

*Demographics of  
Shoulder, Elbow, Wrist, Ankle  
and  
Spinal Disc Arthroplasty*



**SUPPLEMENTARY REPORT  
2009**

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## **INTRODUCTION**

Data presented in this report have been submitted to the Registry by both public and private hospitals. Currently this involves 292 hospitals nationally but varies from time to time due to hospital closures, new hospitals or changes to services within hospitals.

Most hospitals began providing data on these additional arthroplasty procedures on or after the official commencement date of the 15<sup>th</sup> November 2007. The Registry had approval to collect these additional arthroplasty procedures from a number of hospitals prior to the commencement date. These data have also been included. As a consequence there is variation in the starting date for these procedures.

The following table shows the reporting period for each type of joint replacement.

<b>TYPE OF JOINT REPLACEMENT</b>	<b>START OF REPORTING PERIOD</b>	<b>END OF REPORTING PERIOD</b>
Shoulder	16 <sup>th</sup> April 2004	31 <sup>st</sup> December 2008
Elbow	2 <sup>nd</sup> May 2005	31 <sup>st</sup> December 2008
Wrist	7 <sup>th</sup> July 2006	31 <sup>st</sup> December 2008
Ankle	28 <sup>th</sup> July 2006	31 <sup>st</sup> December 2008
Spinal Disc	19 <sup>th</sup> November 2007	31 <sup>st</sup> December 2008

Outcomes data for shoulder replacement only is being reported for the first time. As a consequence of this analysis, the SMR Reverse Shoulder prosthesis has been identified as having more than twice the anticipated rate of revision when compared to other reverse shoulder prostheses. This is statistically significant (Adj HR=2.15; 95%CI (1.08, 4.26), p=0.028) (Table SG15).

# SHOULDER REPLACEMENT

## Primary Partial Shoulder Replacement

- |                     |   |
|---------------------|---|
| Partial Resurfacing | ▪ Partial articular surface replacement |
| Hemi Resurfacing    | ▪ Resurface humeral head                |
| Hemi Shoulder       | ▪ Replace humeral head                  |

## Primary Total Shoulder Replacement

- |                    |  |
|--------------------|--|
| Total Resurfacing  | ▪ Resurface humeral head, replace glenoid                                |
| Conventional Total | ▪ Replace humeral head and glenoid with a conventional ball/socket joint |
| Reverse Total      | ▪ Replace humeral head and glenoid with a reverse ball/socket joint      |

## Revision Shoulder Procedure

- Exchange or removal of one or more components

## Re-operation

- Re-operation without exchange or removal

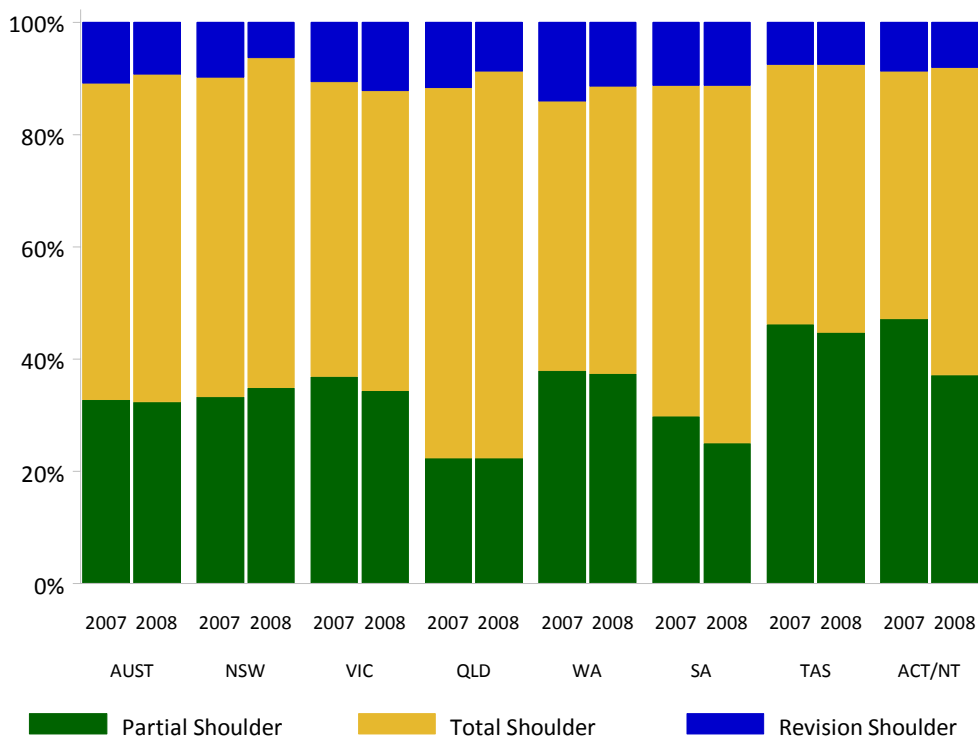
**Table SG1: Number of Shoulder Replacements by Gender**

Type of Shoulder Replacement	Female		Male		TOTAL	
	N	%	N	%	N	%
Partial Resurfacing	12	38.7	19	61.3	31	2.4
Hemi Resurfacing	162	46.3	188	53.7	350	26.7
Hemi Shoulder	701	75.3	230	24.7	931	71.0
<b>Primary Partial</b>	<b>875</b>	<b>66.7</b>	<b>437</b>	<b>33.3</b>	<b>1312</b>	<b>100.0</b>
Total Resurfacing	10	43.5	13	56.5	23	1.0
Conventional Total	843	61.4	529	38.6	1372	57.9
Reverse Total	637	65.4	337	34.6	974	41.1
<b>Primary Total</b>	<b>1490</b>	<b>62.9</b>	<b>879</b>	<b>37.1</b>	<b>2369</b>	<b>100.0</b>
<b>Revision</b>	<b>248</b>	<b>61.1</b>	<b>158</b>	<b>38.9</b>	<b>406</b>	<b>100.0</b>
<b>TOTAL</b>	<b>2613</b>	<b>63.9</b>	<b>1474</b>	<b>36.1</b>	<b>4087</b>	<b>100.0</b>

**Table SG2: Number of Shoulder Replacements by Age**

Type of Shoulder Replacement	<55		55-64		65-74		75-84		≥85		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Partial Resurfacing	19	61.3	2	6.5	4	12.9	5	16.1	1	3.2	31	2.4
Hemi Resurfacing	66	18.9	95	27.1	97	27.7	76	21.7	16	4.6	350	26.7
Hemi Shoulder	66	7.1	166	17.8	269	28.9	335	36.0	95	10.2	931	71.0
<b>Primary Partial</b>	<b>151</b>	<b>11.5</b>	<b>263</b>	<b>20.0</b>	<b>370</b>	<b>28.2</b>	<b>416</b>	<b>31.7</b>	<b>112</b>	<b>8.5</b>	<b>1312</b>	<b>100.0</b>
Total Resurfacing	2	8.7	5	21.7	12	52.2	4	17.4	.	.	23	1.0
Conventional Total	66	4.8	286	20.8	562	41.0	416	30.3	42	3.1	1372	57.9
Reverse Total	14	1.4	86	8.8	311	31.9	465	47.7	98	10.1	974	41.1
<b>Primary Total</b>	<b>82</b>	<b>3.5</b>	<b>377</b>	<b>15.9</b>	<b>885</b>	<b>37.4</b>	<b>885</b>	<b>37.4</b>	<b>140</b>	<b>5.9</b>	<b>2369</b>	<b>100.0</b>
<b>Revision</b>	<b>28</b>	<b>6.9</b>	<b>88</b>	<b>21.7</b>	<b>145</b>	<b>35.7</b>	<b>122</b>	<b>30.0</b>	<b>23</b>	<b>5.7</b>	<b>406</b>	<b>100.0</b>
<b>TOTAL</b>	<b>261</b>	<b>6.4</b>	<b>728</b>	<b>17.8</b>	<b>1400</b>	<b>34.3</b>	<b>1423</b>	<b>34.8</b>	<b>275</b>	<b>6.7</b>	<b>4087</b>	<b>100.0</b>

**Figure SG1: Trends in Usage of Shoulder Replacement by State/Territory and Year**



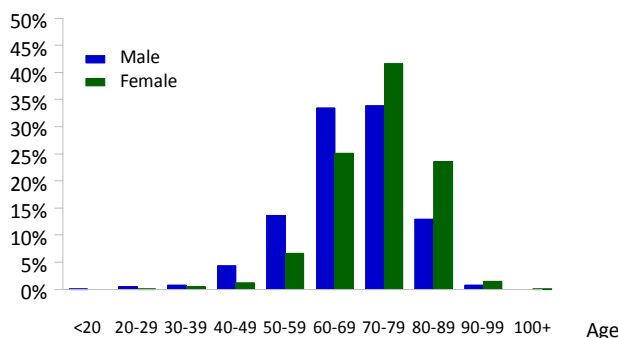
**Table SG3: Time between Procedures for Bilateral Primary Shoulder Replacement**

Bilateral Procedures	Same Day		1 day-6months		≥6months		TOTAL	
	N	%	N	%	N	%	N	%
Both Partial	4	4.1	7	7.2	8	8.2	19	19.6
Both Total	1	1.0	35	36.1	35	36.1	71	73.2
Total/Partial	.	.	3	3.1	4	4.1	7	7.2
<b>TOTAL</b>	<b>5</b>	<b>5.2</b>	<b>45</b>	<b>46.4</b>	<b>47</b>	<b>48.5</b>	<b>97</b>	<b>100.0</b>

**Table SG4: Age by Gender for All Shoulder Replacement**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	2613	63.9%	22	101	74	72.8	9.5
Male	1474	36.1%	19	94	69	68.0	11.1
<b>TOTAL</b>	<b>4087</b>	<b>100.0%</b>	<b>19</b>	<b>101</b>	<b>72</b>	<b>71.1</b>	<b>10.3</b>

**Figure SG2: Shoulder Replacement by Age and Gender**



**Table SG5: Revision Rates of Primary Shoulder Replacement**

Type of Shoulder Replacement	N Revised	N Total	Obs. Years	Revisions per 100 Obs. Yrs	Exact 95% CI
Partial Resurfacing	0	31	23	0.0	(0.00, 16.33)
Hemi Resurfacing	4	350	316	1.3	(0.35, 3.25)
Hemi Shoulder	18	931	795	2.3	(1.34, 3.58)
Total Resurfacing	1	23	26	3.8	(0.10, 21.20)
Conventional Total	26	1372	1225	2.1	(1.39, 3.11)
Reverse Total	34	974	814	4.2	(2.89, 5.84)
<b>TOTAL</b>	<b>83</b>	<b>3681</b>	<b>3198</b>	<b>2.6</b>	<b>(2.07, 3.22)</b>

**Table SG6: Yearly Cumulative Percent Revision of Primary Shoulder Replacement**

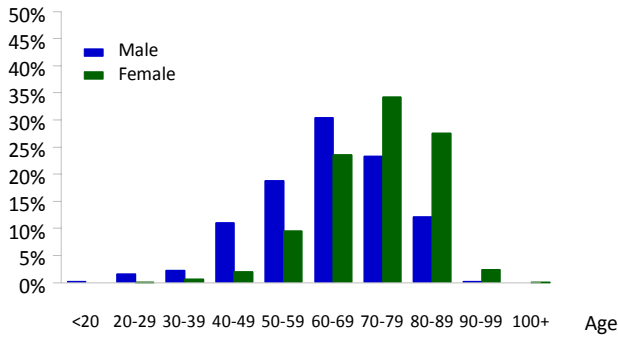
CPR	1 Yr	2 Yrs
Partial Resurfacing	0.0 (0.0, 0.0)	
Hemi Resurfacing	0.4 (0.1, 2.9)	3.5 (1.3, 9.8)
Hemi Shoulder	1.8 (1.0, 3.2)	3.4 (1.9, 5.8)
Total Resurfacing	6.7 (1.0, 38.7)	6.7 (1.0, 38.7)
Conventional Total	2.7 (1.8, 4.1)	3.4 (2.2, 5.1)
Reverse Total	4.2 (3.0, 6.0)	4.7 (3.3, 6.8)

