



The Prince Charles Hospital



Queensland
Government
Queensland Health

The Prince Charles Hospital Cardiac Catheterisation Laboratory Annual Report 1st July 2012 - 30th June 2013



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Cardiac Catheterisation Laboratory

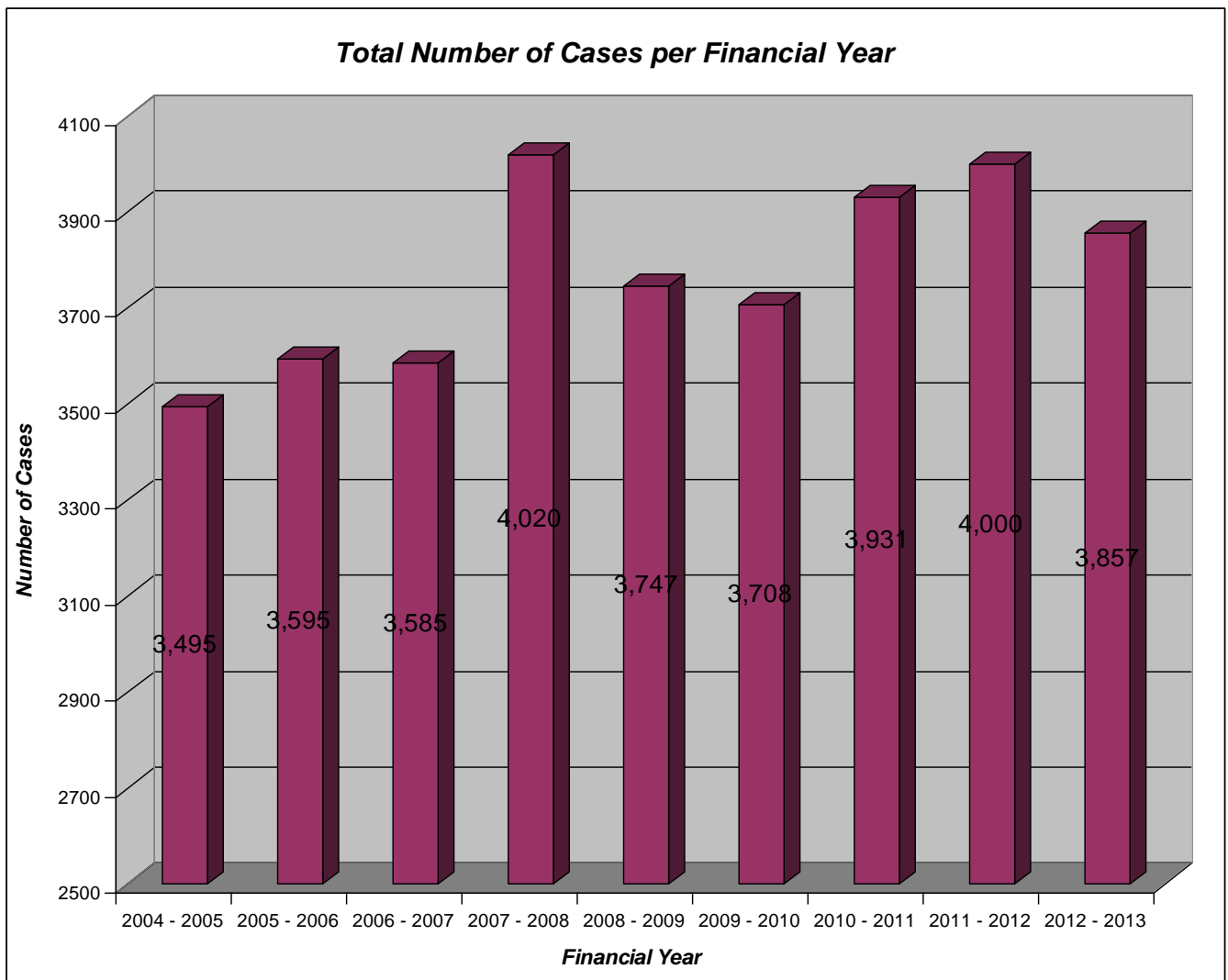
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Clinical Year Report 2012 – 2013

Total Number of Cases – Financial Year

Financial Year	Total Number of CCL Cases
2004 - 2005	3,495
2005 - 2006	3,595
2006 - 2007	3,585
2007 - 2008	4,020
2008 - 2009	3,747
2009 - 2010	3,708
2010 - 2011	3,931
2011 - 2012	4,000
2012 - 2013	3,857



Patient Demographics

Total = 3,857

Adults (≥15 y.o.)

Total = 3,857 (100.0%)

Patients Average Age: 65.2 ± 13.6 (mean ± standard deviation)

