-	**-**	**1**
Wirral	Trauma - No Additional Detail	-	1	-	-	**1**	-	-	**-**	**1**
Triple amputation		**1**	**1**	**1**	**-**	**3**	**-**	**1**	**1**	**4**
Cambridge	Other - No Additional Detail	-	-	1	-	**1**	-	-	**-**	**1**
London (Roehampton)	Trauma - Mechanical	-	1	-	-	**1**	-	-	**-**	**1**
Manchester	Infection - No Additional Detail	1	-	-	-	**1**	-	-	**-**	**1**
Portsmouth	Infection - Acute	-	-	-	-	**-**	-	1	**1**	**1**
Quadruple amputation		**1**	**-**	**-**	**1**	**2**	**1**	**1**	**2**	**4**
Cambridge	Other - No Additional Detail	-	-	-	-	**-**	-	1	**1**	**1**
Dundee	Infection - Acute	-	-	-	1	**1**	-	-	**-**	**1**
London (Stanmore)	Infection - Chronic	-	-	-	-	**-**	1	-	**1**	**1**
Ringwood	No Cause Provided	1	-	-	-	**1**	-	-	**-**	**1**
Total		**2**	**4**	**2**	**1**	**9**	**1**	**4**	**5**	**14**

1 Excludes congenital absence cases.

Congenital absence

In 1998 / 99 the number of congenital absence cases has risen by almost 17 per cent from 1997 / 98. Among patients with an upper limb congenital absence there were more women than men referred.

Although patients with congenital limb loss may typically be referred at a young age a sizable number (85 / 195, 43.6% for all levels) presented after the age of 15. The majority of cases of congenital lower limb loss are reported after the age of 16, whereas for upper limb loss the majority are reported before this age.

Table 14 Congenital absence ; by prosthetic service centre, gender and age : 1998/99

	Males							Females					Total
Prosthetic Service Centre	less than 16	16-54	55-64	65-74	75 and over	No age given	**All ages**	less than 16	16-54	55-64	75 and over	**All ages**	
Upper limb													
Belfast	2	-	-	-	-	-	**2**	-	1	-	1	**2**	**4**
Birmingham	1	-	-	-	-	-	**1**	1	1	-	-	**2**	**3**
Bristol	1	-	-	-	-	-	**1**	2	2	-	-	**4**	**5**
Cambridge	-	2	-	-	-	-	**2**	-	-	-	-	**-**	**2**
Cardiff	1	-	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Derby	3	-	2	-	-	-	**5**	-	-	-	-	**-**	**5**
Exeter	2	-	-	-	-	-	**2**	-	-	-	-	**-**	**2**
Gillingham	-	-	-	-	-	-	**-**	-	1	-	-	**1**	**1**
Glasgow (Westmarc)	1	-	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Leeds	3	2	-	1	-	-	**6**	2	-	-	-	**2**	**8**
Leicester	1	-	-	-	-	-	**1**	4	-	-	-	**4**	**5**
Liverpool (Fazackerley)	-	1	-	-	-	-	**1**	-	1	-	-	**1**	**2**
London (Harold Wood)	3	-	-	-	-	-	**3**	3	2	-	-	**5**	**8**
London (Kings)	-	1	1	-	-	-	**2**	4	-	-	-	**4**	**6**
London (Roehampton)	2	1	-	-	-	-	**3**	-	-	1	-	**1**	**4**
London (Stanmore)	3	1	1	-	-	-	**5**	4	3	-	-	**7**	**12**
Manchester	1	-	-	-	-	-	**1**	2	2	-	-	**4**	**5**
Newcastle	-	-	-	-	-	-	**-**	4	1	-	-	**5**	**5**
Norwich	2	-	-	-	1	-	**3**	2	1	-	-	**3**	**6**
Nottingham	3	1	-	-	-	-	**4**	3	-	-	-	**3**	**7**
Oxford	2	1	-	-	-	-	**3**	3	-	-	-	**3**	**6**
Ringwood	-	-	-	-	-	-	**-**	-	1	-	-	**1**	**1**
Sheffield	1	-	-	-	-	-	**1**	2	-	-	-	**2**	**3**
Stoke	1	-	-	-	-	-	**1**	1	-	-	-	**1**	**2**
Swansea	-	-	-	-	-	-	**-**	1	-	-	-	**1**	**1**
Wirral	1	1	-	-	-	-	**2**	-	-	-	-	**-**	**2**
Total	**34**	**11**	**4**	**1**	**1**	**-**	**51**	**38**	**16**	**1**	**1**	**56**	**107**
Lower limb													
Aberdeen	-	1	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Belfast	1	-	-	-	-	-	**1**	1	1	-	-	**2**	**3**
Birmingham	1	-	-	-	-	-	**1**	-	2	-	-	**2**	**3**
Bristol	1	-	-	-	-	-	**1**	-	1	-	-	**1**	**2**
Cambridge	-	1	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Carlisle	1	-	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Derby	2	-	-	-	-	-	**2**	-	3	-	-	**3**	**5**
Edinburgh	-	-	-	-	-	-	**-**	1	-	-	-	**1**	**1**
Gillingham	-	-	-	-	-	-	**-**	1	1	-	-	**2**	**2**
Glasgow (Strathclyde University)	1	-	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Inverness	1	-	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Leeds	-	3	-	-	-	-	**3**	-	1	-	-	**1**	**4**
Leicester	1	-	-	-	-	-	**1**	-	2	-	-	**2**	**3**
London (Charing Cross)	-	1	-	-	-	-	**1**	-	-	-	-	**-**	**1**
London (Harold Wood)	2	-	-	-	-	-	**2**	1	-	-	-	**1**	**3**
London (Roehampton)	2	5	-	-	-	-	**7**	-	-	2	-	**2**	**9**
London (Stanmore)	3	4	-	-	-	-	**7**	2	1	-	-	**3**	**10**
Luton & Dunstable	1	-	-	-	-	-	**1**	1	1	-	-	**2**	**3**
Manchester	-	2	-	-	-	-	**2**	1	1	-	-	**2**	**4**
Newcastle	1	2	-	-	-	-	**3**	2	2	-	-	**4**	**7**
Northampton	-	1	-	-	-	-	**1**	-	-	-	1	**1**	**2**
Norwich	-	-	-	-	-	-	**-**	1	-	-	-	**1**	**1**
Nottingham	-	-	-	-	-	-	**-**	-	1	-	-	**1**	**1**
Oxford	1	-	1	-	-	-	**2**	-	1	-	-	**1**	**3**
Plymouth	2	2	1	-	-	1	**6**	2	1	-	-	**3**	**9**
Portsmouth	-	-	-	-	-	-	**-**	1	-	-	-	**1**	**1**
Sheffield	-	-	-	-	-	-	**-**	2	2	-	-	**4**	**4**
Wolverhampton	-	1	-	-	-	-	**1**	-	-	-	-	**-**	**1**
Wrexham	-	-	-	-	-	-	**-**	1	-	-	-	**1**	**1**
Total	**21**	**23**	**2**	**-**	**-**	**1**	**47**	**17**	**21**	**2**	**1**	**41**	**88**
All congenital absence	**55**	**34**	**6**	**1**	**1**	**1**	**98**	**55**	**37**	**3**	**2**	**97**	**195**