## Primary Partial Shoulder Replacement

**Table SG7-P: Primary Partial Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	875	66.7	22	101	74	72.5	10.9
Male	437	33.3	19	93	65	63.9	13.4
<b>TOTAL</b>	<b>1312</b>	<b>100.0</b>	<b>19</b>	<b>101</b>	<b>71</b>	<b>69.7</b>	<b>12.5</b>

**Figure SG7-P: Primary by Age and Gender**



**Table SG7-PD: Primary Diagnosis**

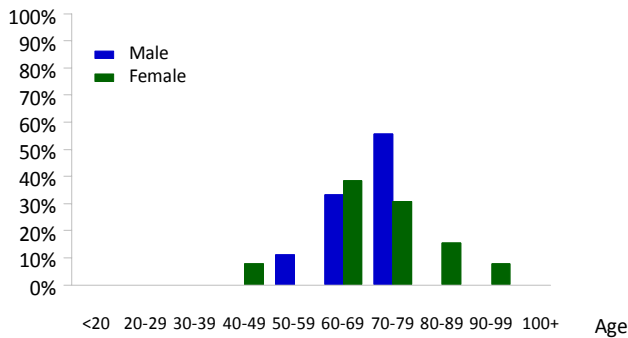
Primary Diagnosis	Number	Percent
Osteoarthritis	625	47.6
Fracture/Dislocation	553	42.1
Rotator Cuff Arthropathy	40	3.0
Avascular Necrosis	38	2.9
Rheumatoid Arthritis	27	2.1
Tumour	11	0.8
Other Inflammatory Arthritis	8	0.6
Instability	4	0.3
Hills-Sachs Defect	4	0.3
Other	2	0.2
<b>TOTAL</b>	<b>1312</b>	<b>100.0</b>

## Revision of Known Primary Partial Shoulder Replacement

**Table SG7-R: Revision of Known Primary Partial Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	13	59.1	41	93	70	71.2	12.6
Male	9	40.9	57	78	70	69.0	6.4
<b>TOTAL</b>	<b>22</b>	<b>100.0</b>	<b>41</b>	<b>93</b>	<b>70</b>	<b>70.3</b>	<b>10.3</b>

**Figure SG7-R: Revision by Age and Gender**



**Table SG7-RD: Revision Diagnosis**

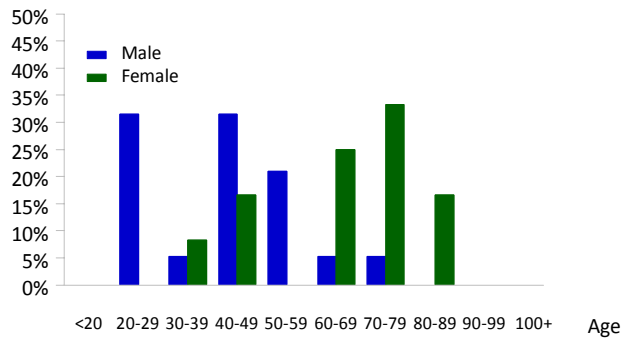
Revision Diagnosis	Number	Percent
Instability	5	22.7
Dislocation Of Prosthesis	3	13.6
Loosening/Lysis	3	13.6
Pain	3	13.6
Dissociation	2	9.1
Infection	2	9.1
Fracture	2	9.1
Glenoid Erosion	1	4.5
Arthrofibrosis	1	4.5
<b>TOTAL</b>	<b>22</b>	<b>100.0</b>

## *Primary Partial Resurfacing Shoulder Replacement*

**Table SG8-P: Primary Partial Resurfacing Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	12	38.7	32	85	71	65.3	16.4
Male	19	61.3	20	76	46	42.6	15.8
<b>TOTAL</b>	<b>31</b>	<b>100.0</b>	<b>20</b>	<b>85</b>	<b>47</b>	<b>51.4</b>	<b>19.4</b>

**Figure SG8-P: Primary by Age and Gender**



**Table SG8-PD: Primary Diagnosis**

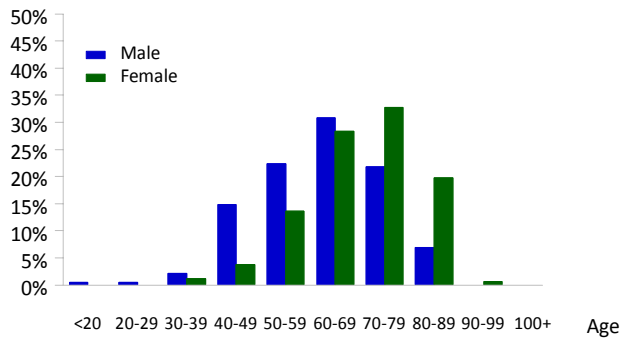
Primary Diagnosis	Number	Percent
Osteoarthritis	21	67.7
Hills-Sachs Defect	4	12.9
Fracture/Dislocation	3	9.7
Other	2	6.5
Instability	1	3.2
<b>TOTAL</b>	<b>31</b>	<b>100.0</b>

## Primary Hemi Resurfacing Shoulder Replacement

**Table SG9-P: Primary Hemi Resurfacing Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	162	46.3	31	93	71	69.6	11.1
Male	188	53.7	19	88	62	61.8	12.3
<b>TOTAL</b>	<b>350</b>	<b>100.0</b>	<b>19</b>	<b>93</b>	<b>66</b>	<b>65.4</b>	<b>12.4</b>

**Figure SG9-P: Primary by Age and Gender**



**Table SG9-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	314	89.7
Rotator Cuff Arthropathy	15	4.3
Avascular Necrosis	6	1.7
Fracture/Dislocation	5	1.4
Rheumatoid Arthritis	4	1.1
Other Inflammatory Arthritis	4	1.1
Instability	2	0.6
<b>TOTAL</b>	<b>350</b>	<b>100.0</b>

**Table SG9-C1: 10 Most Common Humeral Head Prostheses used in Primary Hemi Resurfacing Shoulder Replacement**

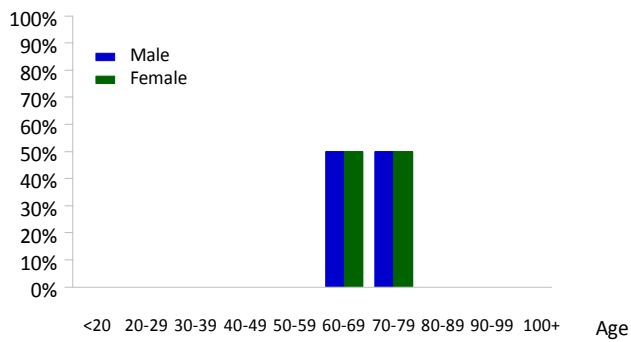
Rank	2006	2007	2008
<b>1</b>	Global CAP 15	Copeland 66	Copeland 115
<b>2</b>	Epoca RH 5	Global CAP 28	Global CAP 43
<b>3</b>	Copeland 3	SMR 19	SMR 32
<b>4</b>		Epoca RH 8	Aequalis 11
<b>5</b>			Epoca RH 2
<b>6</b>			Buechel-Pappas 1
<b>7</b>			Eclipse 1
<b>Top 10 Usage</b>	100%	100%	100%
<b>Total Procedures</b>	23	121	205
<b>N Prosthesis Types</b>	3	4	7

## *Revision of Known Primary Hemi Resurfacing Shoulder Replacement*

**Table SG9-R: Revision of Known Primary Hemi Resurfacing Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	2	50.0	62	77	70	69.5	10.6
Male	2	50.0	64	78	71	71.0	9.9
<b>TOTAL</b>	<b>4</b>	<b>100.0</b>	<b>62</b>	<b>78</b>	<b>71</b>	<b>70.3</b>	<b>8.4</b>

**Figure SG9-R: Revision by Age and Gender**



**Table SG9-RD: Revision Diagnosis**

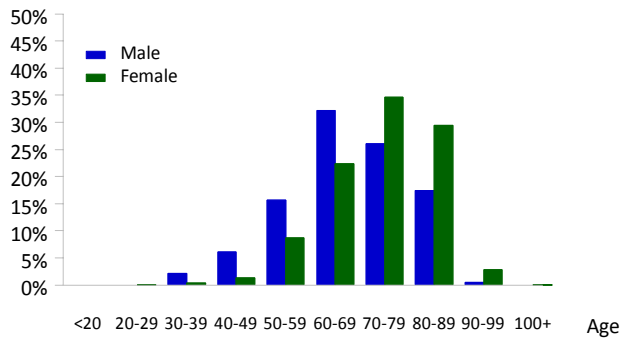
Revision Diagnosis	Number	Percent
Pain	2	50.0
Loosening/Lysis	2	50.0
<b>TOTAL</b>	<b>4</b>	<b>100.0</b>

## Primary Hemi Shoulder Replacement

**Table SG10-P: Primary Hemi Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	701	75.3	22	101	75	73.3	10.6
Male	230	24.7	30	93	68	67.4	12.2
<b>TOTAL</b>	<b>931</b>	<b>100.0</b>	<b>22</b>	<b>101</b>	<b>74</b>	<b>71.9</b>	<b>11.3</b>

**Figure SG10-P: Primary by Age and Gender**



**Table SG10-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Fracture/Dislocation	545	58.5
Osteoarthritis	290	31.1
Avascular Necrosis	32	3.4
Rotator Cuff Arthropathy	25	2.7
Rheumatoid Arthritis	23	2.5
Tumour	11	1.2
Other Inflammatory Arthritis	4	0.4
Instability	1	0.1
<b>TOTAL</b>	<b>931</b>	<b>100.0</b>

**Table SG10-C1: 10 Most Common Humeral Stem Prostheses used in Primary Hemi Shoulder Replacement**

Rank	2006	2007	2008
<b>1</b>	Global Advantage 13	SMR 88	SMR 200
<b>2</b>	Global FX 11	Global FX 72	Global FX 125
<b>3</b>	SMR 6	Global Advantage 65	Aequalis 92
<b>4</b>	Aequalis 2	Aequalis 32	Global Advantage 74
<b>5</b>	Bigliani/Flatow 2	Bigliani/Flatow 15	Bigliani/Flatow 30
<b>6</b>	Bio-Modular 2	Solar 11	Bio-Modular 11
<b>7</b>	Mosaic 1	Comprehensive SS 7	Solar 11
<b>8</b>	Solar 1	Bio-Modular 4	Global AP 7
<b>9</b>	Univers 3D 1	Trabecular Metal 3	Univers 3D 6
<b>10</b>		Delta Xtend 2	Delta Xtend 5
<b>Top 10 Usage</b>	100%	98%	97.4%
<b>Total Procedures</b>	39	305	576
<b>N Prosthesis Types</b>	9	16	15

**Table SG10-RR: Revision Rates of Primary Hemi Shoulder Replacement**

Humeral Head	Humeral Stem	N Revised	N Total	Obs. Years	Revisions per 100 Obs. Yrs	Exact 95% CI
Aequalis	Aequalis	1	126	90	1.1	(0.03, 6.17)
Bigliani/Flatow	Bigliani/Flatow	0	47	41	0.0	(0.00, 8.90)
Global Advantage	Global Advantage	4	158	168	2.4	(0.65, 6.08)
Global Advantage	Global FX	5	211	183	2.7	(0.89, 6.39)
SMR	SMR	6	294	224	2.7	(0.98, 5.84)
Solar	Solar	1	25	30	3.4	(0.09, 18.78)
Other (13)		1	70	58	1.7	(0.04, 9.55)
<b>TOTAL</b>		<b>18</b>	<b>931</b>	<b>795</b>	<b>2.3</b>	<b>(1.34, 3.58)</b>

Note: Only prostheses with over 25 procedures have been listed.

