

**NHS BLOOD & TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE
PANCREAS ADVISORY GROUP**

NATIONAL PANCREAS ALLOCATION SCHEME

6 YEAR REVIEW

1 DECEMBER 2010 TO 30 NOVEMBER 2016

NATIONAL PANCREAS ALLOCATION SCHEME (2010)

CONTENTS

PANCREAS TRANSPLANTATION		PAGE
Table 1.1	Overview of transplant activity	4
Table 1.2	Centre-specific transplant activity	4
Table 1.3	Transplant demographics	5
Table 1.4	Median waiting time by transplant demographics	7
Table 1.5	Blood group matching	8
Table 1.6	Donor BMI by transplant type	8
Table 1.7	Donor age by transplant type	8
Figure 1.8	Centre-specific cold ischaemia time – vascularised pancreas (DBD)	9
Figure 1.9	Centre-specific cold ischaemia time – vascularised pancreas (DCD)	9
PANCREAS TRANSPLANT LIST & WAITING TIMES		
Table 2.1	Overview of the national & centre specific transplant list	11
Table 2.2	Transplant list demographics	12
Table 2.3	Median waiting time on the list	13
OFFERING, RETRIEVAL & ORGAN USE		
Table 3.1	Use of pancreases from solid organ donors	15
Table 3.2	Review of islet isolations performed	15
Figure 3.3	Review of islet isolations performed	16

PANCREAS TRANSPLANTATION

Table 1.1 Overview of transplant activity

Transplant type		Donor type		Total
		DBD	DCD	
Vascularised pancreas	SPK	781	240	1021
	PAK	65	11	76
	PTA	70	25	95
	Total	916	276	1192
Pancreatic islet	Routine	94	15	109
	Priority	59	6	65
	Islet total	153	21	174
TOTAL		1069	297	1366

Table 1.2 Centre-specific transplant activity

Transplant centre	Previous year		NPAS						
			Transplant type			Donor type			
Vascularised pancreas	N	(%)	N	(%)	SPK	PAK	PTA	DBD	DCD
Cambridge	32	(16)	126	(11)	120	6	0	80	46
Cardiff	12	(6)	70	(6)	43	14	13	42	28
Edinburgh	8	(4)	107	(9)	105	1	1	103	4
Guy's	22	(11)	170	(14)	156	8	6	112	58
Manchester	19	(10)	182	(15)	168	9	5	135	47
Newcastle	9	(5)	39	(3)	30	6	3	37	2
Oxford	82	(42)	435	(36)	351	17	67	354	81
WLRTC	12	(6)	63	(5)	48	15	0	53	10
Total	196	(100)	1192	(100)	1021	76	95	916	276
Pancreatic islet	N	(%)	N	(%)	Routine	Priority	DBD	DCD	
Bristol	0	(0)	4	(2)	3	1	4	0	
Edinburgh	0	(0)	67	(39)	39	28	55	12	
King's College	0	(0)	12	(7)	7	5	12	0	
Manchester	1	(9)	11	(6)	7	4	11	0	
Newcastle	2	(18)	35	(20)	22	13	31	4	
Oxford	5	(45)	30	(17)	21	9	27	3	
Royal Free	3	(27)	15	(9)	10	5	13	2	
Total	11	(100)	174	(100)	109	65	153	21	