No level of amputation

This table identifies some of the problems with data quality. There has been a marked improvement in the recording of level of amputation since last year. In 1998/99 thiry-nine cases did not record level of amputation compared to 361 in 1997/98.

It is clear that the data should be interpreted with great care.

Table 15 Cases where no level of amputation was provided ; by prosthetic service centre, gender and age : 1998/99

	Males						Females						Not specified	Total
	less than 16	16-54	55-64	65-74	75 and over	**All ages**	less than 16	16-54	55-64	65-74	75 and over	**All ages**		
Aberdeen	-	-	-	-	-	**-**	-	-	1	-	-	**1**	-	**1**
No Cause Provided	-	-	-	-	-	**-**	-	-	1	-	-	**1**	-	**1**
Birmingham	1	1	-	-	-	**2**	1	-	-	-	-	**1**	-	**3**
No Cause Provided	1	1	-	-	-	**2**	1	-	-	-	-	**1**	-	**3**
Bristol	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Cleveland	-	1	-	-	-	**1**	-	1	-	-	-	**1**	-	**2**
No Cause Provided	-	1	-	-	-	**1**	-	1	-	-	-	**1**	-	**2**
Derby	-	5	2	2	1	**10**	-	-	2	-	-	**2**	1	**13**
Dysvascularity - No Additional Detail	-	-	-	1	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	-	5	2	1	1	**9**	-	-	2	-	-	**2**	1	**12**
Exeter	-	-	-	-	-	**-**	-	2	-	1	-	**3**	-	**3**
No Cause Provided	-	-	-	-	-	**-**	-	2	-	1	-	**3**	-	**3**
Gillingham	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Trauma - No Additional Detail	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Glasgow (Westmarc)	-	-	-	1	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	-	-	-	1	-	**1**	-	-	-	-	-	**-**	-	**1**
Inverness	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
London (Charing Cross)	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
London (Kings)	-	-	1	-	-	**1**	-	1	-	-	-	**1**	-	**2**
Trauma - Electrical	-	-	1	-	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	-	-	-	-	-	**-**	-	1	-	-	-	**1**	-	**1**
London (Roehampton)	-	-	-	-	-	**-**	1	-	-	-	-	**1**	-	**1**
No Cause Provided	-	-	-	-	-	**-**	1	-	-	-	-	**1**	-	**1**
London (Stanmore)	-	-	-	-	-	**-**	1	-	-	-	-	**1**	-	**1**
No Cause Provided	-	-	-	-	-	**-**	1	-	-	-	-	**1**	-	**1**
Luton & Dunstable	1	-	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
No Cause Provided	1	-	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Newcastle	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Trauma - No Additional Detail	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Portsmouth	-	1	-	-	-	**1**	-	1	-	-	-	**1**	-	**2**
Other - No Additional Detail	-	-	-	-	-	**-**	-	1	-	-	-	**1**	-	**1**
No Cause Provided	-	1	-	-	-	**1**	-	-	-	-	-	**-**	-	**1**
Ringwood	2	-	-	-	-	**2**	2	-	-	-	-	**2**	-	**4**
No Cause Provided	2	-	-	-	-	2	2	-	-	-	-	**2**	-	**4**
Total	**4**	**13**	**3**	**3**	**1**	**24**	**5**	**5**	**3**	**1**	**-**	**14**	**1**	**39**

1 Excludes congenital absence cases.

Time interval

The table below illustrates the variation from centre to centre in the time interval between date of amputation and referral. The variation is mainly accounted for by differences in surgical and physiotherapy practice and in the operational policies of centres. This information has been presented both including (table 16a) and excluding (table 16b) congenital absence cases. This has been necessary as in congenital absence cases the date of birth is often recorded as the date of referral.