**Table SG10-CPR: Yearly Cumulative Percent Revision of Primary Hemi Shoulder Replacement**

Humeral Head	Humeral Stem	1 Yr	2 Yrs
Aequalis	Aequalis	0.9 (0.1, 6.0)	
Bigliani/Flatow	Bigliani/Flatow	0.0 (0.0, 0.0)	
Global Advantage	Global Advantage	0.6 (0.1, 4.4)	3.9 (1.2, 12.5)
Global Advantage	Global FX	2.7 (0.9, 7.8)	4.4 (1.6, 11.7)
SMR	SMR	2.2 (0.9, 5.3)	3.3 (1.4, 7.9)
Solar	Solar	4.5 (0.7, 28.1)	
Other (13)		1.8 (0.3, 12.2)	

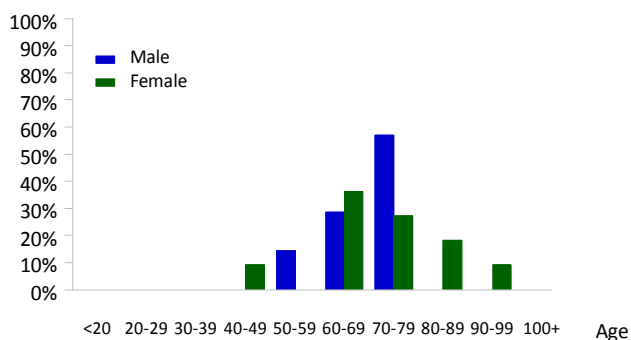
Note: Only prostheses with over 25 procedures have been listed.

*Revision of Known Primary Hemi Shoulder Replacement*

**Table SG10-R: Revision of Known Primary Hemi Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	11	61.1	41	93	70	71.5	13.3
Male	7	38.9	57	76	70	68.4	6.0
<b>TOTAL</b>	<b>18</b>	<b>100.0</b>	<b>41</b>	<b>93</b>	<b>70</b>	<b>70.3</b>	<b>10.9</b>

**Figure SG10-R: Revision by Age and Gender**



**Table SG10-RD: Revision Diagnosis**

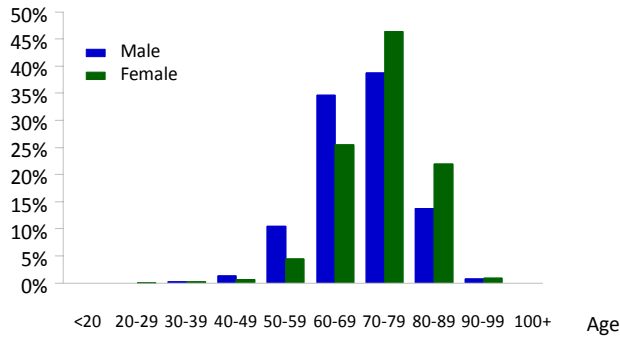
Revision Diagnosis	Number	Percent
Instability	5	27.8
Dislocation Of Prosthesis	3	16.7
Dissociation	2	11.1
Infection	2	11.1
Fracture	2	11.1
Loosening/Lysis	1	5.6
Glenoid Erosion	1	5.6
Pain	1	5.6
Arthrofibrosis	1	5.6
<b>TOTAL</b>	<b>18</b>	<b>100.0</b>

## Primary Total Shoulder Replacement

**Table SG11-P: Primary Total Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1490	62.9	23	95	74	73.3	8.4
Male	879	37.1	35	94	70	70.0	9.3
<b>TOTAL</b>	<b>2369</b>	<b>100.0</b>	<b>23</b>	<b>95</b>	<b>73</b>	<b>72.1</b>	<b>8.8</b>

**Figure SG11-P: Primary by Age and Gender**



**Table SG11-PD: Primary Diagnosis**

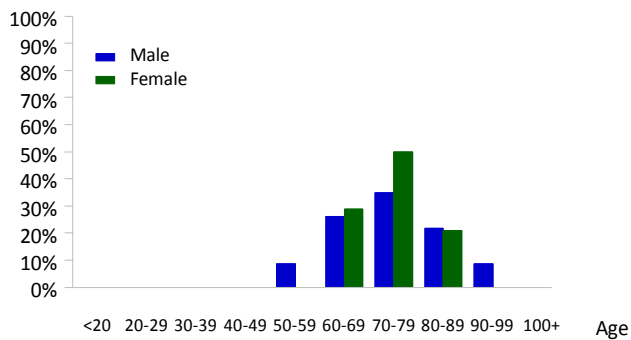
Primary Diagnosis	Number	Percent
Osteoarthritis	1868	78.9
Rotator Cuff Arthropathy	221	9.3
Fracture/Dislocation	139	5.9
Rheumatoid Arthritis	68	2.9
Avascular Necrosis	38	1.6
Other Inflammatory Arthritis	13	0.5
Instability	13	0.5
Tumour	7	0.3
Other	2	0.1
<b>TOTAL</b>	<b>2369</b>	<b>100.0</b>

## Revision of Known Primary Total Shoulder Replacement

**Table SG11-R: Revision of Known Primary Total Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	38	62.3	60	88	74	73.6	7.0
Male	23	37.7	58	90	76	73.8	9.6
<b>TOTAL</b>	<b>61</b>	<b>100.0</b>	<b>58</b>	<b>90</b>	<b>75</b>	<b>73.7</b>	<b>8.0</b>

**Figure SG11-R: Revision by Age and Gender**



**Table SG11-RD: Revision Diagnosis**

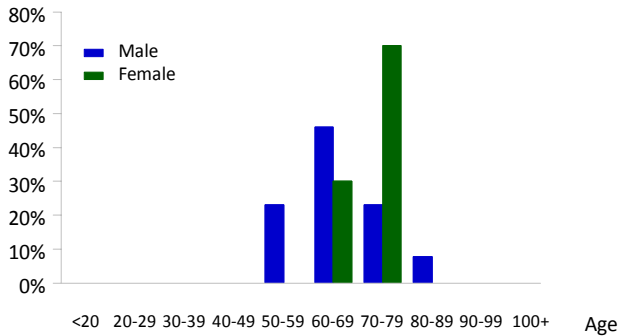
Revision Diagnosis	Number	Percent
Dislocation Of Prosthesis	22	36.1
Loosening/Lysis	19	31.1
Instability	6	9.8
Infection	5	8.2
Fracture	3	4.9
Rotator Cuff Arthropathy	3	4.9
Implant Breakage Glenoid	1	1.6
Arthrofibrosis	1	1.6
Implant Breakage Humeral	1	1.6
<b>TOTAL</b>	<b>61</b>	<b>100.0</b>

## Primary Total Resurfacing Shoulder Replacement

**Table SG12-P: Primary Total Resurfacing Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	10	43.5	62	79	70	70.3	5.0
Male	13	56.5	53	83	67	66.2	8.5
<b>TOTAL</b>	<b>23</b>	<b>100.0</b>	<b>53</b>	<b>83</b>	<b>69</b>	<b>68.0</b>	<b>7.4</b>

**Figure SG12-P: Primary by Age and Gender**



**Table SG12-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	21	91.3
Rheumatoid Arthritis	1	4.3
Other Inflammatory Arthritis	1	4.3
<b>TOTAL</b>	<b>23</b>	<b>100.0</b>

**Table SG12-C1: 10 Most Common Humeral Head Prostheses used in Primary Total Resurfacing Shoulder Replacement**

Rank	2006	2007	2008
1	Epoca RH	SMR	SMR
	2	4	5
2	Copeland	Copeland	Aequalis
	1	2	3
3	Global CAP	Global CAP	Copeland
	1	2	2
<b>Top 10 Usage</b>	100%	100%	100%
<b>Total Procedures</b>	4	8	10
<b>N Prosthesis Types</b>	3	3	3

**Table SG12-C2: 10 Most Common Glenoid Prostheses used in Primary Total Resurfacing Shoulder Replacement**

Rank	2006	2007	2008
1	Epoca	SMR	SMR
	2	4	5
2	Bio-Modular	Global	Aequalis
	1	2	3
3	Global	Bio-Modular	Copeland
	1	1	2
4		Univers 3D	
		1	
<b>Top 10 Usage</b>	100%	100%	100%
<b>Total Procedures</b>	4	8	10
<b>N Prosthesis Types</b>	3	4	3

*Revision of Known Primary Total Resurfacing Shoulder Replacement*

**Table SG12-R: Revision of Known Primary Total Resurfacing Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	100.0	74	74	74	74.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>74</b>	<b>74</b>	<b>74</b>	<b>74.0</b>	.

**Table SG12-RD: Revision Diagnosis**

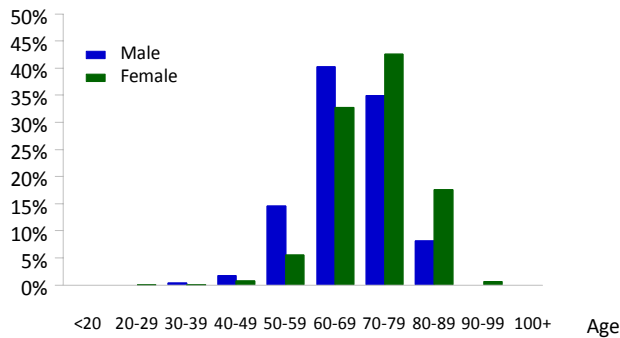
Revision Diagnosis	Number	Percent
Loosening/Lysis	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## Primary Conventional Total Shoulder Replacement

**Table SG13-P: Primary Conventional Total Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	843	61.4	23	93	72	71.7	8.4
Male	529	38.6	35	89	67	67.5	8.9
<b>TOTAL</b>	<b>1372</b>	<b>100.0</b>	<b>23</b>	<b>93</b>	<b>70</b>	<b>70.1</b>	<b>8.8</b>

**Figure SG13-P: Primary by Age and Gender**



**Table SG13-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	1283	93.5
Rheumatoid Arthritis	33	2.4
Avascular Necrosis	23	1.7
Fracture/Dislocation	18	1.3
Other Inflammatory Arthritis	7	0.5
Rotator Cuff Arthropathy	4	0.3
Tumour	3	0.2
Instability	1	0.1
<b>TOTAL</b>	<b>1372</b>	<b>100.0</b>

**Table SG13-C1: 10 Most Common Humeral Stem Prostheses used in Primary Conventional Total Shoulder Replacement**

Rank	2006	2007	2008
<b>1</b>	Global Advantage 35	SMR 145	SMR 292
<b>2</b>	SMR 27	Global Advantage 136	Aequalis 159
<b>3</b>	Bigliani/Flatow 12	Aequalis 56	Global Advantage 116
<b>4</b>	Univers 3D 6	Bigliani/Flatow 38	Global AP 87
<b>5</b>	Affinis 4	Solar 24	Bigliani/Flatow 71
<b>6</b>	Aequalis 2	Affinis 16	Solar 32
<b>7</b>	Bio-Modular 1	Univers 3D 16	Affinis 27
<b>8</b>	Cofield 2 1	Trabecular Metal 7	Univers 3D 11
<b>9</b>	Select 1	Bio-Modular 4	Cofield 2 10
<b>10</b>		Cofield 2 2	Trabecular Metal 8
<b>Top 10 Usage</b>	100%	98.9%	98.4%
<b>Total Procedures</b>	89	449	826
<b>N Prosthesis Types</b>	9	13	16

**Table SG13-C2: 10 Most Common Glenoid Prostheses used in Primary Conventional Total Shoulder Replacement**

Rank	2006	2007	2008
1	Global 34	SMR 141	SMR 288
2	SMR 26	Global 137	Global 204
3	Bigliani/Flatow 12	Aequalis 56	Aequalis 159
4	Univers 3D 6	Bigliani/Flatow 45	Bigliani/Flatow 79
5	Affinis 4	Solar 24	Solar 32
6	Aequalis 2	Affinis 16	Affinis 27
7	Bio-Modular 1	Univers 3D 16	Univers 3D 11
8	Cofield 2 1	Bio-Modular 4	Cofield 2 10
9	Epoca Reco 1	Lima Glenoid 4	Promos 5
10	Lima Glenoid 1	Cofield 2 2	Epoca 3
<b>Top 10 Usage</b>	98.9%	99.1%	99%
<b>Total Procedures</b>	89	449	826
<b>N Prosthesis Types</b>	11	13	15

**Table SG13-RR: Revision Rates of Primary Conventional Total Shoulder Replacement**

Humeral	Glenoid	N Revised	N Total	Obs. Years	Revisions per 100 Obs. Yrs	Exact 95% CI
Aequalis	Aequalis	1	217	157	0.6	(0.02, 3.55)
Affinis	Affinis	0	47	43	0.0	(0.00, 8.59)
Bigliani/Flatow	Bigliani/Flatow	5	122	113	4.4	(1.44, 10.32)
Global AP	Global	0	89	30	0.0	(0.00, 12.10)
Global Advantage	Global	5	290	351	1.4	(0.46, 3.33)
SMR	SMR	10	455	390	2.6	(1.23, 4.72)
Solar	Solar	0	56	45	0.0	(0.00, 8.24)
Univers 3D	Univers 3D	4	34	43	9.3	(2.54, 23.91)
Other (13)		1	62	54	1.9	(0.05, 10.36)
<b>TOTAL</b>		<b>26</b>	<b>1372</b>	<b>1225</b>	<b>2.1</b>	<b>(1.39, 3.11)</b>

Note: Only prostheses with over 25 procedures have been listed.