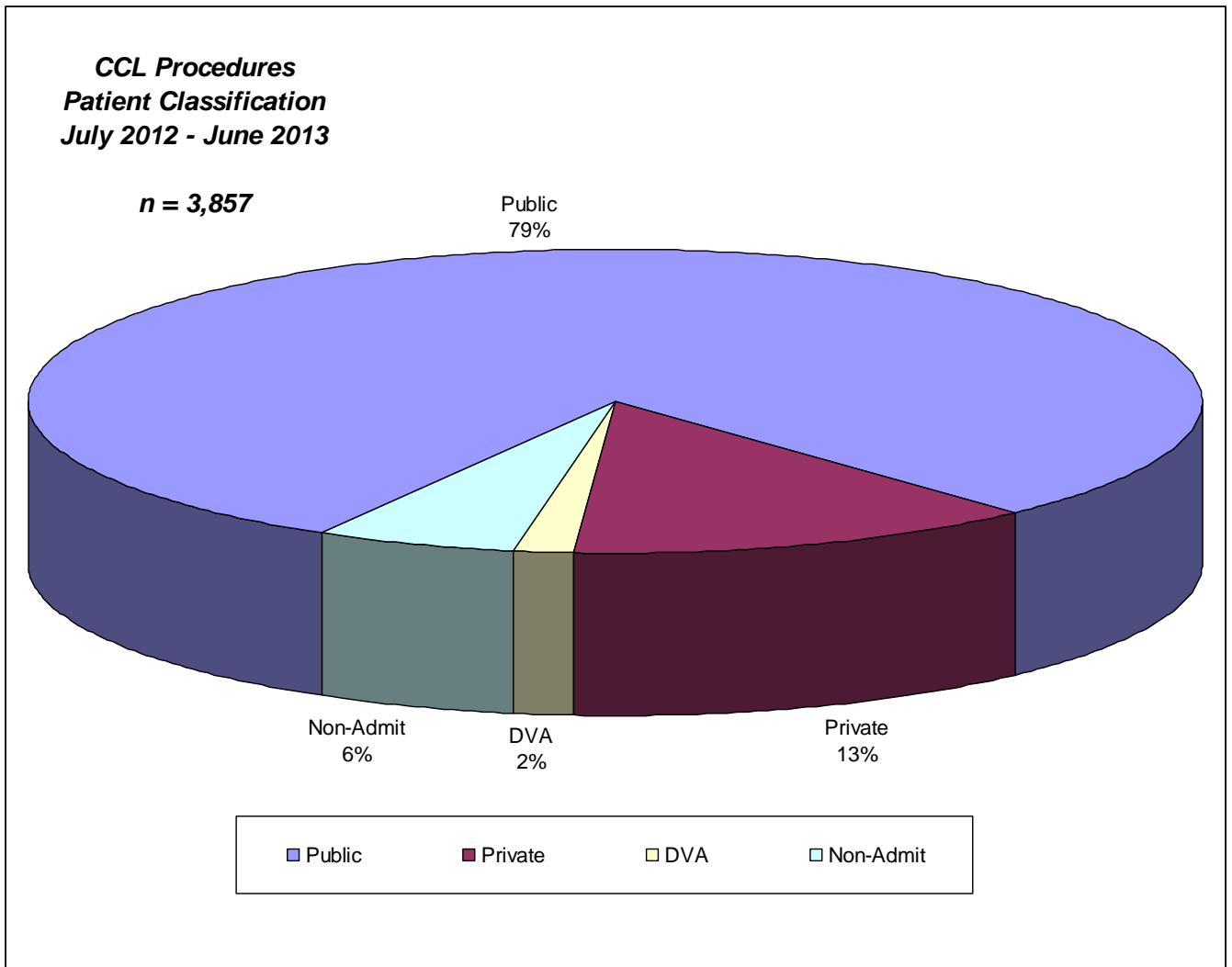
Female: **1,298 (33.6%)**

Average Age: **66.6 ± 13.9**

Male: **2,559 (66.4%)**

Average Age: **64.7 ± 13.4**

<i>Patient Classification</i>	Public	Private	DVA	Non-Admit	TOTAL
Patients Operated on in CCL	3,069	505	66	217	3,857



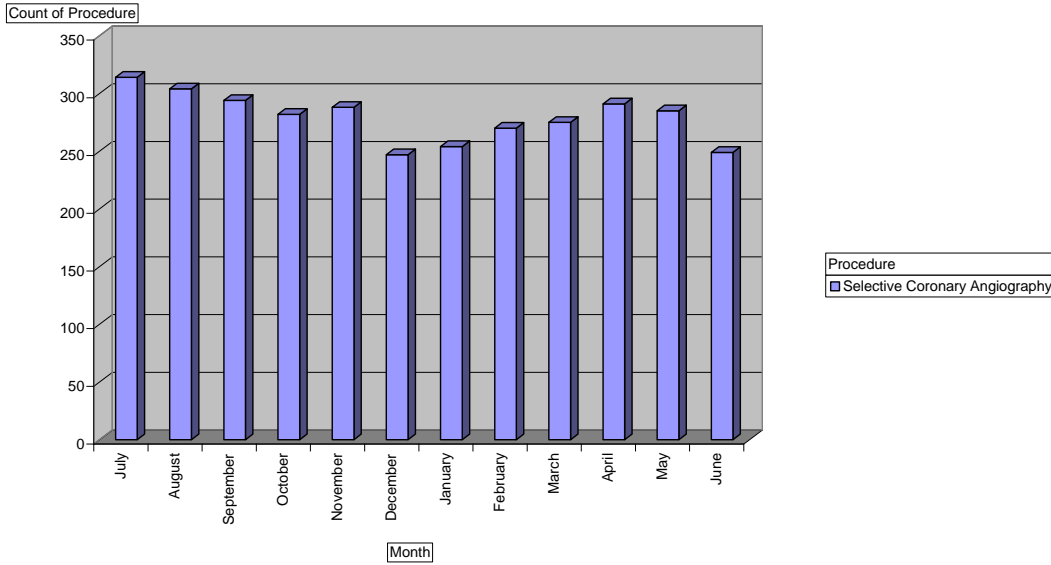
Total CCL Procedures Performed – Adults

PROCEDURES (ADULTS)		FINANCIAL YEAR (JULY 2012 - JUNE 2013)					FINANCIAL YEAR (JULY 2011 - JUNE 2012)				
		PUBLIC	PRIV.	DVA	NON-ADMIT	TOTAL	PUBLIC	PRIV.	DVA	NON-ADMIT	TOTAL
Coronary Angiography		2,678	417	46	212	3,353	3,073	286	57	179	3,595
Device Closures	ASD /LAA	15	2			12	16	2			18
	PDA	3					3				3
	PFO	3	3			6	6	1			7
	VSD	2	1			3					
Paravalvular Leak Closure		2				2					
Percutaneous Valve		48	23	12		83	35	19	11		65
Device Total		73	29	12		111	60	22	11		93
Dilatation / Stenting	Aorta	1				1	4				4
	Pulmonary	1				1	2				2
	Renal										
	Subclavian	2				2					
	Vena Cava	1				1	1				1
Embolisation	Aorta	3				3	2				2
	Bronchial										
	Pulmonary										
	Subclavian										
Graft Study		292	28	7	15	342	379	24	13	12	428
IABP		66	3			69	59	3	1		63
ICE		19	4	1		24	16	2			18
IVC Filter							3				3
IVUS / OCT		131	21	2	1	155	124	19	1		147
PCI +/- Stents	No Stents	41	2			43	48	4			52
	Single Vessel	730	103	12		845	832	83	12	1	928
	Multi Vessels	49	2			51	49	4	1		54
Total Angioplasty		895	118	12		1,025	996	103	17	1	1,087
Pericardiocentesis		18	5			23	19	6			25
RadiWire		162	33	3	2	200	160	14	1		177
Right Heart Catheter		238	76	9	9	332	193	37	1		233
Renal Denervation		18	3			21					
RV Biopsy		17	10		4	31	42	4			46
Rotablation		75	11			86	45	6	2		53
Septal Ablation (TASH)		3				3	6				6
Temporary Pacing		174	47	17		238	122	24	20		166
Transoesophageal Echo		49	18	8		75	45	17	7		70
Valve / Lead Screening		4				4	1				1
Valvuloplasty	Aortic	113	41	16		170	100	19	23		142
	Mitral	4	3			7	11				11
	Pulmonary	2				2	2				2
	Tricuspid	1				1	1				1