Table 16a Time interval between date of amputation and referral ; by prosthetic service centre : 1998/99 (cumulative percentage)

Inc. congenital absence

Prosthetic Service Centre	Time interval [1] 2 weeks or less	4 weeks or less	8 weeks or less	12 weeks or less	16 weeks or less	Over 16 weeks	Total no. (=100%)	No Wait Calculated	Total
	Cumulative percentages [2]								
Aberdeen	71.4	79.6	91.8	93.9	98.0	100.0	49	7	56
Belfast	38.2	52.7	65.5	71.8	75.5	100.0	110	-	110
Birmingham	59.3	69.0	77.9	81.7	84.6	100.0	371	-	371
Bristol	37.3	58.7	70.6	78.6	81.0	100.0	126	1	127
Cambridge	51.9	71.9	76.3	77.8	82.2	100.0	135	-	135
Cardiff	75.2	87.2	93.6	95.7	96.5	100.0	141	-	141
Carlisle	70.3	78.4	83.8	86.5	86.5	100.0	37	-	37
Cleveland	46.6	60.9	75.2	77.4	77.4	100.0	133	-	133
Derby	-	8.3	10.4	10.4	20.8	100.0	48	12	60
Dundee	57.1	71.4	81.3	85.7	87.9	100.0	91	4	95
Edinburgh	34.7	65.3	83.7	88.8	91.8	100.0	98	5	103
Exeter	70.7	79.0	87.9	91.7	91.7	100.0	157	3	160
Gillingham	51.9	63.9	71.4	77.4	79.7	100.0	133	-	133
Glasgow (Strathclyde University)	72.7	81.8	90.9	90.9	90.9	100.0	22	2	24
Glasgow (Westmarc)	51.2	72.1	83.7	87.6	89.9	100.0	129	5	134
Hull	50.7	64.8	76.1	80.3	83.1	100.0	71	-	71
Inverness	53.1	68.8	90.6	93.8	96.9	100.0	32	1	33
Isle of Wight	20.0	40.0	60.0	80.0	100.0	100.0	5	-	5
Leeds	5.0	14.3	60.2	73.3	80.1	100.0	161	-	161
Leicester	1.8	5.5	9.1	21.8	32.7	100.0	55	-	55
Liverpool (Fazackerley)	44.9	67.1	81.0	86.1	88.6	100.0	158	-	158
London (Charing Cross)	7.4	29.4	48.5	58.8	63.2	100.0	68	-	68
London (Harold Wood)	47.7	65.0	76.7	81.3	86.2	100.0	283	-	283
London (Kings)	42.4	57.6	69.6	75.2	76.0	100.0	125	-	125
London (Roehampton)	6.1	21.1	40.0	51.7	58.3	100.0	180	-	180
London (Stanmore)	30.6	46.4	56.2	61.2	65.6	100.0	183	-	183
Luton & Dunstable	45.8	65.6	81.3	85.4	86.5	100.0	96	-	96
Manchester	46.7	68.3	81.9	86.1	87.3	100.0	259	26	285
Newcastle	28.0	51.7	70.6	78.2	84.8	100.0	211	-	211
Northampton	3.8	17.7	58.2	74.7	78.5	100.0	79	-	79
Norwich	18.2	37.2	57.0	67.8	76.9	100.0	121	-	121
Nottingham	40.6	53.9	71.1	75.6	78.3	100.0	180	-	180
Oxford	34.6	56.4	69.9	75.6	77.6	100.0	156	-	156
Plymouth	84.4	95.8	99.0	100.0	100.0	100.0	96	2	98
Portsmouth	37.4	61.3	73.5	79.4	79.4	100.0	155	-	155
Preston	..	..	..	..	..	..	-	157	157
Ringwood	55.0	61.3	71.3	71.3	73.8	100.0	80	-	80
Sheffield	63.2	75.1	82.5	84.4	87.4	100.0	269	-	269
Stoke	52.4	65.3	77.6	78.9	81.0	100.0	147	-	147
Sussex	8.2	30.1	64.4	83.6	87.7	100.0	73	37	110
Swansea	83.1	93.0	98.6	98.6	98.6	100.0	71	-	71
Wirral	76.6	83.9	87.9	89.5	91.1	100.0	124	-	124
Wolverhampton	16.0	35.3	59.7	72.3	78.2	100.0	119	-	119
Wrexham	62.1	77.3	83.3	93.9	95.5	100.0	66	-	66
All centres : %	**44.0**	**59.7**	**73.2**	**78.7**	**81.9**	**100.0**			
All centres : total no.	**2 376**	**847**	**733**	**296**	**172**	**979**	**5 403**	**262**	**5 665**

1 2 weeks or less equals 0-14 days; 4 weeks or less equals 15-28 days; etc..
2 The cumulative percentage has been calculated excluding cases where no date of amputation has been supplied.