**Table SG13-CPR: Yearly Cumulative Percent Revision of Primary Conventional Total Shoulder Replacement**

Humeral	Glenoid	1 Yr	2 Yrs
Aequalis	Aequalis	0.8 (0.1, 5.2)	
Affinis	Affinis	0.0 (0.0, 0.0)	
Bigliani/Flatow	Bigliani/Flatow	5.0 (1.8, 13.2)	5.0 (1.8, 13.2)
Global AP	Global		
Global Advantage	Global	1.8 (0.7, 4.9)	2.4 (1.0, 5.8)
SMR	SMR	3.6 (2.0, 6.7)	3.6 (2.0, 6.7)
Solar	Solar	0.0 (0.0, 0.0)	
Univers 3D	Univers 3D	7.3 (1.8, 26.3)	18.3 (6.9, 43.5)
Other (13)		3.1 (0.4, 20.2)	3.1 (0.4, 20.2)

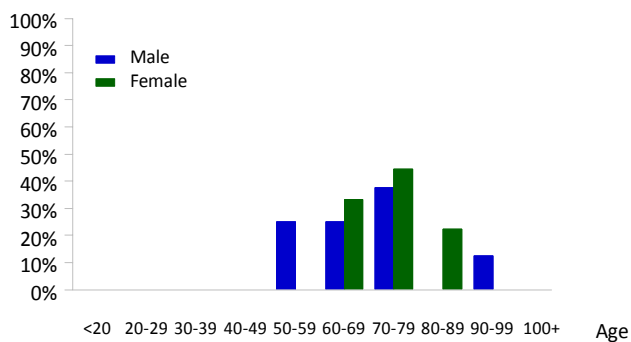
Note: Only prostheses with over 25 procedures have been listed.

*Revision of Known Primary Conventional Total Shoulder Replacement*

**Table SG13-R: Revision of Known Primary Conventional Total Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	18	69.2	61	87	75	73.6	7.2
Male	8	30.8	58	90	67	69.0	11.3
<b>TOTAL</b>	<b>26</b>	<b>100.0</b>	<b>58</b>	<b>90</b>	<b>74</b>	<b>72.2</b>	<b>8.7</b>

**Figure SG13-R: Revision by Age and Gender**



**Table SG13-RD: Revision Diagnosis**

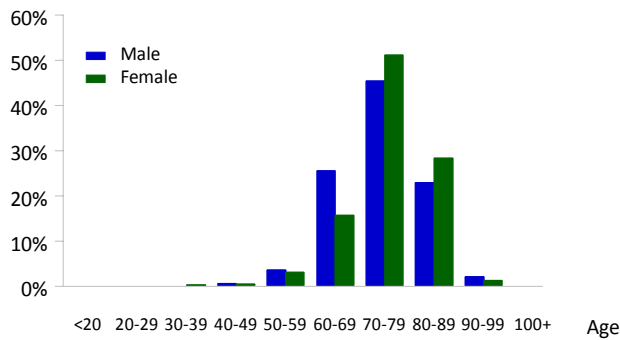
Revision Diagnosis	Number	Percent
Loosening/Lysis	8	30.8
Dislocation Of Prosthesis	7	26.9
Instability	4	15.4
Rotator Cuff Arthropathy	3	11.5
Implant Breakage Glenoid	1	3.8
Arthrofibrosis	1	3.8
Infection	1	3.8
Implant Breakage Humeral	1	3.8
<b>TOTAL</b>	<b>26</b>	<b>100.0</b>

## Primary Reverse Total Shoulder Replacement

**Table SG14-P: Primary Reverse Total Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	637	65.4	32	95	76	75.3	7.9
Male	337	34.6	46	94	75	74.1	8.4
<b>TOTAL</b>	<b>974</b>	<b>100.0</b>	<b>32</b>	<b>95</b>	<b>76</b>	<b>74.9</b>	<b>8.1</b>

**Figure SG14-P: Primary by Age and Gender**



**Table SG14-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	564	57.9
Rotator Cuff Arthropathy	217	22.3
Fracture/Dislocation	121	12.4
Rheumatoid Arthritis	34	3.5
Avascular Necrosis	15	1.5
Instability	12	1.2
Other Inflammatory Arthritis	5	0.5
Tumour	4	0.4
Other	2	0.2
<b>TOTAL</b>	<b>974</b>	<b>100.0</b>

**Table SG14-C1: 10 Most Common Humeral Stem Prostheses used in Primary Reverse Total Shoulder Replacement**

Rank	2006	2007	2008
<b>1</b>	Delta CTA 21	SMR 124	SMR 252
<b>2</b>	SMR 18	Delta Xtend 70	Delta Xtend 240
<b>3</b>	Aequalis 17	Delta CTA 39	Aequalis 66
<b>4</b>	Delta Xtend 2	Aequalis 34	Trabecular Metal 43
<b>5</b>	Trabecular Metal 1	Trabecular Metal 21	Delta CTA 18
<b>6</b>		Generic Humeral Stem 1	Custom Made (Lima) 1
<b>7</b>			Promos 1
<b>Top 10 Usage</b>	100%	100%	100%
<b>Total Procedures</b>	59	289	621
<b>N Prosthesis Types</b>	5	7	7

**Table SG14-C2: 10 Most Common Glenoid Component used in Primary Reverse Total Shoulder Replacement**

Rank	2006	2007	2008
1	Delta CTA 21	SMR 125	SMR 253
2	SMR 18	Delta Xtend 71	Delta Xtend 240
3	Aequalis 17	Delta CTA 39	Aequalis 66
4	Delta Xtend 2	Aequalis 34	Trabecular Metal 43
5	Trabecular Metal 1	Trabecular Metal 21	Delta CTA 18
6			Promos 1
<b>Top 10 Usage</b>	100%	100%	100%
<b>Total Procedures</b>	59	290	621
<b>N Prosthesis Types</b>	5	5	6

**Table SG14-RR: Revision Rates of Primary Reverse Total Shoulder Replacement**

Humeral	Glenoid	N Revised	N Total	Obs. Years	Revisions per 100 Obs. Yrs	Exact 95% CI
Aequalis	Aequalis	3	117	117	2.6	(0.53, 7.52)
Delta CTA	Delta CTA	5	80	115	4.3	(1.41, 10.12)
Delta Xtend	Delta Xtend	5	312	198	2.5	(0.82, 5.89)
SMR	SMR	20	396	326	6.1	(3.74, 9.46)
Trabecular Metal	Trabecular Metal	1	65	54	1.9	(0.05, 10.36)
Other (4)		0	4	4	0.0	(0.00, 100.8)
<b>TOTAL</b>		<b>34</b>	<b>974</b>	<b>814</b>	<b>4.2</b>	<b>(2.89, 5.84)</b>

Note: Only prostheses with over 25 procedures have been listed.

**Table SG14-CPR: Yearly Cumulative Percent Revision of Primary Reverse Total Shoulder Replacement**

Humeral	Glenoid	1 Yr	2 Yrs
Aequalis	Aequalis	2.6 (0.9, 8.0)	2.6 (0.9, 8.0)
Delta CTA	Delta CTA	6.5 (2.8, 15.0)	6.5 (2.8, 15.0)
Delta Xtend	Delta Xtend	2.6 (1.1, 6.4)	2.6 (1.1, 6.4)
SMR	SMR	6.0 (3.8, 9.3)	7.2 (4.4, 11.6)
Trabecular Metal	Trabecular Metal	1.5 (0.2, 10.4)	
Other (4)		0.0 (0.0, 0.0)	

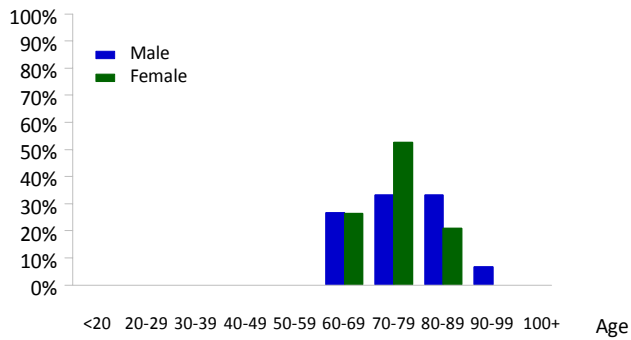
Note: Only prostheses with over 25 procedures have been listed.

## *Revision of Known Primary Reverse Total Shoulder Replacement*

**Table SG14-R: Revision of Known Primary Reverse Total Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	19	55.9	60	88	72	73.7	7.1
Male	15	44.1	64	90	76	76.4	7.8
<b>TOTAL</b>	<b>34</b>	<b>100.0</b>	<b>60</b>	<b>90</b>	<b>76</b>	<b>74.9</b>	<b>7.5</b>

**Figure SG14-R: Revision by Age and Gender**



**Table SG14-RD: Revision Diagnosis**

Revision Diagnosis	Number	Percent
Dislocation Of Prosthesis	15	44.1
Loosening/Lysis	10	29.4
Infection	4	11.8
Fracture	3	8.8
Instability	2	5.9
<b>TOTAL</b>	<b>34</b>	<b>100.0</b>

*Primary Reverse Total Shoulder Prostheses  
with a higher than anticipated Revision Rate*

**Table SG15: Revision Rate of Individual Primary Reverse Total Shoulder Prostheses identified as having a higher than anticipated Revision Rate**

Humeral/ Glenoid Component	N Total	Obs. Years	Revisions per 100 Obs. Yrs	Hazard Ratio (95%CI), P Value
<b>Newly Identified</b>				
SMR/SMR	396	326	6.1	Entire Period: HR=2.15 (1.08, 4.26), p=0.028

Note: All Components have been compared to all other Reverse Total Shoulder components.

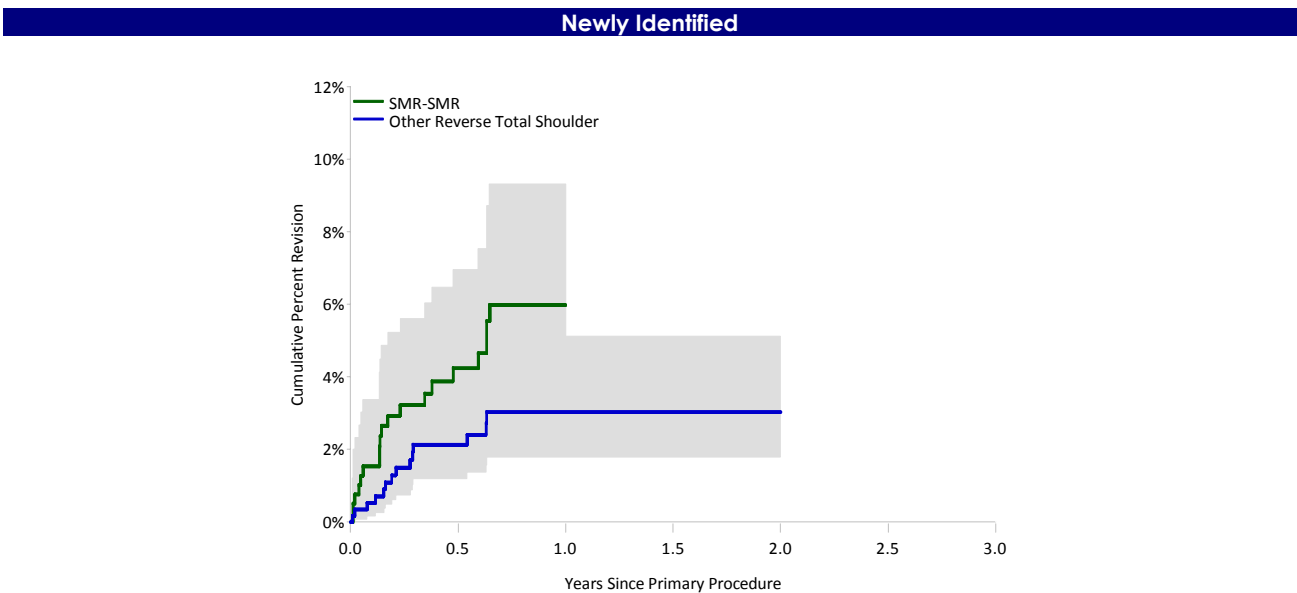
**Table SG16: Yearly Cumulative Percent Revision of Individual Primary Reverse Total Shoulder Prostheses identified as having a higher than anticipated Revision Rate**