TOTAL PATIENTS	3,069	505	66	217	3,857	3,402	338	80	180	4,000
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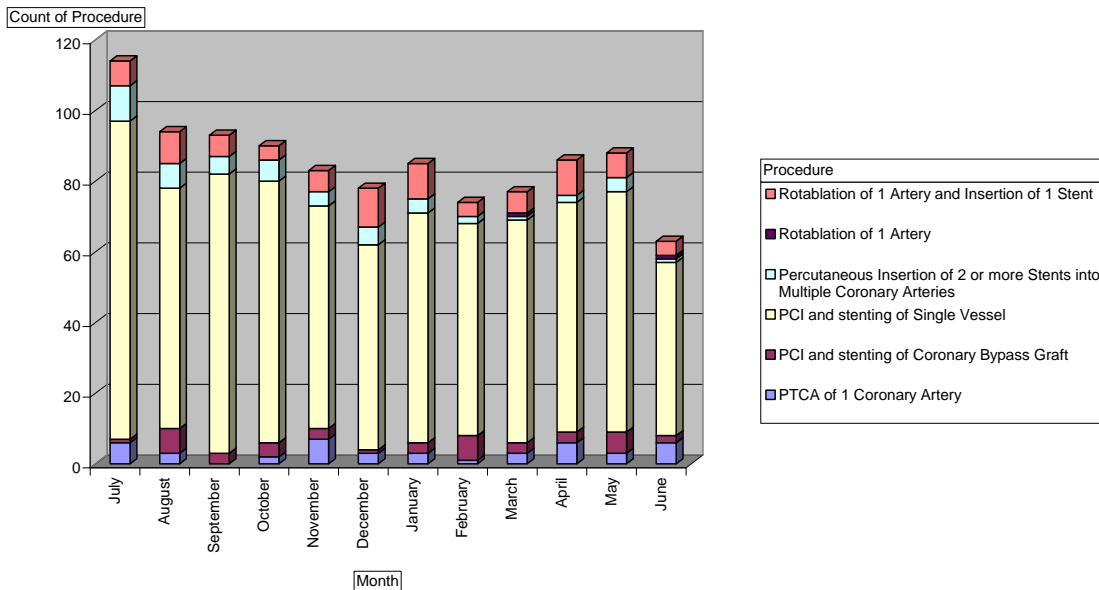
Coronary Angiography

2012-2013



Percutaneous Coronary Intervention

2012-2013



Angioplasty Nursing Service – Episodes of Care

ANGIOPLASTY NURSING SERVICE		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Occasions of Inpatient Care		114	94	93	90	83	78	85	74	77	86	88	63	1025
Outpatient Follow Up – Episodes of Care	7 day	91	108	81	73	88	73	69	74	57	74	88	55	931
	1 month	122	68	55	2	171	11	146	10	90	129	115	30	949
	6 month	2				5	1	3	1		5	4	1	22
	Unknown		1		1					7				9
	TOTAL CARE	215	177	136	76	264	85	218	85	154	208	207	86	1911

Primary PCI for STEMI

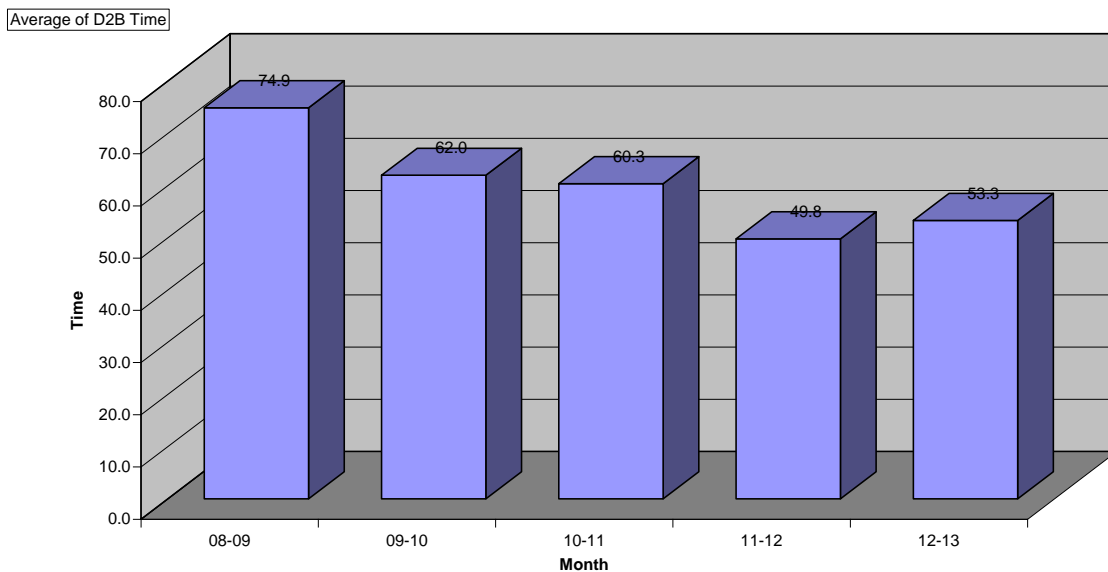
Total: 146

Patients Average Age: **60.4 ± 12.6** (mean ± standard deviation)

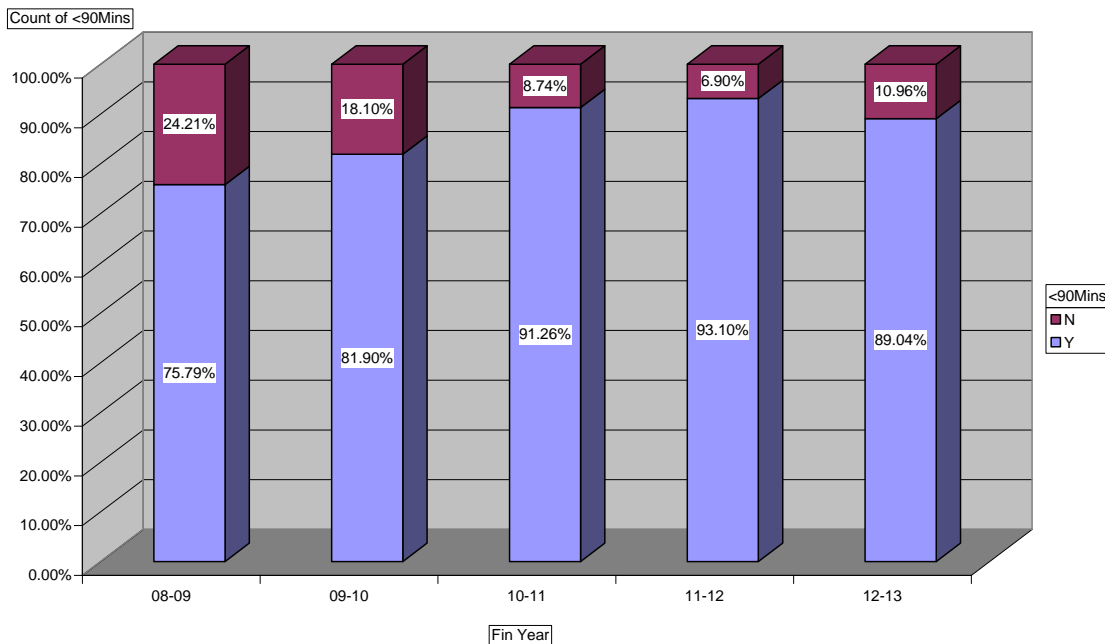
Female: **39 (26.7%)**
 Male: **107 (73.3%)**