Table 1.3 Transplant demographics

		Previous Year	NPAS 2010 results (year 1)	NPAS 2010 results (year 2)	NPAS 2010 results (year 3)	NPAS 2010 results (year 4)	NPAS 2010 results (year 5)	NPAS 2010 results (year 6)
Number of transplants		207	218	241	252	225	231	199
Waiting time (months)	0 to <3	47 (23)	28 (13)	37 (15)	32 (13)	19 (8)	29 (13)	29 (15)
	3 to <6	26 (13)	20 (9)	26 (11)	28 (11)	26 (12)	27 (12)	19 (10)
	6 to <12	29 (14)	22 (10)	40 (17)	59 (23)	67 (30)	51 (22)	41 (21)
	12 to <24	63 (30)	55 (25)	94 (39)	106 (42)	101 (45)	102 (44)	87 (44)
	24 or more	42 (20)	93 (43)	44 (18)	27 (11)	12 (5)	22 (10)	23 (12)
Sensitisation (cRF%)	0 to <10	157 (76)	155 (71)	168 (70)	180 (71)	172 (76)	175 (76)	129 (65)
	10 to <30	13 (6)	19 (9)	20 (8)	22 (9)	13 (6)	13 (6)	14 (7)
	30 to <75	16 (8)	30 (14)	28 (12)	29 (12)	31 (14)	24 (10)	37 (19)
	75 or more	21 (10)	14 (6)	25 (10)	21 (8)	9 (4)	19 (8)	19 (10)
Total HLA mismatch (A, B, DR)	0 to 4	136 (66)	162 (74)	203 (84)	224 (89)	203 (90)	195 (84)	173 (87)
	5 or 6	71 (34)	56 (26)	38 (16)	28 (11)	22 (10)	36 (16)	26 (13)
Centre location	Closest three	158 (76)	137 (63)	150 (62)	168 (67)	140 (62)	147 (64)	109 (55)
	Other	49 (24)	81 (37)	91 (38)	84 (33)	85 (38)	84 (36)	90 (45)
On dialysis	No	118 (57)	120 (55)	135 (56)	133 (53)	110 (49)	132 (57)	102 (51)
	Yes	86 (42)	97 (44)	105 (44)	119 (47)	114 (51)	99 (43)	97 (49)
	Not known	3 (1)	1 (0)	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)
Transplant type	SPK	159 (77)	156 (72)	168 (70)	194 (77)	175 (78)	173 (75)	155 (78)
	PAK, PTA	37 (18)	38 (17)	36 (15)	29 (12)	26 (12)	26 (11)	16 (8)
	Routine islet	7 (3)	15 (7)	25 (10)	16 (6)	18 (8)	19 (8)	16 (8)
	Priority islet	4 (2)	9 (4)	12 (5)	13 (5)	6 (3)	13 (6)	12 (6)
Sex	Male	115 (56)	128 (59)	122 (51)	144 (57)	118 (52)	109 (47)	99 (50)
	Female	92 (44)	90 (41)	119 (49)	108 (43)	107 (48)	122 (53)	100 (50)

Table 1.3 Transplant demographics

		Previous Year		NPAS 2010 results (year 1)		NPAS 2010 results (year 2)		NPAS 2010 results (year 3)		NPAS 2010 results (year 4)		NPAS 2010 results (year 5)		NPAS 2010 results (year 6)	
Blood group	O	97	(47)	83	(38)	103	(43)	113	(45)	107	(48)	102	(44)	82	(41)
	A	84	(41)	104	(48)	105	(44)	98	(39)	84	(37)	95	(41)	86	(43)
	B	21	(10)	24	(11)	24	(10)	31	(12)	20	(9)	23	(10)	23	(12)
	AB	5	(2)	7	(3)	9	(4)	10	(4)	14	(6)	11	(5)	8	(4)
Recipient age (years)	Less than 30	12	(6)	10	(5)	11	(5)	19	(8)	17	(8)	13	(6)	13	(7)
	30 to <40	62	(30)	64	(29)	66	(27)	79	(31)	63	(28)	62	(27)	49	(25)
	40 to <50	92	(44)	83	(38)	98	(41)	89	(35)	82	(36)	94	(41)	83	(42)
	50 to <60	34	(16)	54	(25)	57	(24)	58	(23)	53	(24)	52	(23)	48	(24)
	60 or older	7	(3)	7	(3)	9	(4)	7	(3)	10	(4)	10	(4)	6	(3)
Ethnicity	White	196	(95)	201	(92)	218	(90)	223	(88)	193	(86)	213	(92)	177	(89)
	Non-white	11	(5)	17	(8)	22	(9)	28	(11)	26	(12)	15	(6)	20	(10)
	Not known	0	(0)	0	(0)	1	(0)	1	(0)	6	(2)	3	(1)	2	(1)