CPR	1 Yr	2 Yrs
<b>Newly Identified</b>		
SMR/SMR	6.0 (3.8, 9.3)	7.2 (4.4, 11.6)

**Table SG17: Yearly Usage of Individual Primary Reverse Total Shoulder Prostheses identified as having a higher than anticipated Revision Rate**

Year of Implant	2004	2005	2006	2007	2008
<b>Newly Identified</b>					
SMR/SMR		2	18	124	252

**Figure SG15: Cumulative Percent Revision of Individual Primary Reverse Total Shoulder Prostheses identified as having a higher than anticipated Revision Rate**



## *Revision Shoulder Replacement*

**Table SG18-R: All Revision Shoulder Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	248	61.1	36	93	71	70.9	10.3
Male	158	38.9	42	91	69	68.4	9.7
<b>TOTAL</b>	<b>406</b>	<b>100.0</b>	<b>36</b>	<b>93</b>	<b>70</b>	<b>69.9</b>	<b>10.1</b>

**Table SG18-RD: Revision Diagnosis**

Diagnosis	Number	Percent
Loosening/Lysis	114	28.1
Dislocation Of Prosthesis	70	17.2
Instability	60	14.8
Infection	44	10.8
Fracture	25	6.2
Rotator Cuff Arthropathy	23	5.7
Pain	19	4.7
Glenoid Erosion	10	2.5
Arthrofibrosis	6	1.5
Implant Breakage Humeral	5	1.2
Dissociation	5	1.2
Other	5	1.2
Polyethelyene Wear	4	1.0
Progression Of Disease	4	1.0
Implant Breakage Glenoid	4	1.0
Wear Glenoid	3	0.7
Malposition	2	0.5
Heterotropic Bone	1	0.2
Incorrect Sizing	1	0.2
Tumour	1	0.2
<b>TOTAL</b>	<b>406</b>	<b>100.0</b>

## **ELBOW REPLACEMENT**

### **Primary Partial Elbow Replacement**

- Distal Humerus                      ▪ Replacement of distal humerus only
- Radial Head                         ▪ Replacement of radial head only

### **Primary Total Elbow Replacement**

- Total Elbow without Radial Head   ▪ Replacement of humerus and proximal ulna
- Total Elbow with Radial Head       ▪ Replacement of distal humerus, proximal ulna and radial head

### **Revision Elbow Procedures**

- Exchange or removal of one or more components

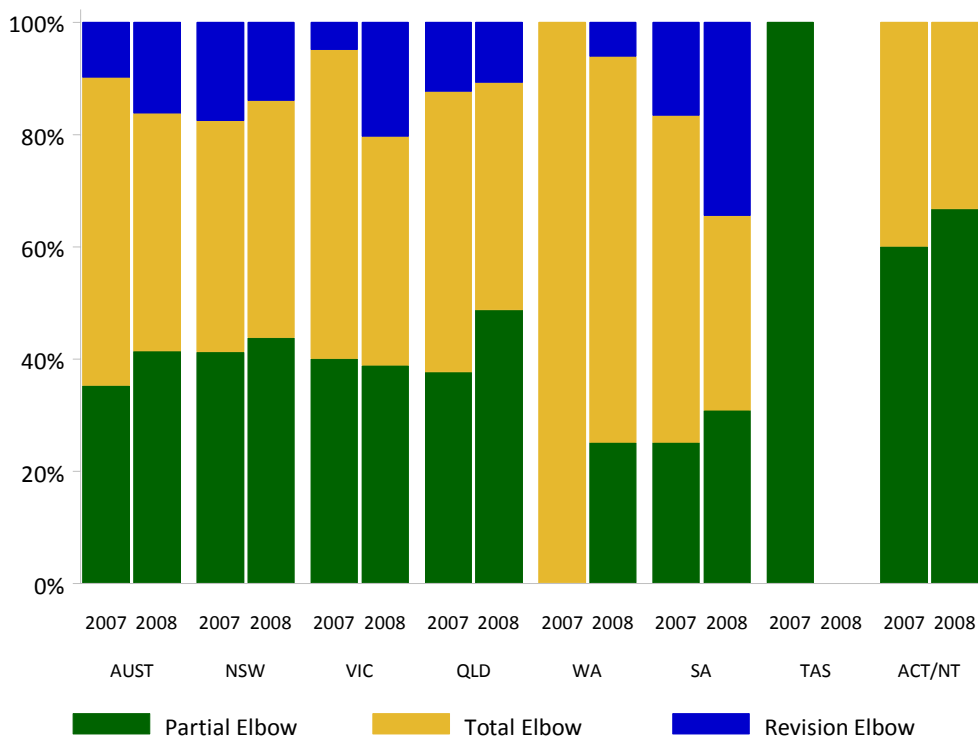
**Table EG1: Number of Elbow Replacements by Gender**

Type of Elbow Replacement	Female		Male		TOTAL	
	N	%	N	%	N	%
Radial Head	48	49.5	49	50.5	97	85.8
Distal Humerus	14	87.5	2	12.5	16	14.2
<b>Primary Partial</b>	<b>62</b>	<b>54.9</b>	<b>51</b>	<b>45.1</b>	<b>113</b>	<b>100.0</b>
Total Elbow	85	69.1	38	30.9	123	90.4
Total + Radial Head	10	76.9	3	23.1	13	9.6
<b>Primary Total</b>	<b>95</b>	<b>69.9</b>	<b>41</b>	<b>30.1</b>	<b>136</b>	<b>100.0</b>
<b>Revision</b>	<b>29</b>	<b>63.0</b>	<b>17</b>	<b>37.0</b>	<b>46</b>	<b>100.0</b>
<b>TOTAL</b>	<b>186</b>	<b>63.1</b>	<b>109</b>	<b>36.9</b>	<b>295</b>	<b>100.0</b>

**Table EG2: Number of Elbow Replacements by Age**

Type of Elbow Replacement	<55		55-64		65-74		75-84		≥85		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Radial Head	54	55.7	22	22.7	16	16.5	3	3.1	2	2.1	97	85.8
Distal Humerus	1	6.3	9	56.3	1	6.3	1	6.3	4	25.0	16	14.2
<b>Primary Partial</b>	<b>55</b>	<b>48.7</b>	<b>31</b>	<b>27.4</b>	<b>17</b>	<b>15.0</b>	<b>4</b>	<b>3.5</b>	<b>6</b>	<b>5.3</b>	<b>113</b>	<b>100.0</b>
Total Elbow	15	12.2	25	20.3	42	34.1	33	26.8	8	6.5	123	90.4
Total + Radial Head	1	7.7	4	30.8	5	38.5	3	23.1	.	.	13	9.6
<b>Primary Total</b>	<b>16</b>	<b>11.8</b>	<b>29</b>	<b>21.3</b>	<b>47</b>	<b>34.6</b>	<b>36</b>	<b>26.5</b>	<b>8</b>	<b>5.9</b>	<b>136</b>	<b>100.0</b>
<b>Revision</b>	<b>7</b>	<b>15.2</b>	<b>13</b>	<b>28.3</b>	<b>16</b>	<b>34.8</b>	<b>9</b>	<b>19.6</b>	<b>1</b>	<b>2.2</b>	<b>46</b>	<b>100.0</b>
<b>TOTAL</b>	<b>78</b>	<b>26.4</b>	<b>73</b>	<b>24.7</b>	<b>80</b>	<b>27.1</b>	<b>49</b>	<b>16.6</b>	<b>15</b>	<b>5.1</b>	<b>295</b>	<b>100.0</b>

**Figure EG1: Trends in Usage of Elbow Replacement by State/Territory and Year**



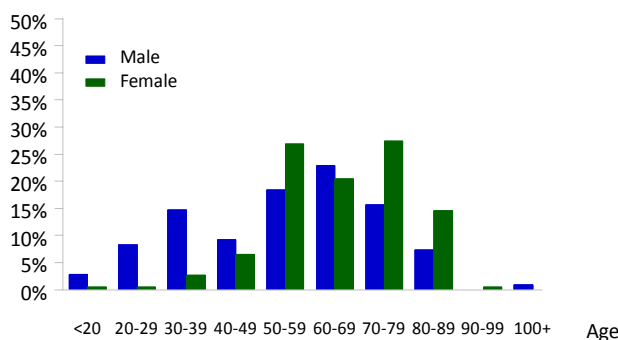
**Table EG3: Time between Procedures for Bilateral Primary Elbow Replacement**

Bilateral Procedures	Same Day		1day-6months		≥6months		TOTAL	
	N	%	N	%	N	%	N	%
Both - Total Elbow	.	.	1	25.0	2	50.0	3	75.0
Both - Radial Head	1	25.0	.	.	.	.	1	25.0
<b>TOTAL</b>	<b>1</b>	<b>25.0</b>	<b>1</b>	<b>25.0</b>	<b>2</b>	<b>50.0</b>	<b>4</b>	<b>100.0</b>

**Table EG4: Age by Gender for All Elbow Replacement**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	186	63.1	16	92	67	65.4	13.5
Male	109	36.9	17	102	58	55.0	18.3
<b>TOTAL</b>	<b>295</b>	<b>100.0</b>	<b>16</b>	<b>102</b>	<b>64</b>	<b>61.6</b>	<b>16.2</b>

**Figure EG2: Elbow Replacement by Age and Gender**

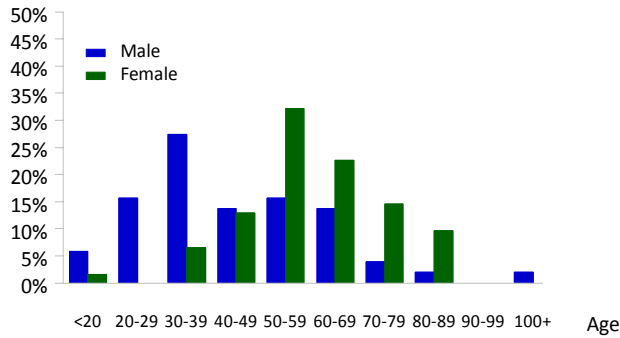


## Primary Partial Elbow Replacement

**Table EG5-P: Primary Partial Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	62	54.9	16	88	59	59.6	14.5
Male	51	45.1	17	102	40	44.3	17.5
<b>TOTAL</b>	<b>113</b>	<b>100.0</b>	<b>16</b>	<b>102</b>	<b>55</b>	<b>52.7</b>	<b>17.6</b>

**Figure EG5-P: Primary by Age and Gender**



**Table EG5-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Fracture/Dislocation	91	80.5
Osteoarthritis	18	15.9
Rheumatoid Arthritis	2	1.8
Other Inflammatory Arthritis	1	0.9
Tumour	1	0.9
<b>TOTAL</b>	<b>113</b>	<b>100.0</b>

## Revision of Known Primary Partial Elbow Replacement

**Table EG5-R: Revision of Known Primary Partial Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	100.0	35	35	35	35.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>35</b>	<b>35</b>	<b>35</b>	<b>35.0</b>	.