Chart 7a Percentage (cumulative) of time taken from amputation to date of referral : 1998/99

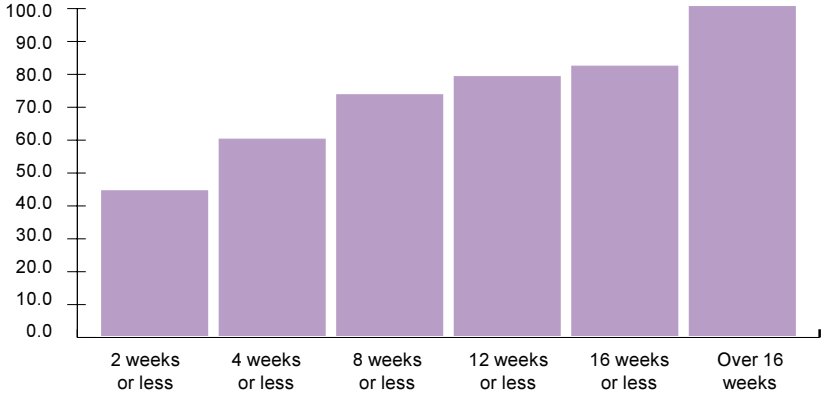


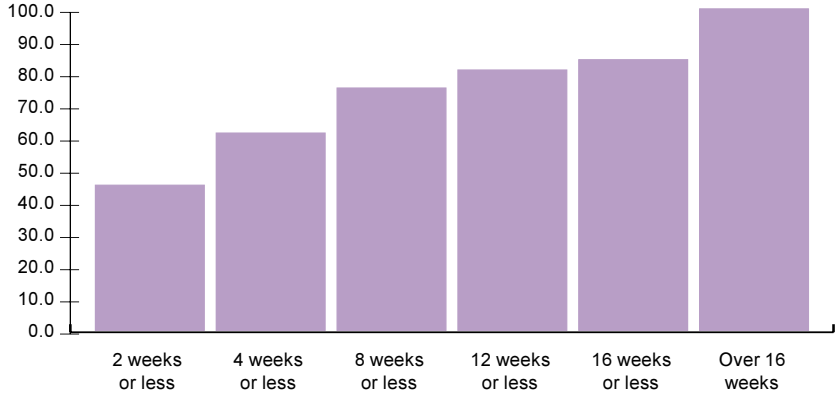
Table 16b Time interval between date of amputation and referral ; by prosthetic service centre : 1998/99 (cumulative percentage)

Excl. congenital absence

Prosthetic Service Centre	Time interval [1] 2 weeks or less	4 weeks or less	8 weeks or less	12 weeks or less	16 weeks or less	Over 16 weeks	Total no. (=100%)	No Wait Calculated	Total
	Cumulative percentages [2]								
Aberdeen	71.4	79.6	91.8	93.9	98.0	100.0	49	6	55
Belfast	40.8	56.3	69.9	76.7	80.6	100.0	103	-	103
Birmingham	60.3	70.1	79.2	83.0	86.0	100.0	365	-	365
Bristol	38.3	60.8	73.3	81.7	84.2	100.0	120	-	120
Cambridge	53.0	73.5	78.0	79.5	84.1	100.0	132	-	132
Cardiff	75.7	87.9	94.3	96.4	97.1	100.0	140	-	140
Carlisle	72.2	80.6	86.1	88.9	88.9	100.0	36	-	36
Cleveland	46.6	60.9	75.2	77.4	77.4	100.0	133	-	133
Derby	-	10.5	13.2	13.2	26.3	100.0	38	12	50
Dundee	57.1	71.4	81.3	85.7	87.9	100.0	91	4	95
Edinburgh	34.7	65.3	83.7	88.8	91.8	100.0	98	4	102
Exeter	71.6	80.0	89.0	92.9	92.9	100.0	155	3	158
Gillingham	53.1	65.4	73.1	79.2	81.5	100.0	130	-	130
Glasgow (Strathclyde University)	71.4	81.0	90.5	90.5	90.5	100.0	21	2	23
Glasgow (Westmarc)	51.6	72.7	84.4	88.3	90.6	100.0	128	5	133
Hull	50.7	64.8	76.1	80.3	83.1	100.0	71	-	71
Inverness	51.6	67.7	90.3	93.5	96.8	100.0	31	1	32
Isle of Wight	20.0	40.0	60.0	80.0	100.0	100.0	5	-	5
Leeds	5.4	15.4	65.1	79.2	86.6	100.0	149	-	149
Leicester	-	4.3	8.5	23.4	36.2	100.0	47	-	47
Liverpool (Fazackerley)	45.5	67.9	82.1	87.2	89.7	100.0	156	-	156
London (Charing Cross)	7.5	29.9	49.3	59.7	64.2	100.0	67	-	67
London (Harold Wood)	48.5	66.5	78.7	83.1	87.5	100.0	272	-	272
London (Kings)	44.5	60.5	73.1	78.2	79.0	100.0	119	-	119
London (Roehampton)	6.6	22.8	43.1	55.1	61.7	100.0	167	-	167
London (Stanmore)	34.8	51.6	62.7	68.3	72.7	100.0	161	-	161
Luton & Dunstable	47.3	67.7	83.9	88.2	89.2	100.0	93	-	93
Manchester	48.0	70.2	83.7	88.1	89.3	100.0	252	24	276
Newcastle	28.6	53.8	73.9	81.9	88.9	100.0	199	-	199
Northampton	3.9	18.2	59.7	76.6	80.5	100.0	77	-	77
Norwich	19.3	39.5	59.6	71.1	80.7	100.0	114	-	114
Nottingham	42.4	55.8	73.8	78.5	81.4	100.0	172	-	172
Oxford	36.7	59.9	72.1	77.6	79.6	100.0	147	-	147
Plymouth	83.1	95.5	98.9	100.0	100.0	100.0	89	-	89
Portsmouth	37.7	61.7	74.0	79.9	79.9	100.0	154	-	154
Preston	..	..	..	..	..	..	-	157	157
Ringwood	55.7	62.0	72.2	72.2	74.7	100.0	79	-	79
Sheffield	64.5	76.7	84.4	86.3	88.9	100.0	262	-	262
Stoke	53.1	66.2	78.6	80.0	82.1	100.0	145	-	145
Sussex	8.2	30.1	64.4	83.6	87.7	100.0	73	37	110
Swansea	82.9	92.9	98.6	98.6	98.6	100.0	70	-	70
Wirral	77.9	85.2	89.3	91.0	92.6	100.0	122	-	122
Wolverhampton	16.1	35.6	60.2	72.9	78.8	100.0	118	-	118
Wrexham	61.5	76.9	83.1	93.8	95.4	100.0	65	-	65
All centres : %	**45.2**	**61.4**	**75.3**	**80.9**	**84.1**	**100.0**			
All centres : total no.	**2 357**	**844**	**728**	**292**	**167**	**827**	**5 215**	**255**	**5 470**