Table 1.4 Median waiting time by transplant demographics

Factor		N	Waiting Time (days)	
			Median	IQ Range
Sensitisation (cRF%)	0 to <10	979	398	182 - 594
	10 to <30	101	433	140 - 675
	30 to <75	179	465	292 - 703
	75 or more	107	470	268 - 760
Total HLA mismatch (A, B, DR)	0 to 4	1160	424	212 - 602
	5 or 6	206	342	113 - 802
Centre location	Closest three	851	406	197 - 595
	Other	515	447	191 - 682
On dialysis	No	732	386	168 - 595
	Yes	631	455	271 - 662
Transplant type	SPK	1021	460	283 - 646
	PAK, PTA	171	285	87 - 540
	Routine islet	109	385	115 - 669
	Priority islet	65	161	88 - 200
Sex	Male	720	424	209 - 621
	Female	646	412	187 - 622
Blood group	O	590	531	331 - 706
	A	572	375	182 - 562
	B	145	284	121 - 442
	AB	59	105	35 - 210
Recipient age (years)	Less than 30	83	338	161 - 525
	30 to <40	383	426	210 - 629
	40 to <50	529	433	225 - 625
	50 to <60	322	402	179 - 656
	60 or older	49	406	184 - 601
Ethnicity	White	1225	438	205 - 636
	Non-white	128	325	150 - 467
	Not known	13	313	165 - 473

Table 1.5 Blood group matching

Donor blood group	Recipient blood group									
	O		A		B		AB		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
O	590	(98)	8	(1)	3	(0)	2	(0)	603	(44)
A	-	-	564	(96)	-	-	24	(4)	588	(43)
B	-	-	-	-	142	(97)	4	(3)	146	(11)
AB	-	-	-	-	-	-	29	(100)	29	(2)
TOTAL	590	(43)	572	(42)	145	(11)	59	(4)	1366	(100)

Table 1.6 Donor BMI by transplant type

Donor BMI	Transplant type				TOTAL N
	Vascularised pancreas		Pancreatic islet		
	N	(%)	N	(%)	
22 or less	535	(45)	11	(6)	546
23 to 25	385	(32)	25	(14)	410
26 to 28	212	(18)	50	(29)	262
29 to 31	47	(4)	46	(26)	93
32 or over	13	(1)	42	(24)	55
TOTAL	1192	(100)	174	(100)	1366

Table 1.7 Donor age by transplant type

Donor age	Transplant type				TOTAL N
	Vascularised pancreas		Pancreatic islet		
	N	(%)	N	(%)	
Less than 25	204	(17)	2	(1)	206
25 to <30	265	(22)	8	(5)	273
30 to <40	229	(19)	28	(16)	257
40 to <50	285	(24)	65	(37)	350
50 to <60	192	(16)	64	(37)	256
60 or older	17	(1)	7	(4)	24
TOTAL	1192	(100)	174	(100)	1366

Figure 1.8 Centre-specific cold ischaemia time – vascularised pancreas (DBD)
(CIT reported on pancreas transplant record form)