**Table EG5-RD: Revision Diagnosis**

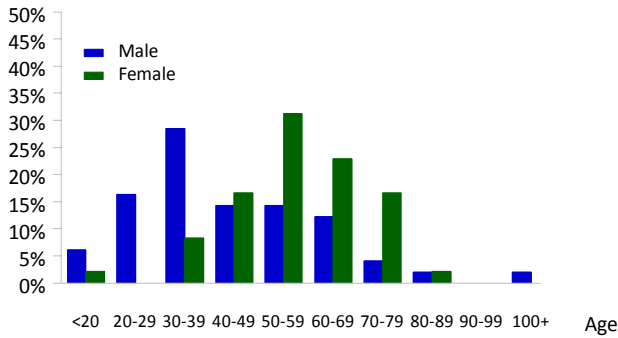
Revision Diagnosis	Number	Percent
Pain	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## Primary Radial Head Elbow Replacement

**Table EG6-P: Primary Radial Head Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	48	49.5	16	87	57	56.8	13.8
Male	49	50.5	17	102	39	43.9	17.7
<b>TOTAL</b>	<b>97</b>	<b>100.0</b>	<b>16</b>	<b>102</b>	<b>52</b>	<b>50.2</b>	<b>17.1</b>

**Figure EG6-P: Primary by Age and Gender**



**Table EG6-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Fracture/Dislocation	76	78.4
Osteoarthritis	18	18.6
Rheumatoid Arthritis	1	1.0
Other Inflammatory Arthritis	1	1.0
Tumour	1	1.0
<b>TOTAL</b>	<b>97</b>	<b>100.0</b>

**Table EG6-C1: 10 Most Common Radial Head/Stem Prostheses used in Primary Radial Head Elbow Replacement**

Rank	2007	2008
1	Evolve 10	Evolve 27
2	Radial Comp (Ascnsn) 6	Radial Comp (Ascnsn) 17
3	RHS 2	Anatomic 13
4	rHead 2	RHS 7
5	Anatomic 1	MOPYC 3
6	ExploR 1	rHead 3
7	MOPYC 1	ExploR 2
8		Generic Radial Stem 1
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	23	73
<b>N Prosthesis Types</b>	7	8

*Revision of Known Primary Radial Head Elbow Replacement*

**Table EG6-R: Revision of Known Primary Radial Head Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	100.0	35	35	35	35.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>35</b>	<b>35</b>	<b>35</b>	<b>35.0</b>	.

**Table EG6-RD: Revision Diagnosis**

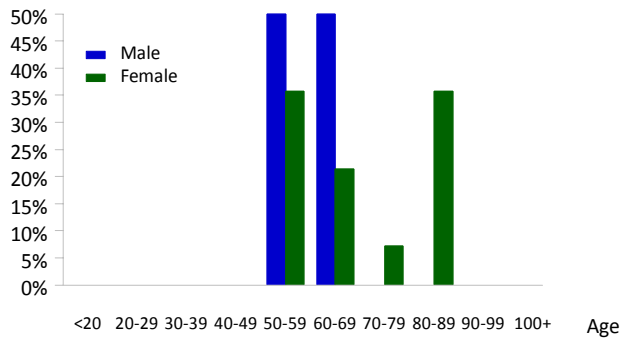
Revision Diagnosis	Number	Percent
Pain	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## Primary Distal Humerus Elbow Replacement

**Table EG7-P: Primary Distal Humerus Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	14	87.5	56	88	63	69.3	13.0
Male	2	12.5	51	60	56	55.5	6.4
<b>TOTAL</b>	<b>16</b>	<b>100.0</b>	<b>51</b>	<b>88</b>	<b>61</b>	<b>67.6</b>	<b>13.1</b>

**Figure EG7-P: Primary by Age and Gender**



**Table EG7-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Fracture/Dislocation	15	93.8
Rheumatoid Arthritis	1	6.3
<b>TOTAL</b>	<b>16</b>	<b>100.0</b>

**Table EG7-C1: 10 Most Common Humeral Prostheses used in Primary Distal Humerus Elbow Replacement**

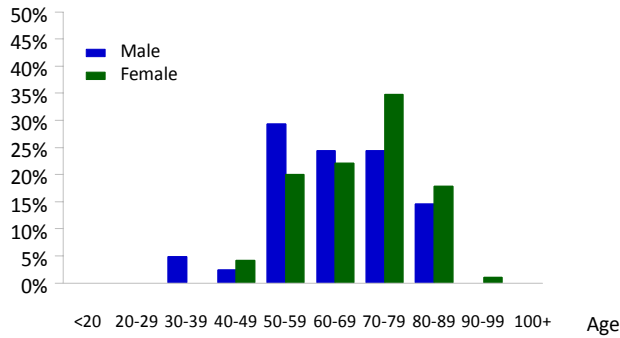
Rank	2007	2008
1	Latitude	Latitude
2	2	12
		Sorbie-Questor
		1
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	2	13
<b>N Prosthesis Types</b>	1	2

## Primary Total Elbow Replacement

**Table EG8-P: Primary Total Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	95	69.9	41	92	70	69.6	11.0
Male	41	30.1	35	88	66	64.7	12.9
<b>TOTAL</b>	<b>136</b>	<b>100.0</b>	<b>35</b>	<b>92</b>	<b>69</b>	<b>68.1</b>	<b>11.8</b>

**Figure EG8-P: Primary by Age and Gender**



**Table EG8-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	51	37.5
Rheumatoid Arthritis	44	32.4
Fracture/Dislocation	37	27.2
Other Inflammatory Arthritis	2	1.5
Other	1	0.7
Avascular Necrosis	1	0.7
<b>TOTAL</b>	<b>136</b>	<b>100.0</b>

## Revision of Known Primary Total Elbow Replacement

**Table EG8-R: Revision of Known Primary Total Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	100.0	62	62	62	62.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>62.0</b>	.

**Table EG8-RD: Revision Diagnosis**

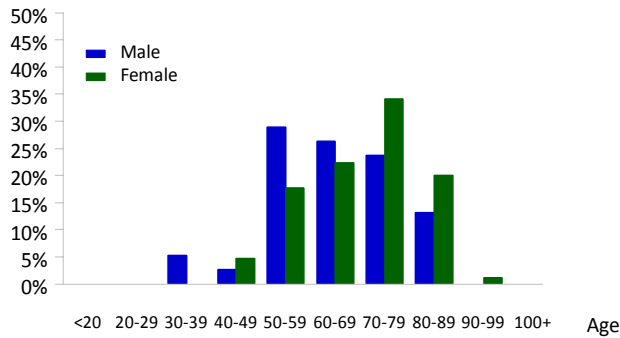
Revision Diagnosis	Number	Percent
Infection	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## *Primary Total Elbow without Radial Head Replacement*

**Table EG9-P: Primary Total Elbow without Radial Head Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	85	69.1	41	92	71	70.2	11.1
Male	38	30.9	35	88	65	64.0	12.8
<b>TOTAL</b>	<b>123</b>	<b>100.0</b>	<b>35</b>	<b>92</b>	<b>69</b>	<b>68.3</b>	<b>12.0</b>

**Figure EG9-P: Primary by Age and Gender**



**Table EG9-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	47	38.2
Rheumatoid Arthritis	38	30.9
Fracture/Dislocation	34	27.6
Other Inflammatory Arthritis	2	1.6
Other	1	0.8
Avascular Necrosis	1	0.8
<b>TOTAL</b>	<b>123</b>	<b>100.0</b>

**Table EG9-C1: 10 Most Common Humeral Prostheses used in Primary Total Elbow without Radial Head Replacement**

Rank	2007	2008
1	Coonrad/Morrey 24	Coonrad/Morrey 46
2	Discovery 6	Latitude 21
3	Latitude 6	Discovery 10
4		Souter Strathclyde 1
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	36	78
<b>N Prosthesis Types</b>	3	4

## *Revision of Known Primary Total Elbow without Radial Head Replacement*

**Table EG9-R: Revision of Known Primary Total Elbow without Radial Head Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	100.0	62	62	62	62.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>62.0</b>	<b>.</b>

**Table EG9-RD: Revision Diagnosis**

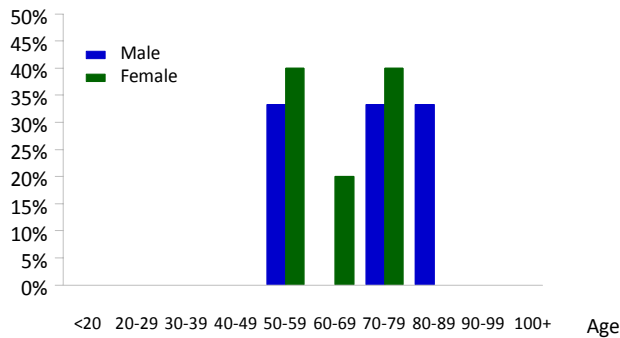
Revision Diagnosis	Number	Percent
Infection	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## Primary Total Elbow with Radial Head Replacement

**Table EG10-P: Primary Total Elbow with Radial Head Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	10	76.9	53	78	67	64.9	8.5
Male	3	23.1	58	83	79	73.3	13.4
<b>TOTAL</b>	<b>13</b>	<b>100.0</b>	<b>53</b>	<b>83</b>	<b>68</b>	<b>66.8</b>	<b>9.9</b>

**Figure EG10-P: Primary by Age and Gender**



**Table EG10-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Rheumatoid Arthritis	6	46.2
Osteoarthritis	4	30.8
Fracture/Dislocation	3	23.1
<b>TOTAL</b>	<b>13</b>	<b>100.0</b>

**Table EG10-C1: 10 Most Common Humeral/Radial Head Prostheses used in Primary Total Elbow with Radial Head Replacement**

Rank	2007	2008
1	Latitude 3	Latitude 10
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	3	10
<b>N Prosthesis Types</b>	1	1

## *Revision Elbow Replacement*

**Table EG11-R: All Revision Elbow Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	29	63.0	21	85	62	63.9	14.4
Male	17	37.0	22	81	66	63.9	13.8
<b>TOTAL</b>	<b>46</b>	<b>100.0</b>	<b>21</b>	<b>85</b>	<b>66</b>	<b>63.9</b>	<b>14.0</b>

**Table EG11-RD: Revision Diagnosis**

Diagnosis	Number	Percent
Loosening/Lysis	16	34.8
Infection	9	19.6
Fracture	5	10.9
Dislocation Of Prosthesis	4	8.7
Implant Breakage Ulna	3	6.5
Polyethelyene Wear	2	4.3
Implant Breakage Humeral	2	4.3
Heterotropic Bone	1	2.2
Malposition	1	2.2
Pain	1	2.2
Failed Internal Fixation	1	2.2
Synovitis	1	2.2
<b>TOTAL</b>	<b>46</b>	<b>100.0</b>

## **WRIST REPLACEMENT**

### **Primary Partial Wrist Replacement**

- Distal Ulna      ▪    Replace Distal Ulna only

### **Primary Total Wrist Replacement**

- Total Wrist      ▪    Replace Carpus and Distal Radius

### **Revision Wrist Procedure**

- Exchange or removal of one or more components and fusion

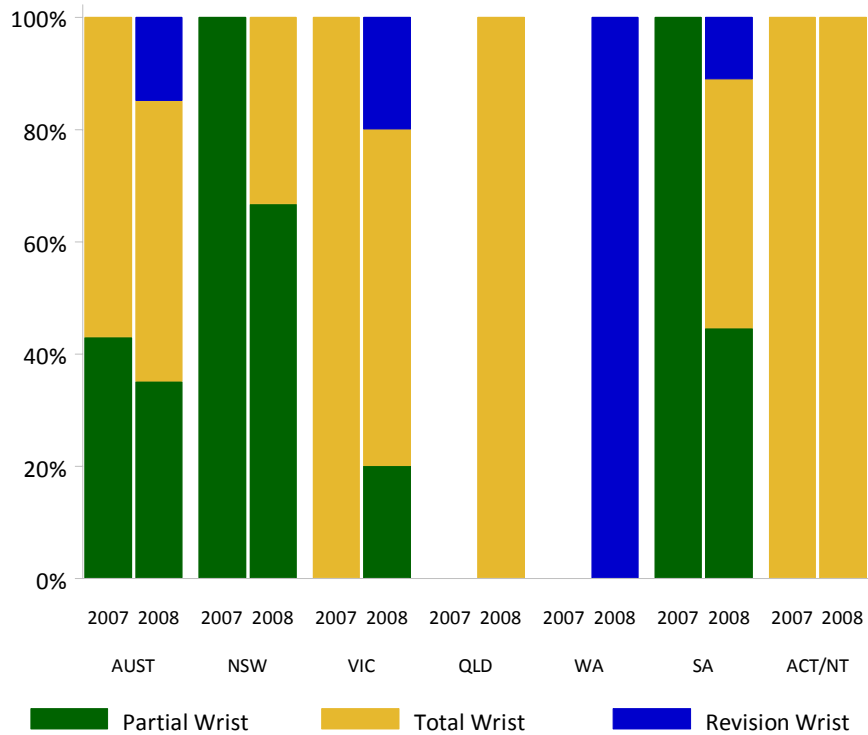
**Table WG1: Number of Wrist Replacements by Gender**