1 2 weeks or less equals 0-14 days; 4 weeks or less equals 15-28 days; etc.
2 The cumulative percentage has been calculated excluding cases where no date of amputation has been supplied.

Chart 7b Percentage (cumulative) of time taken from amputation to date of referral : 1998/99



Ethnic origin

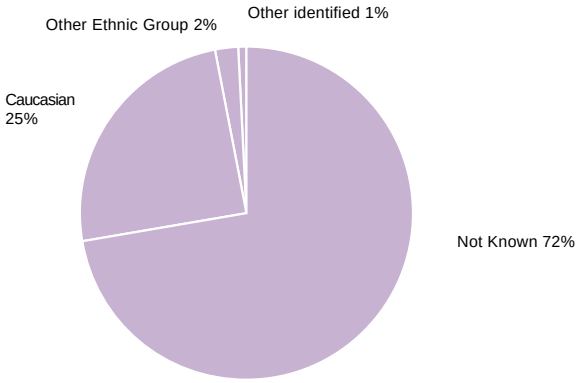
This shows the ethnic mix of new patients attending centres after limb loss. Submission of completed information on ethnic origin has again been disappointing. However, in some cases we accept that inability to provide the data results from local trust policy. There is a clear need to improve the quality of this data as accurate data is necessary to ensure that amputees from ethnic minorities have access to appropriate services and prostheses.

Table 17 Ethnic origin [1,2] ; by prosthetic service centre : 1998/99

Prosthetic Service Centre	Ethnic Origin										Total
	Caucasian	Black Caribbean	Black African	Black other	Indian	Pakistani	Bangl-adeshi	Chinese	Other Ethnic Group	Not Known	
Aberdeen	-	-	-	-	-	-	-	-	-	56	**56**
Belfast	-	-	-	-	-	-	-	-	-	110	**110**
Birmingham	-	-	-	-	-	-	-	-	-	371	**371**
Bristol	96	-	-	-	-	-	-	1	2	28	**127**
Cambridge	-	-	-	-	-	-	-	-	-	135	**135**
Cardiff	141	-	-	-	-	-	-	-	-	-	**141**
Carlisle	-	-	-	-	-	-	-	-	-	37	**37**
Cleveland	-	-	-	-	-	-	-	-	-	133	**133**
Derby	58	-	-	-	-	-	-	-	-	2	**60**
Dundee	-	-	-	-	-	-	-	-	-	95	**95**
Edinburgh	-	-	-	-	-	-	-	-	-	103	**103**
Exeter	154	1	-	-	-	-	-	-	1	4	**160**
Gillingham	-	-	-	-	-	-	-	-	-	133	**133**
Glasgow (Strathclyde University)	-	-	-	-	-	-	-	-	-	24	**24**
Glasgow (Westmarc)	-	-	-	-	-	-	-	-	-	134	**134**
Hull	71	-	-	-	-	-	-	-	-	-	**71**
Inverness	-	-	-	-	-	-	-	-	-	33	**33**
Isle of Wight	5	-	-	-	-	-	-	-	-	-	**5**
Leeds	-	-	-	-	-	-	-	-	-	161	**161**
Leicester	-	-	-	-	-	-	-	-	-	55	**55**
Liverpool (Fazackerley)	19	-	-	-	-	-	-	-	-	139	**158**
London (Charing Cross)	-	-	-	-	-	-	-	-	-	68	**68**
London (Harold Wood)	180	15	5	1	2	2	1	-	74	3	**283**
London (Kings)	63	4	5	-	1	1	-	1	50	-	**125**
London (Roehampton)	-	-	-	-	-	-	-	-	-	180	**180**
London (Stanmore)	-	-	-	-	1	1	1	-	-	180	**183**
Luton & Dunstable	-	-	-	-	-	-	-	-	-	96	**96**
Manchester	-	-	-	-	-	-	-	-	-	285	**285**
Newcastle	199	-	-	-	2	-	-	-	-	10	**211**
Northampton	-	-	-	-	-	-	-	-	-	79	**79**
Norwich	-	-	-	-	-	-	-	-	-	121	**121**
Nottingham	-	-	-	-	-	-	-	-	-	180	**180**
Oxford	-	-	-	-	-	-	-	-	-	156	**156**
Plymouth	98	-	-	-	-	-	-	-	-	-	**98**
Portsmouth	32	-	-	-	-	-	-	-	-	123	**155**
Preston	-	-	-	-	-	-	-	-	-	157	**157**
Ringwood	-	-	-	-	-	-	-	-	-	80	**80**
Sheffield	1	-	-	-	-	-	-	-	-	268	**269**
Stoke	-	-	-	-	-	-	-	-	-	147	**147**
Sussex	89	-	-	-	-	-	-	-	-	21	**110**
Swansea	71	-	-	-	-	-	-	-	-	-	**71**
Wirral	-	-	-	-	-	-	-	-	-	124	**124**
Wolverhampton	54	-	-	-	-	-	-	-	-	65	**119**
Wrexham	66	-	-	-	-	-	-	-	-	-	**66**
Total	**1 397**	**20**	**10**	**1**	**6**	**4**	**2**	**2**	**127**	**4 096**	**5 665**