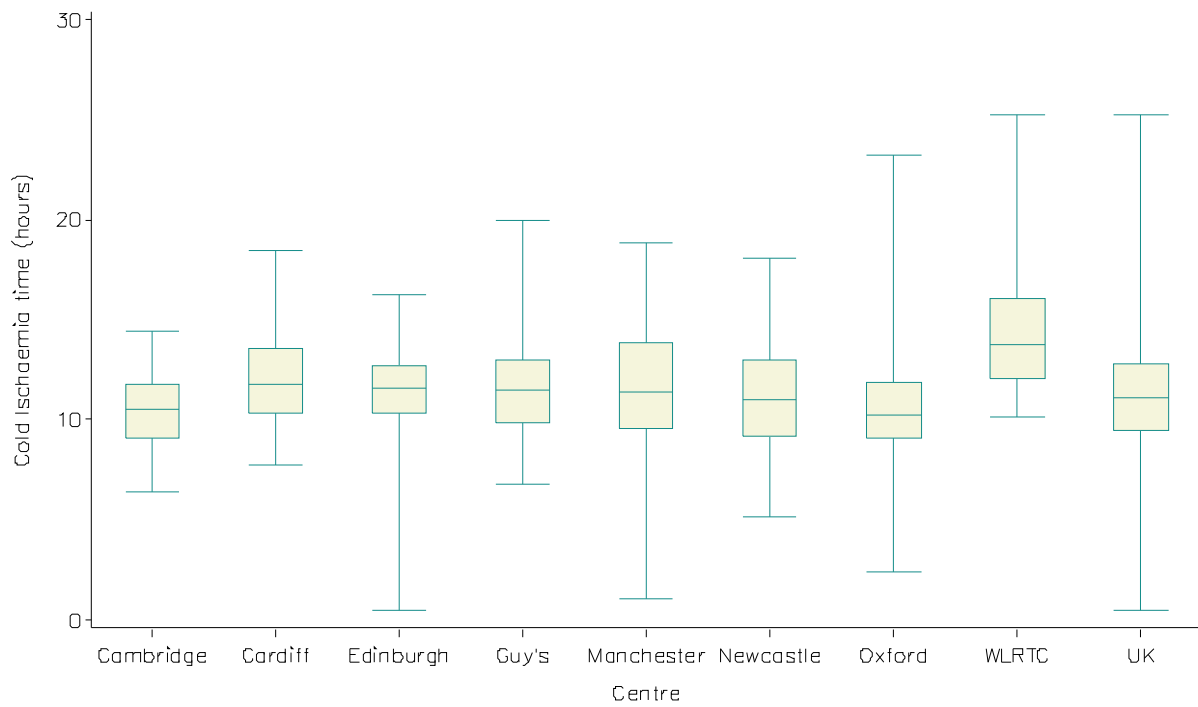
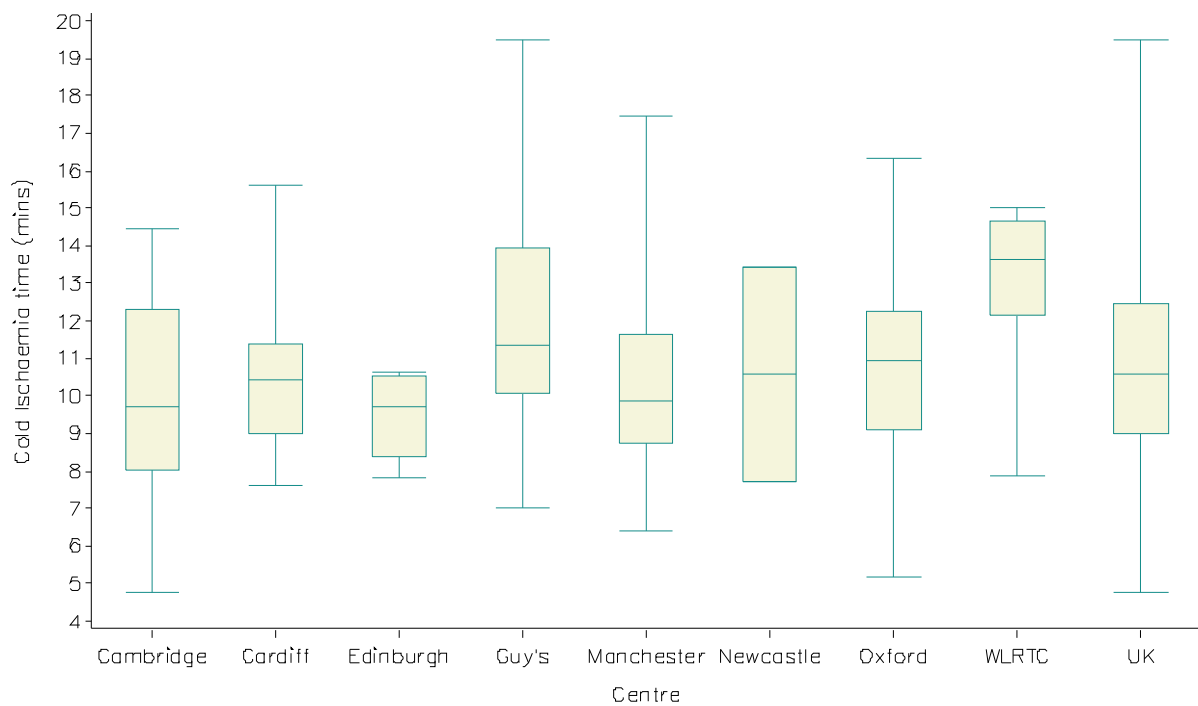


Figure 1.9 Centre-specific cold ischaemia time – vascularised pancreas (DCD)
(CIT reported on pancreas transplant record form)