Type of Elbow Replacement	Female		Male		TOTAL	
	N	%	N	%	N	%
Ulnar	6	60.0	4	40.0	10	100.0
<b>Primary Partial</b>	<b>6</b>	<b>60.0</b>	<b>4</b>	<b>40.0</b>	<b>10</b>	<b>100.0</b>
Total Wrist	7	46.7	8	53.3	15	100.0
<b>Primary Total</b>	<b>7</b>	<b>46.7</b>	<b>8</b>	<b>53.3</b>	<b>15</b>	<b>100.0</b>
Revision	1	33.3	2	66.7	3	100.0
<b>TOTAL</b>	<b>14</b>	<b>50.0</b>	<b>14</b>	<b>50.0</b>	<b>28</b>	<b>100.0</b>

**Table WG2: Number of Wrist Replacements by Age**

Type of Elbow Replacement	<55		55-64		65-74		75-84		TOTAL	
	N	%	N	%	N	%	N	%	N	%
Ulnar	5	50.0	2	20.0	2	20.0	1	10.0	10	100.0
<b>Primary Partial</b>	<b>5</b>	<b>50.0</b>	<b>2</b>	<b>20.0</b>	<b>2</b>	<b>20.0</b>	<b>1</b>	<b>10.0</b>	<b>10</b>	<b>100.0</b>
Total Wrist	5	33.3	6	40.0	3	20.0	1	6.7	15	100.0
<b>Primary Total</b>	<b>5</b>	<b>33.3</b>	<b>6</b>	<b>40.0</b>	<b>3</b>	<b>20.0</b>	<b>1</b>	<b>6.7</b>	<b>15</b>	<b>100.0</b>
Revision	.	.	3	100.0	.	.	.	.	3	100.0
<b>TOTAL</b>	<b>10</b>	<b>35.7</b>	<b>11</b>	<b>39.3</b>	<b>5</b>	<b>17.9</b>	<b>2</b>	<b>7.1</b>	<b>28</b>	<b>100.0</b>

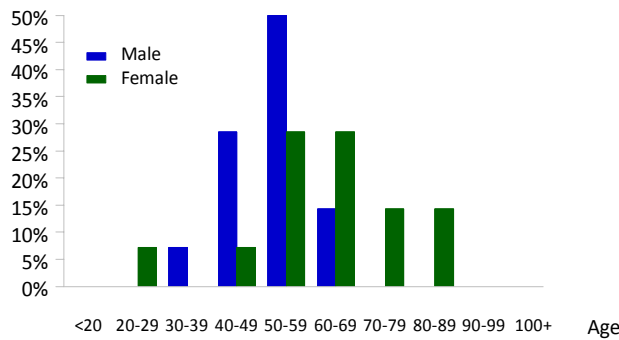
**Figure WG1: Trends in Usage of Wrist Replacement by State/Territory and Year**



**Table WG3: Age by Gender for All Wrist Replacement**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	14	50.0	22	83	62	61.1	15.8
Male	14	50.0	36	67	56	53.3	8.2
<b>TOTAL</b>	<b>28</b>	<b>100.0</b>	<b>22</b>	<b>83</b>	<b>57</b>	<b>57.2</b>	<b>13.0</b>

**Figure WG2: Wrist Replacement by Age and Gender**

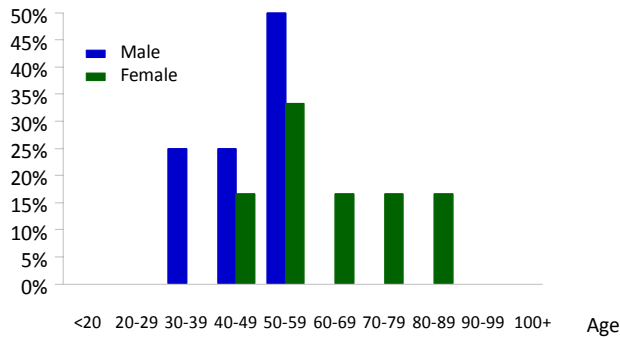


## Primary Distal Ulna Wrist Replacement

**Table WG4-P: Primary Distal Ulna Wrist Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	6	60.0	46	83	60	62.3	14.4
Male	4	40.0	36	59	49	48.0	11.2
<b>TOTAL</b>	<b>10</b>	<b>100.0</b>	<b>36</b>	<b>83</b>	<b>55</b>	<b>56.6</b>	<b>14.6</b>

**Figure WG4-P: Primary by Age and Gender**



**Table WG4-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	5	50.0
Rheumatoid Arthritis	3	30.0
Fracture/Dislocation	2	20.0
<b>TOTAL</b>	<b>10</b>	<b>100.0</b>

**Table WG4-C1: 10 Most Common Ulna Prostheses used in Primary Distal Ulna Wrist Replacement**

Rank	2007	2008
1	Herbert UHP	uHead
2	uHead	Eclipse
3		Herbert UHP
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	3	7
<b>N Prosthesis Types</b>	2	3

## Revision of Known Primary Distal Ulna Wrist Replacement

**Table WG4-R: Revision of Known Primary Distal Ulna Wrist Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Male	1	100.0	57	57	57	57.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>57</b>	<b>57</b>	<b>57</b>	<b>57.0</b>	<b>.</b>

**Table WG4-RD: Revision Diagnosis**

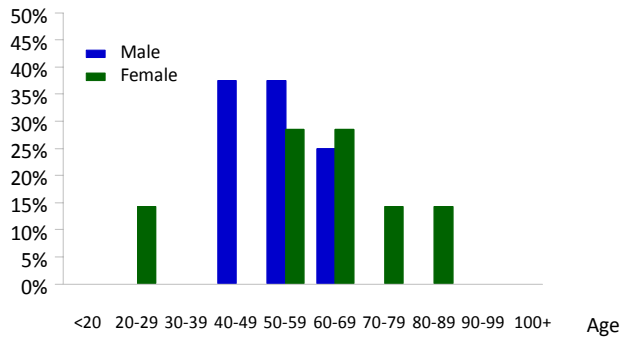
Revision Diagnosis	Number	Percent
Progression Of Disease	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## Primary Total Wrist Replacement

**Table WG5-P: Primary Total Wrist Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	7	46.7	22	80	60	59.7	19.0
Male	8	53.3	47	67	56	55.1	6.9
<b>TOTAL</b>	<b>15</b>	<b>100.0</b>	<b>22</b>	<b>80</b>	<b>57</b>	<b>57.3</b>	<b>13.6</b>

**Figure WG5-P: Primary by Age and Gender**



**Table WG5-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	8	53.3
Rheumatoid Arthritis	6	40.0
Fracture/Dislocation	1	6.7
<b>TOTAL</b>	<b>15</b>	<b>100.0</b>

**Table WG5-C1: 10 Most Common Carpal/Radial Prostheses used in Primary Total Wrist Replacement**

Rank	2007	2008
1	Universal 2 3	Re-Motion 8
2	Re-Motion 1	Universal 2 2
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	4	10
<b>N Prosthesis Types</b>	2	2

## *Revision Wrist Replacement*

**Table WG6-R: All Revision Wrist Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	33.3	64	64	64	64.0	.
Male	2	66.7	56	57	57	56.5	0.7
<b>TOTAL</b>	<b>3</b>	<b>100.0</b>	<b>56</b>	<b>64</b>	<b>57</b>	<b>59.0</b>	<b>4.4</b>

**Table WG6-RD: Revision Diagnosis**

Diagnosis	Number	Percent
Loosening/Lysis	1	50.0
Progression Of Disease	1	50.0
<b>TOTAL</b>	<b>2</b>	<b>100.0</b>

## **ANKLE REPLACEMENT**

### **Primary Partial Ankle Replacement**

- Partial Resurfacing     ▪ Partial articular surface replacement

### **Primary Total Ankle Replacement**

- Total Ankle             ▪ Replace Talar and Distal Tibial articular surfaces

### **Revision Ankle Procedure**

- Exchange or removal of one or more components

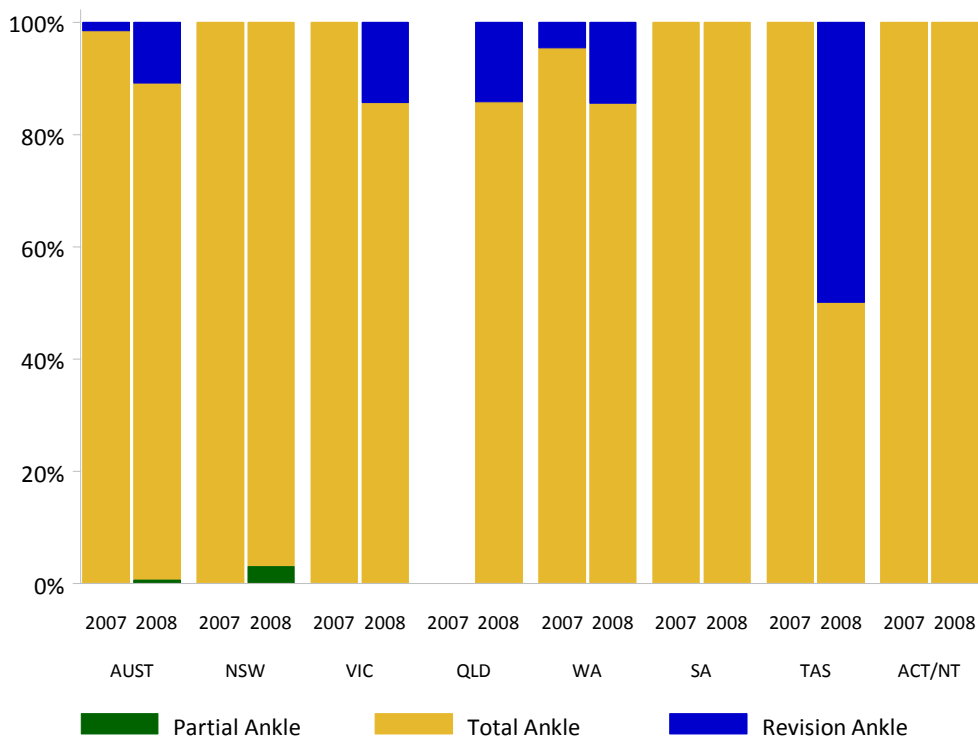
**Table AG1: Number of Ankle Replacements by Gender**

Type of Ankle Replacement	Female		Male		TOTAL	
	N	%	N	%	N	%
Partial Resurfacing	1	100.0	.	.	1	100.0
<b>Primary Partial</b>	<b>1</b>	<b>100.0</b>	<b>.</b>	<b>.</b>	<b>1</b>	<b>100.0</b>
Total Ankle	74	34.4	141	65.6	215	100.0
<b>Primary Total</b>	<b>74</b>	<b>34.4</b>	<b>141</b>	<b>65.6</b>	<b>215</b>	<b>100.0</b>
<b>Revision</b>	<b>5</b>	<b>25.0</b>	<b>15</b>	<b>75.0</b>	<b>20</b>	<b>100.0</b>
<b>TOTAL</b>	<b>80</b>	<b>33.9</b>	<b>156</b>	<b>66.1</b>	<b>236</b>	<b>100.0</b>

**Table AG2: Number of Ankle Replacements by Age**

Type of Ankle Replacement	<55		55-64		65-74		75-84		≥85		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Partial Resurfacing	1	100.0	.	.	.	.	.	.	.	.	1	100.0
<b>Primary Partial</b>	<b>1</b>	<b>100.0</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>1</b>	<b>100.0</b>
Total Ankle	24	11.2	74	34.4	77	35.8	38	17.7	2	0.9	215	100.0
<b>Primary Total</b>	<b>24</b>	<b>11.2</b>	<b>74</b>	<b>34.4</b>	<b>77</b>	<b>35.8</b>	<b>38</b>	<b>17.7</b>	<b>2</b>	<b>0.9</b>	<b>215</b>	<b>100.0</b>
<b>Revision</b>	<b>3</b>	<b>15.0</b>	<b>4</b>	<b>20.0</b>	<b>10</b>	<b>50.0</b>	<b>3</b>	<b>15.0</b>	<b>.</b>	<b>.</b>	<b>20</b>	<b>100.0</b>
<b>TOTAL</b>	<b>28</b>	<b>11.9</b>	<b>78</b>	<b>33.1</b>	<b>87</b>	<b>36.9</b>	<b>41</b>	<b>17.4</b>	<b>2</b>	<b>0.8</b>	<b>236</b>	<b>100.0</b>