Average Age: **64.8 ± 12.96**
 Average Age: **58.8 ± 12.12**

Average Door to Balloon Times



Fin Year



Interhospital Transfers

Total = 1521 (39.4%)

Interhospital Transfers

From 01/07/2012 to 30/06/2013

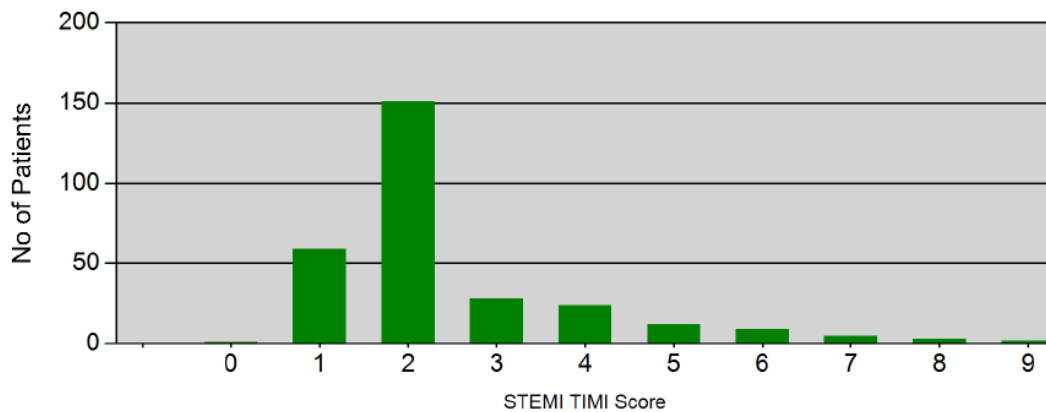
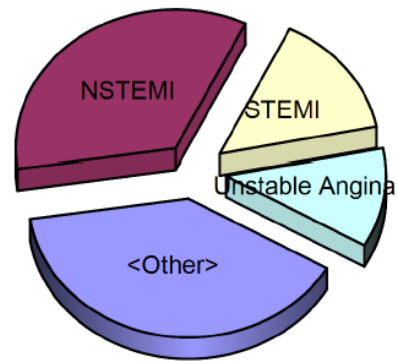
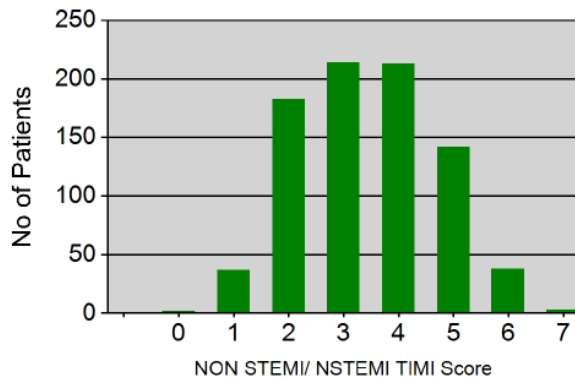
Total Identified :	2496
Procedure performed (excl.Cancelled after)	2441
inc. NOT Transferred	920
inc. Transferred	1521
<hr/>	
Status: ED Admission	332
Status: TPCH Inpatient	460
Status: InterHospital Transfer	1403
Status: QAS Primary PCI STEMI	50
Status: Emergency to CCL	63
Status: Outpatient	77
Status: ER- Primary PCI STEMI	37
Status: Drip & Ship Post Lysis	8
Status: Drip & Ship Primary PCI	6
Status: Drip & Ship Failed Lysis	1
Status: <Unknown>	4
Transferred (excl.Cancelled after)	1521
inc. Procedure performed	1521
<hr/>	
Status: InterHospital Transfer	1368
Status: Emergency to CCL	29
Status: ED Admission	56
Status: TPCH Inpatient	20
Status: Outpatient	17
Status: Drip & Ship Post Lysis	8
Status: Drip & Ship Primary PCI	6
Status: QAS Primary PCI STEMI	10
Status: ER- Primary PCI STEMI	6
Status: Drip & Ship Failed Lysis	1
Discharged (excl.Cancelled after)	0
<hr/>	
Removed from the list (Cancelled)	55
inc. Procedure performed	20
inc. Procedure NOT performed	35
<hr/>	
Status: InterHospital Transfer	48
Status: TPCH Inpatient	2
Status: Drip & Ship Post Lysis	2
Status: Outpatient	2
Status: ED Admission	1
<hr/>	
inc. NOT Discharged	55

Interhospital Transfers continued

Genda / Age of Referrals:	#	%	AVG years	StDeviation
All	2496	100%	63.9	+/- 15.1
Male	1665	66.7%	63.0	+/- 14.9
Female	830	33.3%	65.6	+/- 15.3
Unknown	1	0%		

Waiting:	#	%	AVG days	StDeviation
...for Transfer	1561	63%	1.0	+/- 1.6
...for Procedure	2461	99%	2.2	+/- 2.9

ACS Types Identified:	2496	100%
Unstable Angina	286	11.5%
STEMI	366	14.7%
NSTEMI	862	34.5%
<Other>	982	39.3%