PANCREAS TRANSPLANT LIST & WAITING TIMES

Table 2.1 Overview of the national & centre specific transplant list

Transplant centre	1 Dec 2010		1 Dec 2016				
	N	(%)	N	(%)	Transplant type		
Vascularised pancreas					SPK	PAK	PTA
Cambridge	9	(3)	19	(9)	19	0	0
Cardiff	8	(3)	11	(5)	10	0	1
Edinburgh	32	(11)	31	(15)	31	0	0
Guy's	19	(6)	39	(19)	38	0	1
Manchester	61	(20)	20	(10)	19	1	0
Newcastle	10	(3)	12	(6)	11	0	1
Oxford	136	(45)	65	(32)	62	1	2
WLRTC	26	(9)	4	(2)	4	0	0
Total	301	(100)	201	(100)	194	2	5
Pancreatic islet	N	(%)	N	(%)	Routine	Priority	
Bristol	0	(0)	0	(0)	0	0	
Edinburgh	3	(12)	3	(16)	2	1	
King's College	1	(4)	0	(0)	0	0	
Manchester	2	(8)	3	(16)	2	1	
Newcastle	7	(28)	4	(21)	2	2	
Oxford	9	(36)	9	(47)	8	1	
Royal Free	3	(12)	0	(0)	0	0	
Total	25	(100)	19	(100)	14	5	

Table 2.2 Transplant list demographics

		1 Dec 2010		Predicted (end of year 3)	Current		New Registrations	
Factor		N	(%)	(%)	N	(%)	N	(%)
Number of patients		326		277	220		1683	
Time listed (months)	0 to <3	56	(17)	(23)	48	(22)	329	(20)
	3 to <6	35	(11)	(21)	53	(24)	281	(17)
	6 to <12	59	(18)	(31)	56	(25)	506	(30)
	12 to <24	108	(33)	(19)	51	(23)	503	(30)
	24 or more	68	(21)	(5)	12	(5)	64	(4)
Sensitisation (cRF%)	0 to <10	210	(64)	(83)	145	(66)	1317	(78)
	10 to <30	26	(8)	(4)	13	(6)	75	(4)
	30 to <75	50	(15)	(4)	28	(13)	147	(9)
	75 or more	40	(12)	(9)	34	(15)	144	(9)
On dialysis	Not known	3	(1)	(0)	0	(0)	1	(0)
	No	171	(52)	(55)	119	(54)	887	(53)
	Yes	152	(47)	(45)	101	(46)	795	(47)
Transplant type	SPK	252	(77)	(73)	194	(88)	1257	(75)
	PAK, PTA	49	(15)	(18)	7	(3)	210	(12)
	Routine islet	21	(6)	(7)	14	(6)	129	(8)
	Priority islet	4	(1)	(2)	5	(2)	87	(5)
Sex	Male	177	(54)	(51)	121	(55)	899	(53)
	Female	149	(46)	(49)	98	(45)	784	(47)
	Not known	0	(0)	(0)	1	(0)	0	(0)
Blood group	O	165	(51)	(0)	121	(55)	773	(46)
	A	132	(40)	(98)	67	(30)	650	(39)
	B	28	(9)	(2)	26	(12)	187	(11)
	AB	1	(0)	(0)	6	(3)	73	(4)
Recipient age (years)	Less than 30	12	(4)	(9)	20	(9)	142	(8)
	30 to <40	99	(30)	(42)	62	(28)	485	(29)
	40 to <50	132	(40)	(34)	90	(41)	640	(38)
	50 to <60	71	(22)	(14)	42	(19)	361	(21)
	60 or older	12	(4)	(1)	6	(3)	55	(3)
Ethnicity	White	303	(93)	(93)	198	(90)	1495	(89)
	Non-white	23	(7)	(7)	19	(9)	166	(10)
	Not known	0	(0)	(0)	3	(1)	22	(1)