1 Scottish centres do not record ethnic origin.
2 Note that local IT systems default to other ethnic group or not known if no entry is made.

Chart 8 Ethnic Origin: 1998/99



Other identified includes, Bangladeshi, Black Caribbean, Black African, Black Other, Indian, Pakistani and Chinese

Ethnic origin

The potential of these data for epidemiological purposes is weakened by the large number (72%) of cases where ethnic group was recorded as 'not known' (see footnote 2).

Table 18 Cause of amputation (including congenital absence) ; by ethnic origin [1,2] : 1998/99

	Ethnic Origin										Total
	Caucasian	Black Caribbean	Black African	Black other	Indian	Pakistani	Bangl-adeshi	Chinese	Other Ethnic Group	Not Known	
Trauma	**165**	**4**	**6**	**-**	**-**	**1**	**-**	**1**	**27**	**320**	**524**
No Additional Detail	83	-	-	-	-	-	-	-	-	198	**281**
Mechanical	21	-	-	-	-	-	-	-	-	86	**107**
Electrical	58	4	6	-	-	1	-	1	26	34	**130**
Thermal	1	-	-	-	-	-	-	-	-	1	**2**
Chemical	2	-	-	-	-	-	-	-	1	1	**4**
Dysvascularity	**961**	**16**	**4**	**1**	**3**	**2**	**1**	**-**	**54**	**1 833**	**2 875**
No Additional Detail	302	-	1	-	-	-	-	-	9	805	**1 117**
Diabetes Mellitus	308	11	2	1	2	2	1	-	24	342	**693**
Non-diabetic Arteriosclerosis	261	4	-	-	-	-	-	-	16	507	**788**
Embolism	22	-	-	-	-	-	-	-	-	15	**37**
Vasospatic Conditions	4	-	-	-	1	-	-	-	1	9	**15**
Endovascular Chemical Trauma	2	-	-	-	-	-	-	-	-	4	**6**
Buergers Disease	3	-	-	-	-	-	-	-	-	8	**11**
Iatrogenic Vascular Trauma	2	-	-	-	-	-	-	-	-	-	**2**
Arteritis	4	-	-	-	-	-	-	-	-	10	**14**
Venous Disease	53	1	1	-	-	-	-	-	4	133	**192**
Infection	**55**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**10**	**114**	**180**
No Additional Detail	8	-	-	-	-	-	-	-	-	49	**57**
Acute	16	-	-	-	-	-	-	-	7	20	**43**
Chronic	31	-	-	-	-	1	-	-	3	45	**80**
Neurological Disorder	**21**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**89**	**110**
No Additional Detail	2	-	-	-	-	-	-	-	-	42	**44**
Diabetic Neuropathy	13	-	-	-	-	-	-	-	-	32	**45**
Infective (inc. Leprosy, Madura Foot)	3	-	-	-	-	-	-	-	-	5	**8**
Spina Bifida	3	-	-	-	-	-	-	-	-	7	**10**
Poliomyelitis	-	-	-	-	-	-	-	-	-	1	**1**
Peripheral Nerve Injury	-	-	-	-	-	-	-	-	-	2	**2**
Neoplasia	**44**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**3**	**88**	**136**
No Additional Detail	9	-	-	-	-	-	-	-	1	35	**45**
Benign	2	-	-	-	-	-	-	-	-	3	**5**
Malignant - Primary	33	-	-	-	-	-	-	1	2	49	**85**
Malignant - Secondary	-	-	-	-	-	-	-	-	-	1	**1**
Congenital Absence	**49**	**-**	**-**	**-**	**2**	**-**	**1**	**-**	**9**	**134**	**195**
Other - No Additional Detail	**49**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**18**	**383**	**450**
No Cause Provided	**53**	**-**	**-**	**-**	**1**	**-**	**-**	**-**	**6**	**1 135**	**1 195**
Total	**1 397**	**20**	**10**	**1**	**6**	**4**	**2**	**2**	**127**	**4 096**	**5 665**

1 Scottish centres do not record ethnic origin.
2 Note that local IT systems default to other ethnic group or not known if no entry is made.