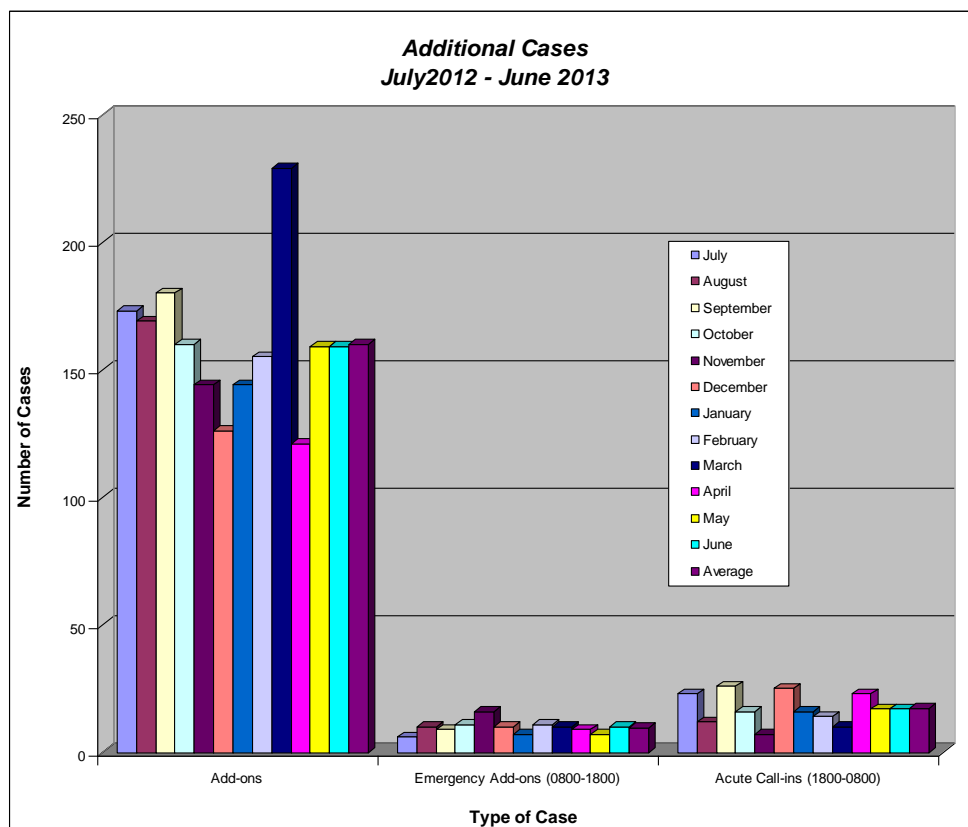
Diagnosis Identified:	2496	100%
NSTEMI	864	34.6%
STEMI	357	14.3%
Unstable Angina	297	11.9%
Valvular Heart Disease	263	10.5%
Arrythmia	142	5.7%
IHD-Other	101	4%
Heart Failure	88	3.5%
Cardiomyopathy	65	2.6%
Stable Angina	46	1.8%
Infected Cardiac Device	36	1.4%
Pericardial Effusion/tamponade	35	1.4%
Endocarditis	33	1.3%
CHB	32	1.3%
Congenital Heart Disease	27	1.1%
Out of Hospital Arrest	21	0.8%
ICD/PPM Failure	18	0.7%
Cardiac Arrest	12	0.5%
Myocarditis	12	0.5%
STEMI Failed Lysis	11	0.4%
<Unknown>	7	0.3%
Suspected Rejection	5	0.2%
LMD IABP	5	0.2%
Thrombus	4	0.2%
Pericarditis	4	0.2%
Malignant Hypertension	2	0.1%
Atrial Myxoma	2	0.1%
Aortic Dissection	2	0.1%
NSVT	2	0.1%
Aortitis	1	0%
Pleural Effusion	1	0%
Pulmonary Embolus/DVT	1	0%

Reason of Removal from the list (Cancellation):	55	100%
Transfer to private health facility	11	20%
No longer indicated	8	14.5%
Transfer to other Q Health Facility	7	12.7%
Patient deceased	6	10.9%
Discharged home. For OPD angio appt	4	7.3%
BEING TREATED AS OUTPT	4	7.3%
Pt discharged. For OPD angio	3	5.5%
Medically unfit for procedure	3	5.5%
Accepted for transfer to RBWH	2	3.6%
PT SELF DISCHARGED	2	3.6%
Patient declined procedure	2	3.6%
OPD angio	2	3.6%
<Unknown reason>	1	1.8%

Additional Cases

Total = 2,241 (58.1%)

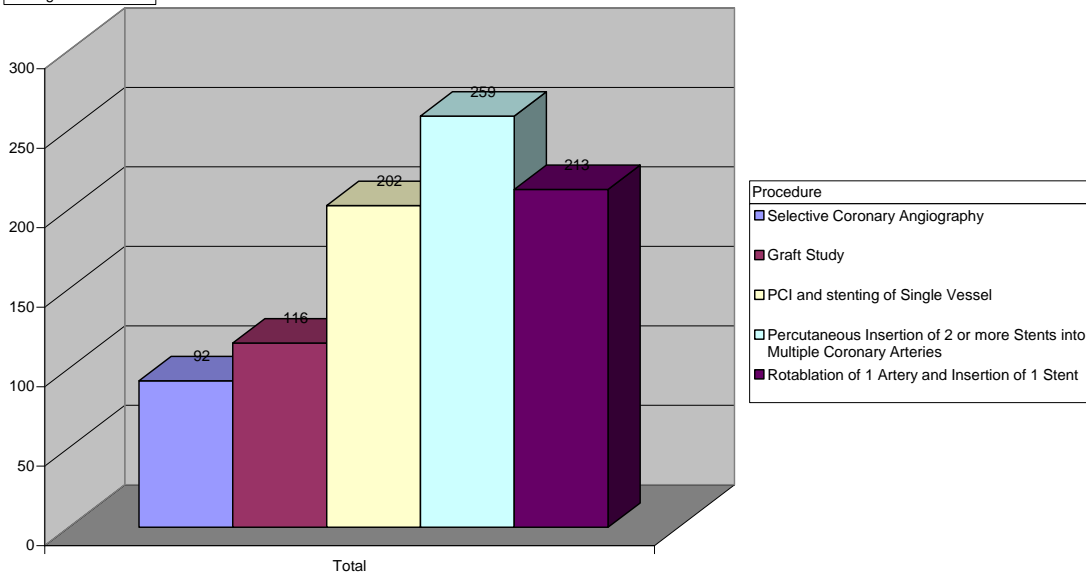
Additional Cases	Financial Year (2012 - 2013)	Financial Year (2011 - 2012)
Add-ons	1,919	1,842
Emergency Add-ons (0800-1800)	116	132
Acute Call-ins (1800-0800)	206	195