Table 2.3 Median waiting time on the list by demographics

Factor		1 Dec 2010			Current		
		N	Median	IQ Range	N	Median	IQ Range
All patients		326	402	166 - 668	220	208	100 - 389
Sensitisation (cRF%)	0 to <10	210	358	150 - 571	145	208	98 - 350
	10 to <30	26	455	353 - 628	13	107	79 - 133
	30 to <75	50	467	158 - 739	28	186	97 - 379
	75 or more	40	714	251 - 1130	34	510	138 - 1037
On dialysis	No	171	368	151 - 650	119	194	92 - 387
	Yes	152	445	179 - 676	101	219	111 - 390
Transplant type	SPK	252	427	184 - 698	194	195	92 - 369
	PAK, PTA	49	349	62 - 694	7	747	531 - 2097
	Routine islet	21	267	170 - 427	14	237	153 - 538
	Priority islet	4	283	160 - 513	5	588	146 - 777
Sex	Male	177	413	173 - 661	121	175	89 - 369
	Female	149	397	161 - 694	98	229	121 - 441
	Not known	0	0	0 - 0	1	5	5 - 5
Blood group	O	165	400	166 - 713	121	257	117 - 456
	A	132	409	171 - 622	67	175	72 - 265
	B	28	399	112 - 613	26	230	92 - 404
	AB	1	46	46 - 46	6	211	62 - 259
Recipient age (years)	Less than 30	12	293	49 - 654	20	217	114 - 362
	30 to <40	99	404	158 - 613	62	165	69 - 292
	40 to <50	132	374	153 - 690	90	262	117 - 429
	50 to <60	71	433	230 - 714	42	163	104 - 370
	60 or older	12	433	244 - 692	6	261	110 - 436
Ethnicity	White	303	400	161 - 683	198	209	103 - 404
	Non-white	23	409	176 - 661	19	156	97 - 366
	Not known	0	0	0 - 0	3	82	69 - 407
Centre	Cambridge	9	130	28 - 410	19	119	49 - 286
	Cardiff	8	114	51 - 541	11	223	99 - 411
	Edinburgh	35	386	166 - 510	34	289	146 - 495
	Guy's	19	222	124 - 621	39	187	56 - 377
	King's College	1	294	294 - 294	0	0	0 - 0
	Manchester	63	461	272 - 795	23	348	111 - 526
	Newcastle	17	342	193 - 512	16	185	81 - 513
	Oxford	145	427	187 - 699	74	202	100 - 295
	Royal Free	3	153	100 - 1395	0	0	0 - 0
	WLRTC	26	355	118 - 714	4	153	72 - 258

OFFERING, RETRIEVAL AND ORGAN USE

Table 3.1 Use of pancreases from solid organ donors

	Solid organ donors	SPC ¹ donors	Offered		Retrieved		Pancreas Transplanted		Conversion %
			N	(%)	N	(%)	N	(%)	
Donations after brain death									
Previous year	640	499	450	(90)	319	(71)	165	(52)	33
NPAS Yr 1	646	472	405	(86)	298	(74)	178	(60)	38
NPAS Yr 2	633	476	430	(90)	320	(74)	191	(60)	40
NPAS Yr 3	769	551	503	(91)	356	(71)	205	(58)	37
NPAS Yr 4	791	565	497	(88)	345	(69)	170	(49)	30
NPAS Yr 5	746	513	447	(87)	305	(68)	162	(53)	32
NPAS Yr 6	782	547	478	(87)	326	(68)	150	(46)	27
Donations after cardiac death									
Previous year	371	235	162	(69)	79	(49)	42	(53)	18
NPAS Yr 1	392	239	179	(75)	69	(39)	40	(58)	17
NPAS Yr 2	507	291	237	(81)	93	(39)	47	(51)	16
NPAS Yr 3	536	323	245	(76)	99	(40)	43	(43)	13
NPAS Yr 4	500	291	211	(73)	97	(46)	52	(54)	18
NPAS Yr 5	554	350	251	(72)	124	(49)	67	(54)	19
NPAS Yr 6	603	372	224	(60)	116	(52)	48	(41)	13

¹ Standard pancreas criteria (SPC) donors have been defined as those aged 60 years or less

Table 3.2 Review of islet isolations performed

Isolation result	DBD donor				DCD donor			
	N	Age (yrs)	Median BMI (kg/m ²)	Whole offers	N	Age (yrs)	Median BMI (kg/m ²)	Whole offers
Contamination	2	42	23	4	0	0	0	0
Insufficient purity	23	50	28	0	4	39	30	0
Insufficient viability	31	50	27	1	7	51	26	1
Insufficient yield	301	48	27	0	61	42	26	1
Transplanted	154	49	29	0	22	42	28	0
TOTAL	511	48	28	0	94	42	27	0

Figure 3.3 Review of islet isolations performed