APPENDICES

Appendix 1

Number of Registrations at each Prosthetic Service Centre, 1999

Prosthetic Service Centre	Number of registrations		Total
	Upper Limb	Lower Limb	
Aberdeen	113	404	**517**
Belfast	316	1 341	**1 657**
Birmingham	1 084	2 974	**4 058**
Bristol	385	1 485	**1 870**
Cambridge	247	1 012	**1 259**
Cardiff	303	1 207	**1 510**
Carlisle	110	361	**471**
Cleveland	165	960	**1 125**
Derby	-	380	**380**
Dundee	107	673	**780**
Edinburgh	275	1 088	**1 363**
Exeter	224	906	**1 130**
Gillingham	350	1 589	**1 939**
Glasgow (Strathclyde University)	109	400	**509**
Glasgow (Westmarc)	397	2 753	**3 150**
Hull	169	656	**825**
Inverness	38	247	**285**
Isle of Wight	29	146	**175**
Leeds	412	1 927	**2 339**
Leicester	156	470	**626**
Liverpool (Fazackerley)	125	1 144	**1 269**
London (Charing Cross)	-	751	**751**
London (Harold Wood)	405	2 061	**2 466**
London (Kings)	285	1 229	**1 514**
London (Roehampton)	747	2 239	**2 986**
London (Stanmore)	510	1 463	**1 973**
Luton & Dunstable	-	812	**812**
Manchester	659	2 350	**3 009**
Newcastle	368	1 663	**2 031**
Northampton	99	514	**613**
Norwich	234	1 007	**1 241**
Nottingham	464	1 389	**1 853**
Oxford	288	1 546	**1 834**
Plymouth	149	952	**1 101**
Portsmouth	280	1 660	**1 940**
Preston	301	1 289	**1 590**
Ringwood	111	717	**828**
Sheffield	353	1 694	**2 047**
Stoke	-	1 039	**1 039**
Sussex	202	1 350	**1 552**
Swansea	159	761	**920**
Wirral	199	718	**917**
Wolverhampton	-	1 015	**1 015**
Wrexham	149	725	**874**
Total	**11 076**	**51 067**	**62 143**

Appendix 2

District Health Authorities in each Region

Anglia & Oxford Region
Cambridge & Huntingdon
East Norfolk
North West Anglia

Eastern Region
Bedfordshire
North Essex
South Essex
Suffolk
East & North Hertfordshire
West Hertfordshire
Cambridge
Norfolk

London Region
Hillingdon
Kensington, Chelsea & Westminster
Enfield & Haringey
Redbridge & Waltham Forest
Bexley & Greenwich
Bromley
Croydon
Kingston & Richmond
Lambeth, Southwark & Lewisham
Merton, Sutton & Wandsworth
Barking & Havering
Barnet
Brent & Harrow
Camden & Islington
Ealing, Hammersmith & Hounslow
East London & The City

Northern Ireland
Eastern Health & Social Services Board
Northern Health & Social Services Board
Southern Health & Social Services Board
Western Health & Social Services Board

North West Region
South Lancashire
Liverpool
Manchester
Morecambe Bay
St Helens & Knowsley
Salford & Trafford
Sefton
Stockport
West Pennine
West Hertfordshire
Bury & Rochdale
North Cheshire
South Cheshire
East Lancashire
North West Lancashire
Wigan & Bolton
Wirral

Northern & Yorkshire Region
Bradford
County Durham
East Riding
Gateshead & South Tyneside
Leeds
Newcastle & North Tyneside
North Cumbria
Northumberland
Sunderland
Tees
Wakefield
North Yorkshire
Calderdale & Kirklees

South East Region
Berkshire
Buckinghamshire
East Kent
West Kent
East Surrey
West Surrey
East Sussex, Brighton & Hove
West Sussex
Northamptonshire
Oxfordshire
North & Mid Hampshire
Portsmouth & South East Hampshire
Southampton & South West Hampshire
Isle Of Wight

South West Region
Somerset
South & West Devon
Wiltshire
Avon
Cornwall & Isles Of Scilly
Dorset
North & East Devon
Gloucestershire

Trent Region
Barnsley
North Derbyshire
South Derbyshire
Doncaster
Leicestershire
Lincolnshire
North Nottinghamshire
Nottingham
Rotherham
Sheffield
South Humber

Wales
Gwent
Bro Taf
Dyfed Powys
North Wales
West Glamorgan

West Midlands Region
Birmingham
Coventry
Dudley
Herefordshire
Sandwell
Shropsite
Solihull
North Staffordshire
South Staffordshire
Walsall
Warwickshire
Wolverhampton

Source: Codes Development and Allocation, Department of Health.