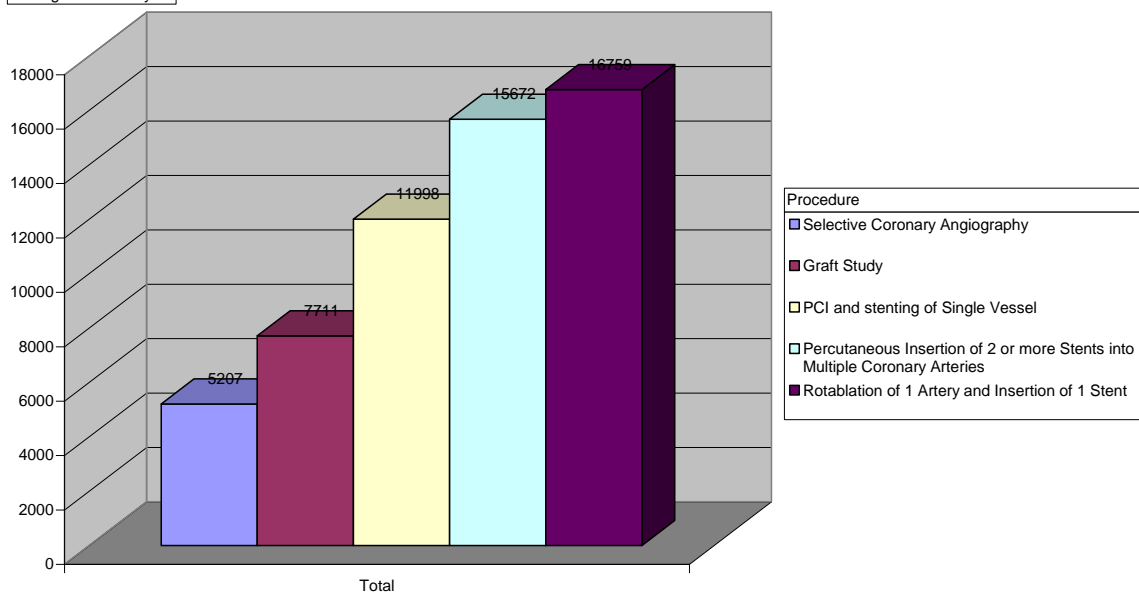
Radiation Dosages per Case

Procedure	Contrast (mL)	Dose Area Product (uGym2)	Entrance Dose (mGy)	Fluoroscopy Time (mins)
Selective Coronary Angiography	92	5207	814	6.7
Graft Study	116	7711	1132	11.7
PCI and stenting of Single Vessel	202	11998	2357	17.1
Percutaneous Insertion of 2 or more Stents into Multiple Coronary Arteries	259	15672	3068	20.9
Rotablation of 1 Artery and Insertion of 1 Stent	213	16759	3003	31.1

Average of Isovue370

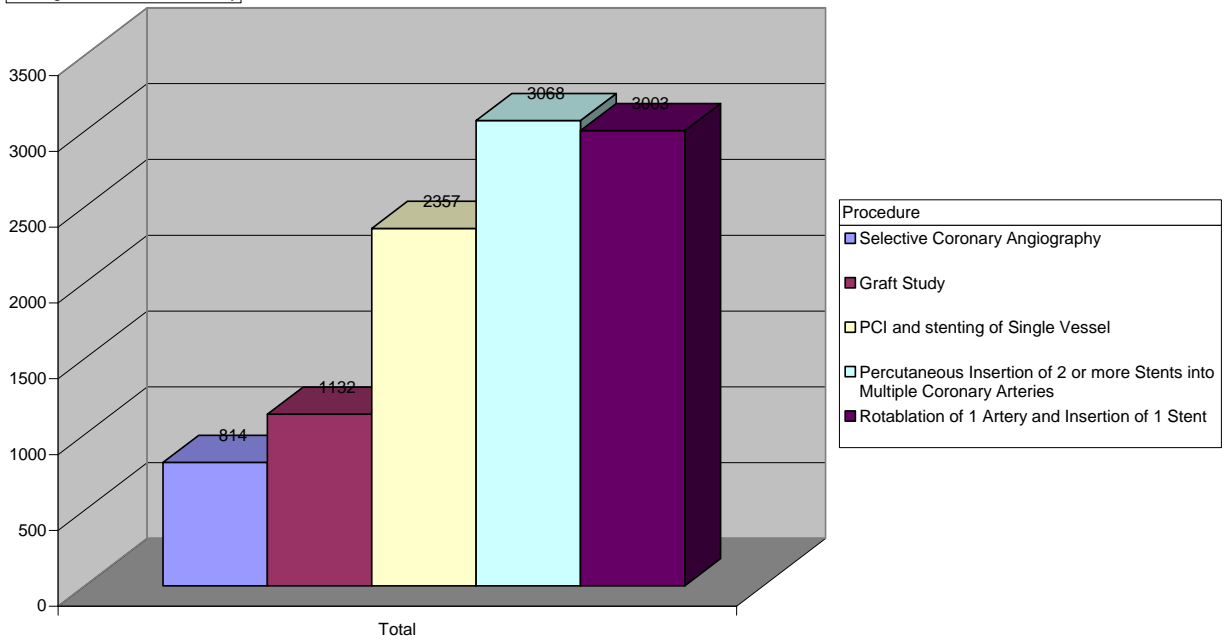


Average of DAPuGym2

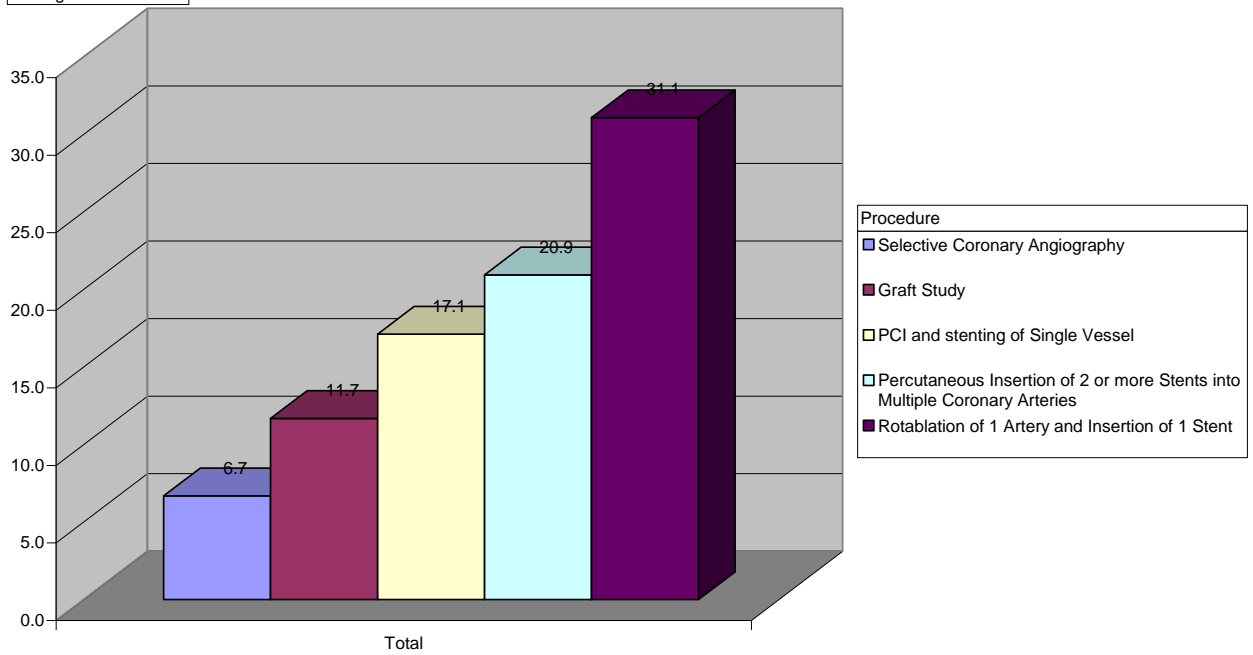


Radiation Continued

Average of EntranceDosemGy



Average of FluoroTime



Complications

Total = 155 (4.02%)

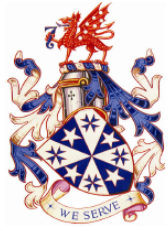
MACE = 6 (0.16%)

COMPLICATIONS	REPORTABLE ADVERSE EVENTS (Financial Year 2012 - 2013)							
	1 st QTR	2 nd QTR	3 rd QTR	4 th QTR	TOTAL	% of Comp.	% of Cases	Financial Year (2011 - 12)
Embolic Stroke	2				2	1.29%	0.05%	1
TIA				1	1	0.65%	0.03%	2
Cardiogenic Shock	1				1	0.65%	0.03%	
Coronary Embolis / Occlusion						-	-	2
Coronary Dissection	7	6			13	8.39%	0.34%	12
Tamponade		1			1	0.65%	0.03%	2
Haematoma	6	1	2	1	10	6.45%	0.26%	22
Perforation / Rupture (PCI related)						-	-	4
Asystole (requiring CPR)	1	2			3	1.94%	0.08%	5
Heart Block	5	6	2	1	10	6.45%	0.26%	10
Acute Respiratory Failure						-	-	
Sustained Bradycardia	1	3			4	2.58%	0.10%	3
Ventricular Tachycardia	6	2	1	1	10	6.45%	0.26%	7
Atrial Fibrillation	1			2	3	1.94%	0.08%	3
Ventricular Fibrillation	7	2	3	2	14	9.03%	0.36%	16
Allergic reaction / Anaphylactic	1	3	2	1	7	4.52%	0.18%	4
Hives	1	1	2		4	2.58%	0.10%	
Hypotension / Vasovagal	10	9	2	4	25	16.1%	0.64%	29
Perforation of Vessels or Artery	2	3		1	6	3.87%	0.16%	
Prolonged Angina						-	-	
Pulmonary Oedema	3		1	1	5	3.23%	0.13%	3
Urgent surgery						-	-	
Radiation Reportable Dose	4	3		6	13	8.39%	0.34%	10
Vascular Injury	2	4	2	2	10	6.45%	0.26%	7
Vomiting			1	3		-	-	5
Other	1				1	0.65%	0.03%	1
TOTAL	61	17	17	30	155	100%	4.02%	192

MACE = Major Adverse Cardiac Event (Death, MI, Stroke, Urgent Revascularisation)	6	-	0.16%	10
Total Mortality in the Laboratory	1	-	0.03%	3
Complication Associated Mortality	2	-	0.05%	2
30 Day All Cause Mortality	49	-	1.27%	44

Dr Darren Walters
Clinical Director
Cardiac Catheterisation Laboratory
Date:

Michael Savage
Senior Cardiac Scientist
Cardiac Catheterisation Laboratory
Date:



THE PRINCE CHARLES HOSPITAL CARDIAC CATHETER LABORATORY



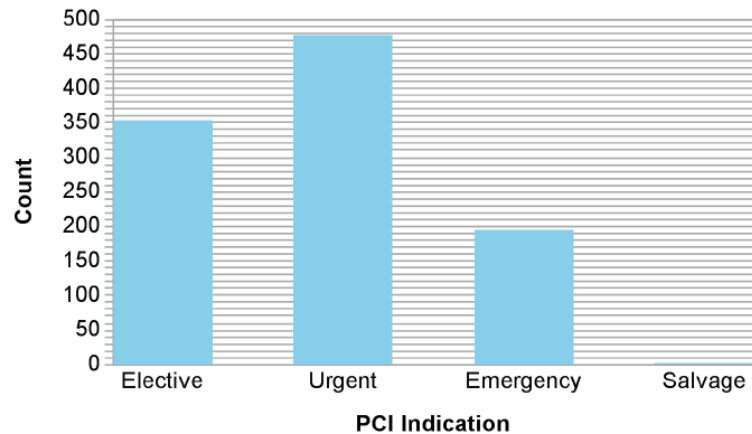
PCI Procedure Report

1/07/2012 - 30/06/2013

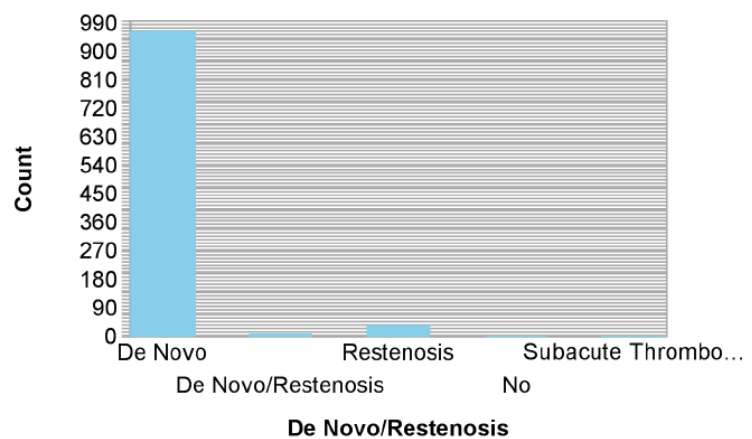
Patient Age			
Male	784	76.12 %	Av 63 +/- 12
Female	246	23.88 %	Av 66 +/- 13
	1030	100%	Av 64 +/- 12

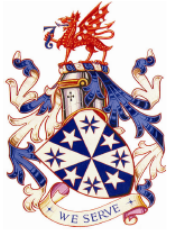
PCI Status	Number of Cases	%
Elective	354	34.47 %
Emergency	196	19.08 %
Salvage	1	0.10 %
Urgent	476	46.35 %
	1027	100%

Indications



De Novo/Restenosis	Number of Cases	%
De Novo	969	94.35 %
De Novo/Restenosis	12	1.17 %
No	4	0.39 %
Restenosis	39	3.80 %
Subacute Thrombosis	3	0.29 %
	1027	100%