Appendix 3

Minimum Dataset Fields

Field Name
Patient Number
Date of Birth
Purchaser Code
Centre Code
Gender
Is this a New Amputee
Ethnic Origin

Left Upper Limb Amputation Details
Date of Referral following a Left Upper Amputation
Date of Amputation
Level of Amputation
Cause of Amputation (Aetiology)

Left Lower Limb Amputation Details
Date of Referral following a Left Lower Amputation
Date of Amputation
Level of Amputation
Cause of Amputation (Aetiology)

Right Upper Limb Amputation Details
Date of Referral following a Right Upper Amputation
Date of Amputation
Level of Amputation
Cause of Amputation (Aetiology)

Right Lower Limb Amputation
Date of Referral following a Right Lower Amputation
Date of Amputation
Level of Amputation
Cause of Amputation (Aetiology)

Appendix 4

List of Level and Cause of Amputation Codes

Level of Amputation — Codes used in the Minimum Dataset

Upper Limb

01	Forequarter
02	Shoulder Disarticulation
03	Trans-humeral
04	Elbow Disarticulation
05	Trans-radial
06	Wrist Disarticulation
07	Partial Hand
08	Digits

Lower Limb

09	Hemi-pelvectomy
10	Hip Disarticulation
11	Trans-femoral
12	Knee Disarticulation
13	Trans-tibial
14	Ankle Disarticulation (SYMES)
15	Partial Foot
16	Digits

Cause of Amputation (Aetiology) — Codes used in the Minimum Dataset

Trauma

1.0	No Additional Detail
1.1	Mechanical
1.2	Electrical
1.3	Thermal
1.4	Chemical

Dysvascularity

2.0	No Additional Detail
2.1	Diabetes Mellitus
2.2	Non-diabetic Arteriosclerosis
2.3	Embolism
2.4	Vasospatic Conditions (inc. Raynaud's)
2.5	Disseminated Intravascular Coagulation
2.6	Endovascular Chemical Trauma (= Substance Abuse)
2.7	Buerger's Disease
2.8	Iatrogenic Vascular Trauma
2.9	Arteritis (inc. Rheumatoid Arthritis, Autoimmune Disease)
2.A	Venous Disease

Infection

3.0	No Additional Detail
3.1	Acute
3.2	Chronic

Neurological Disorder

4.0	No Additional Detail
4.1	Diabetic Neuropathy
4.2	Infective (inc. Leprosy, Madura Foot)
4.3	Spina Bifida
4.4	Poliomyelitis
4.5	Peripheral Nerve Injury

Neoplasia

5.0	No Additional Detail
5.1	Benign
5.2	Malignant - Primary
5.3	Malignant - Secondary

Congenital Absence

6.0	No Additional Detail

Other

7.0	No Additional Detail

Appendix 5

List of prosthetic service centres (PSC) submitting data

Aberdeen	Grampian Healthcare NHS Trust
Belfast	Musgrave Park Hospital
Birmingham	Oak Tree Lane Centre
Brighton	Sussex Rehabilitation Centre
Bristol	Southmead Hospital
Cambridge	Cambridge Disablement Services Centre
Cardiff	Rookwood Artificial Limb Appliance Centre
Carlisle	Carlisle PSC
Charing Cross	Holderness Limb Fitting Centre
Cleveland	Cleveland PSC
Derby	Derby Limb Centre
Dundee	Dundee Limb Fitting Centre
Edinburgh	Rehabilitation Engineering Services
Exeter	Exeter Mobility Centre
Gillingham	Gillingham PSC
Glasgow	University of Strathclyde
Glasgow	Westmarc
Harold Wood	Harold Wood PSC
Hull	East Yorkshire Artificial Limb Unit
Inverness	Medical Physics Dept.
Isle of Wight	The Prosthetic, Orthotic and Podiatry Department
Kings	Kings College Hospitals Rehabilitation Centre
Leeds	Prosthetic Dept.
Leicestershire	Leicestershire PSC
Liverpool	The Donald Tod Rehabilitation Centre
Luton & Dunstable	Luton & Dunstable Limb Fitting Centre
Manchester	Manchester PSC
Newcastle	Newcastle PSC
Northampton	Northampton Artificial Limb Service
Norwich	Norwich PSC
Nottingham	Nottingham Mobility Centre
Oxford	The Mary Marlborough Centre
Plymouth	Plymouth PSC
Portsmouth	Portsmouth PSC
Preston	Preston PSC
Ringwood	Dorset Artificial Limb Centre
Roehampton	Roehampton Rehabilitation Centre
Sheffield	Sheffield Mobility & Specialised Rehabilitation Centre
Stanmore	Stanmore PSC
Stoke	North Midlands Limb Fitting Centre
Swansea	Morriston Artificial Limb & Appliance Centre
Wirral	Wirral Limb Centre
Wolverhampton	Maltings Mobility Centre
Wrexham	Wrexham Artificial Limb & Appliance Centre

Appendix 6

Additional information

1 The collecting, recording and coding of the data has been a laborious and daunting excercise. Since the integration of the Disablement Service Centres into the National Health Service, record keeping has been more or less confined to those activities relevant to each centre. Due to this diversification and the submission of incomplete records from centres, the accuracy of the second presentation of the National Database is somewhat limited.

2 All nil entries give rise to uncertainty about the data validity. Where comments and conclusions in this report are supported by calculation from data, the authors have used data adjusted for nil entries. Any interpretations should be considered and used with this caveat in mind.

3 Forty-four centres in the UK have been included in the analysis. Twenty-four sites use the Limbsys system, nine use Dataease, and seven use independent systems (including paper).

4 The data in Upper Limb and Lower Limb Amputation tables does not include cases of congenital absence. Only those cases which had a surgical amputation are presented in the analysis.

5 Portsmouth Disablement Services Centre has not had a lead rehabilitation consultant since October 1998. The centre manager has intimated that this may affect the number of new referrals to the centre.

6 The allocation of regions from district health authority codes was compliled by ISD from data provided by the Organisational Codes Service of the Department of Health.

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