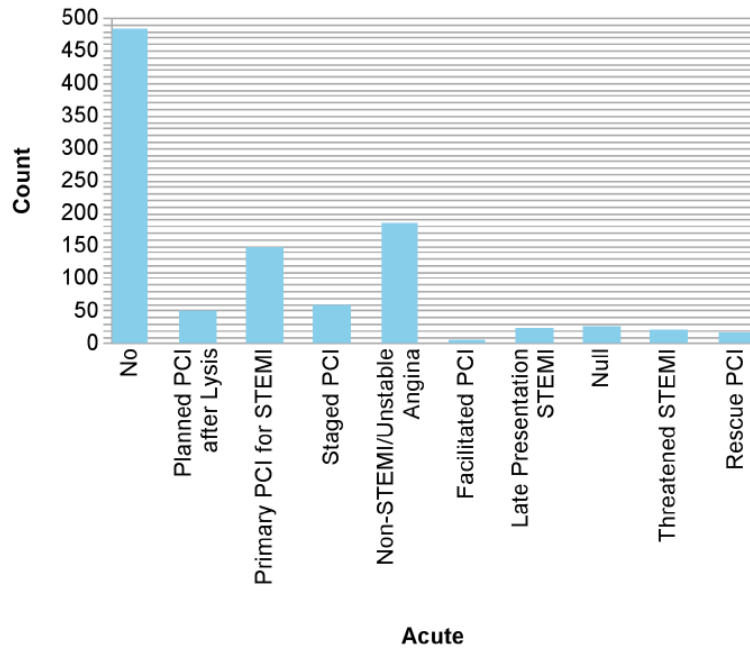
THE PRINCE CHARLES HOSPITAL CARDIAC CATHETER LABORATORY

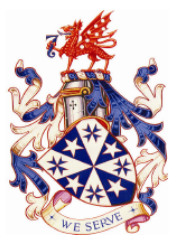


PCI Procedure Report

1/07/2012 - 30/06/2013

Acute	Number of Cases	%
Null	26	2.53 %
Facilitated PCI	6	0.58 %
Late Presentation STEMI	25	2.43 %
No	485	47.22 %
Non-STEMI/Unstable Angina	187	18.21 %
Planned PCI after Lysis	50	4.87 %
Primary PCI for STEMI	150	14.61 %
Rescue PCI	17	1.66 %
Staged PCI	58	5.65 %
Threatened STEMI	23	2.24 %
Total	1027	100%





THE PRINCE CHARLES HOSPITAL CARDIAC CATHETER LABORATORY



PCI Procedure Report

1/07/2012 - 30/06/2013

Cardiac Indications	Number of Indications	%
Angina.	60	4.06 %
Cardiogenic Shock.	3	0.20 %
Chest pain.	403	27.25 %
Exertional dyspnoea.	73	4.94 %
Known coronary artery disease.	189	12.78 %
NSTEMI.	239	16.16 %
Out of hospital arrest.	22	1.49 %
Positive CT Coronary Angiogram.	52	3.52 %
Positive EST.	33	2.23 %
Positive stress echo.	25	1.69 %
Previous MI	86	5.81 %
STEMI.	194	13.12 %
Stable angina.	4	0.27 %
Thrombolysed STEMI.	67	4.53 %
Unstable angina.	29	1.96 %
	1479	100%

Risk Factors	Number of Factors	%
Anxiety	123	2.93 %
Cerebrovascular Disease	200	4.76 %
CHF	68	1.62 %
Chronic Lung Disease	214	5.10 %
Current smoker	331	7.88 %
Depression	155	3.69 %
Diabetes	334	7.96 %
Dyslipidemia	879	20.94 %
Family History	425	10.12 %
Hypertension	868	20.68 %
Obesity	527	12.55 %
Renal Failure	74	1.76 %
	4198	100%



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PCI Procedure Report

1/07/2012 - 30/06/2013

Lesions Risk	Number	%
Type A Lesion	113	8.63 %
Type B1 Lesion	313	23.89 %
Type B2 Lesion	293	22.37 %
Type C Lesion	591	45.11 %
	1310	100%

Approach	Number	%
Brachial	1	0.10 %
Femoral	696	67.51 %
Radial	334	32.40 %
	1031	100%

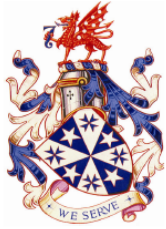
Complications	Number	%
Asystole	2	10.53 %
Heart Block	7	36.84 %
Perforation of Artery or Vessel	2	10.53 %
Pulmonary Oedema	2	10.53 %
Ventricular Fibrillation	6	31.58 %
	19	100%

Previous Procedures

Previous Procedures	Number	%
Previous CABG	122	32.28 %
Previous PCI	243	64.29 %
Previous valvular surgery	13	3.44 %
	378	100%

Technical Data and Lesion Characteristics

Stent Type	Number	%
Bare Metal Stent	471	32.19 %
Drug Eluting Stent	991	67.74 %
Covered Stent	1	0.07 %
	1463	100%



THE PRINCE CHARLES HOSPITAL CARDIAC CATHETER LABORATORY



PCI Procedure Report

1/07/2012 - 30/06/2013

Technical Data and Lesion Characteristics

Guide Size	Number	%	Balloon Size	Number	%
Null	1	0.08 %	1.00	2	0.07 %
5	20	1.52 %	1.25	26	0.86 %
6	1027	77.92 %	1.50	53	1.76 %
6.5	1	0.08 %	2.00	382	12.70 %
7	212	16.08 %	2.25	9	0.30 %
7.5	25	1.90 %	2.50	888	29.53 %
8	32	2.43 %	2.75	121	4.02 %
	1318	100%	3.00	538	17.89 %
			3.25	149	4.96 %
			3.50	420	13.97 %
			3.75	142	4.72 %
			4.00	177	5.89 %
			4.50	79	2.63 %
			5.00	21	0.70 %
			3007	100%	

Stent Width	Number	%	Stent Length	Number	%
2.00	6	0.41 %	8	30	2.05 %
2.25	66	4.51 %	9	15	1.03 %
2.50	261	17.84 %	12	147	10.05 %
2.75	144	9.84 %	13	11	0.75 %
3.00	465	31.78 %	14	9	0.62 %
3.50	380	25.97 %	15	198	13.53 %
4.00	129	8.82 %	16	66	4.51 %
4.50	10	0.68 %	18	253	17.29 %
5.00	2	0.14 %	19	1	0.07 %
	1463	100%	20	62	4.24 %
			22	24	1.64 %
			23	120	8.20 %
			24	118	8.07 %
			26	21	1.44 %
			28	148	10.12 %
			30	19	1.30 %
			32	26	1.78 %
			33	59	4.03 %
			34	2	0.14 %
			35	1	0.07 %
			38	133	9.09 %
			1463	100%	



THE PRINCE CHARLES HOSPITAL CARDIAC CATHETER LABORATORY



PCI Procedure Report

1/07/2012 - 30/06/2013

30 Day Outcomes

Quality of Life	Number	%
Better	510	88.08 %
No Improvement	52	8.98 %
Worse	17	2.94 %
	579	100%

Cardiac Rehab Attended	Number	%
Attended	400	56.98 %
Not Attended	302	43.02 %
	702	100%

Exercise Compliance	Number	%
No	139	18.19 %
Yes	625	81.81 %
	764	100%

Angina	Number	%
Class I (Strenuous Activity)	111	13.47 %
Class II (Ordinary Activity)	38	4.61 %
Class III (Marked Limitations)	48	5.83 %
Class IV (At Rest)	93	11.29 %
No Pain	532	64.56 %
Unknown	2	0.24 %
	824	100%

Access Site	Number	%
Bruising	38	77.55 %
Haematoma	11	22.45 %
	49	100%

Smoking	Number	%
Recommenced Smoking at One Month Post Procedure	32	84.21 %
Referred to Quit Programme	6	15.79 %
	38	100%

Medication Compliance	Number	%
Yes	823	100.00 %
	823	100%

Adverse Events	Number	%
CVA	3	27.27 %
MI	8	72.73 %
	11	100%