**Figure AG1: Trends in Usage of Ankle Replacement by State/Territory and Year**



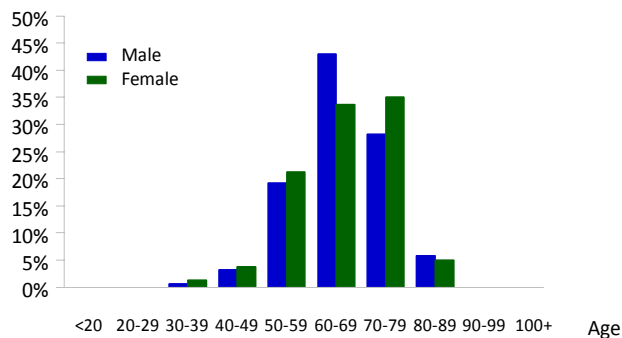
**Table AG3: Time between Procedures for Bilateral Primary Ankle Replacement**

Bilateral Procedures	Same Day		1 day-6 months		≥6 months		TOTAL	
	N	%	N	%	N	%	N	%
Both - Total Ankle	1	16.7	1	16.7	4	66.7	6	100.0
<b>TOTAL</b>	<b>1</b>	<b>16.7</b>	<b>1</b>	<b>16.7</b>	<b>4</b>	<b>66.7</b>	<b>6</b>	<b>100.0</b>

**Table AG4: Age by Gender for All Ankle Replacement**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	80	33.9	34	85	66	65.4	9.9
Male	156	66.1	35	89	66	65.8	9.2
<b>TOTAL</b>	<b>236</b>	<b>100.0</b>	<b>34</b>	<b>89</b>	<b>66</b>	<b>65.7</b>	<b>9.4</b>

**Figure AG2: Ankle Replacement by Age and Gender**



*Primary Partial Resurfacing Ankle Replacement*

**Table AG5-P: Primary Partial Resurfacing Ankle Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1	100.0	34	34	34	34.0	.
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34.0</b>	.

**Table AG5-PD: Primary Diagnosis**

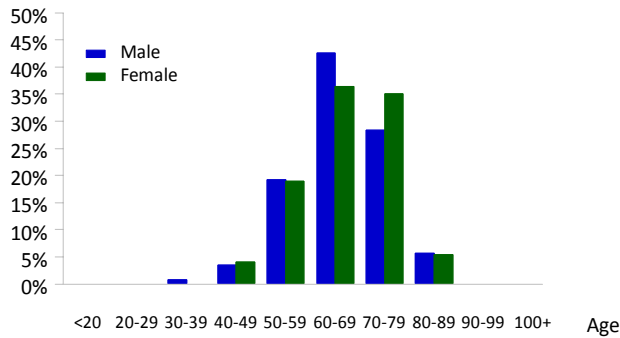
Primary Diagnosis	Number	Percent
Fracture/Dislocation	1	100.0
<b>TOTAL</b>	<b>1</b>	<b>100.0</b>

## Primary Total Ankle Replacement

**Table AG6-P: Primary Total Ankle Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	74	34.4	44	85	67	66.1	9.2
Male	141	65.6	35	89	65	65.7	9.4
<b>TOTAL</b>	<b>215</b>	<b>100.0</b>	<b>35</b>	<b>89</b>	<b>66</b>	<b>65.8</b>	<b>9.3</b>

**Figure AG6-P: Primary by Age and Gender**



**Table AG6-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Osteoarthritis	197	91.6
Rheumatoid Arthritis	17	7.9
Other Inflammatory Arthritis	1	0.5
<b>TOTAL</b>	<b>215</b>	<b>100.0</b>

**Table AG6-C1: 10 Most Common Talar/Tray Prostheses used in Primary Total Ankle Replacement**

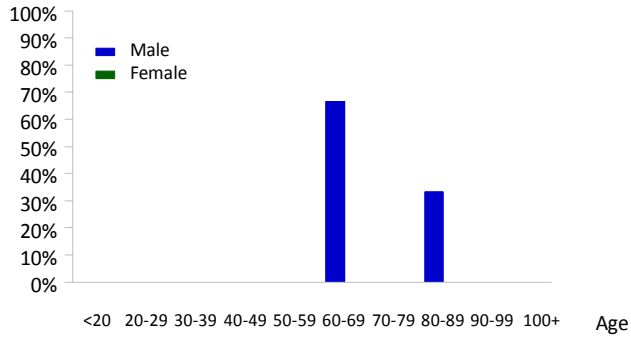
Rank	2007	2008
<b>1</b>	Mobility 37	Mobility 87
<b>2</b>	Buechel-Pappas 11	Hintegra 31
<b>3</b>	Hintegra 6	Buechel-Pappas 16
<b>4</b>	Agility 2	Salto 11
<b>5</b>	S.T.A.R 1	BOX 6
<b>6</b>	Salto 1	Ankle Joint (Eska) 1
<b>Top 10 Usage</b>	100%	100%
<b>Total Procedures</b>	58	152
<b>N Prosthesis Types</b>	6	6

## *Revision of Known Primary Total Ankle Replacement*

**Table AG6-R: Revision of Known Primary Total Ankle Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Male	3	100.0	67	81	67	71.7	8.1
<b>TOTAL</b>	<b>3</b>	<b>100.0</b>	<b>67</b>	<b>81</b>	<b>67</b>	<b>71.7</b>	<b>8.1</b>

**Figure AG6-R: Revision by Age and Gender**



**Table AG6-RD: Revision Diagnosis**

Revision Diagnosis	Number	Percent
Infection	1	33.3
Loosening/Lysis	1	33.3
Pain	1	33.3
<b>TOTAL</b>	<b>3</b>	<b>100.0</b>

## *Revision Ankle Replacement*

**Table AG7-R: All Revision Ankle Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	5	25.0	51	76	58	62.0	10.6
Male	15	75.0	53	81	67	67.2	8.0
<b>TOTAL</b>	<b>20</b>	<b>100.0</b>	<b>51</b>	<b>81</b>	<b>67</b>	<b>65.9</b>	<b>8.7</b>

**Table AG7-RD: Revision Diagnosis**

Diagnosis	Number	Percent
Loosening/Lysis	7	35.0
Infection	3	15.0
Instability	2	10.0
Bone Impingement	2	10.0
Pain	2	10.0
Arthrofibrosis	1	5.0
Bone Cyst	1	5.0
Soft Tissue Impingement	1	5.0
Fracture	1	5.0
<b>TOTAL</b>	<b>20</b>	<b>100.0</b>

# **SPINAL DISC REPLACEMENT**

## **Primary Spinal Disc Replacement**

- Spinal Segment                   ▪ Replacement of spinal disc with two segments.
- Spinal Ball Trough             ▪ Replacement of spinal disc with a ball trough.
- Spinal insert & Endplates       ▪ Replacement of spinal disc with an insert and two endplates
- Spinal Disc                       ▪ Replacement of spinal disc with an artificial disc.

## **Revision Spinal Disc Replacement**

- Exchange or removal of one or more components

## **Post Spinal Disc Replacement Fusion**

- Fusion of level inclusion of previous disc replacement with or without exchange or removal of one or more components

**Table SDG1: Number of Spinal Disc Replacements by Gender**

Type of Spinal Disc Replacement	Female		Male		TOTAL	
	N	%	N	%	N	%
Spinal Segment	17	44.7	21	55.3	38	36.5
Spinal Ball Trough	12	37.5	20	62.5	32	30.8
Insert & Endplates	10	45.5	12	54.5	22	21.2
Spinal Disc	6	50.0	6	50.0	12	11.5
<b>TOTAL</b>	<b>45</b>	<b>43.3</b>	<b>59</b>	<b>56.7</b>	<b>104</b>	<b>100.0</b>

**Table SDG2: Number of Spinal Disc Replacements by Age**

Type of Spinal Disc Replacement	<55		55-64		65-74		TOTAL	
	N	%	N	%	N	%	N	%
Spinal Segment	37	97.4	1	2.6	.	.	38	36.5
Spinal Ball Trough	22	68.8	6	18.8	4	12.5	32	30.8
Insert & Endplates	22	100.0	.	.	.	.	22	21.2
Spinal Disc	11	91.7	1	8.3	.	.	12	11.5
<b>TOTAL</b>	<b>92</b>	<b>88.5</b>	<b>8</b>	<b>7.7</b>	<b>4</b>	<b>3.8</b>	<b>104</b>	<b>100.0</b>

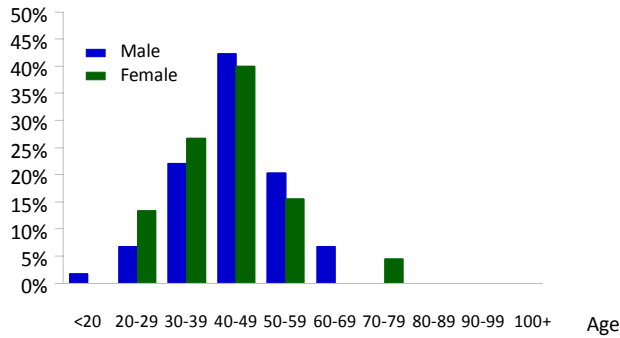
**Table SDG3: Number of Spinal Disc Replacements by Level**

Type of Spinal Disc Replacement	C4-C5		C5-C6		C6-C7		L3-L4		L4-L5		L5-S1		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Spinal Segment	.	.	.	.	.	.	3	7.9	23	60.5	12	31.6	38	36.5
Spinal Ball Trough	3	9.4	11	34.4	12	37.5	1	3.1	5	15.6	.	.	32	30.8
Insert & Endplates	.	.	.	.	.	.	1	4.5	8	36.4	13	59.1	22	21.2
Spinal Disc	.	.	.	.	.	.	.	.	3	25.0	9	75.0	12	11.5
<b>TOTAL</b>	<b>3</b>	<b>2.9</b>	<b>11</b>	<b>10.6</b>	<b>12</b>	<b>11.5</b>	<b>5</b>	<b>4.8</b>	<b>39</b>	<b>37.5</b>	<b>34</b>	<b>32.7</b>	<b>104</b>	<b>100.0</b>

**Table SDG4: Age by Gender for All Spinal Disc Replacement**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	45	43.3%	20	73	43	42.0	11.1
Male	59	56.7%	19	68	45	43.7	10.6
<b>TOTAL</b>	<b>104</b>	<b>100.0%</b>	<b>19</b>	<b>73</b>	<b>44</b>	<b>43.0</b>	<b>10.8</b>

**Figure SDG1: Spinal Disc Replacement by Age and Gender**



**Table SDG5: Primary Diagnosis of All Primary Spinal Disc Replacement**

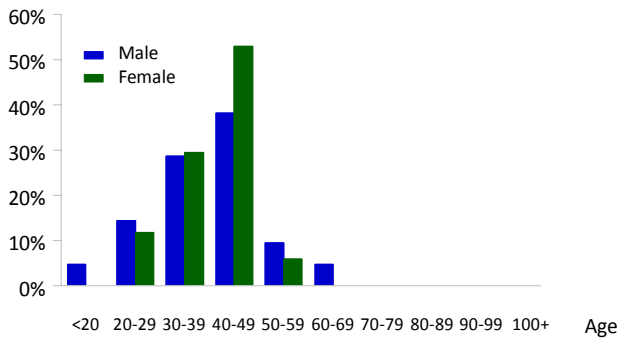
Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	54	51.9
Disc Disease Without Radiculopathy	30	28.8
Post Laminectomy Or Discectomy	7	6.7
Adjacent To Concurrent Fusion	6	5.8
Spondylolisthesis	3	2.9
Pain Of Unknown Cause	3	2.9
Discogenic Pain	1	1.0
<b>TOTAL</b>	<b>104</b>	<b>100.0</b>

## Primary Spinal Segment Replacement

**Table SDG6-P: Primary Spinal Segment Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	17	44.7	20	50	40	39.0	8.4
Male	21	55.3	19	61	40	38.7	11.3
<b>TOTAL</b>	<b>38</b>	<b>100.0</b>	<b>19</b>	<b>61</b>	<b>40</b>	<b>38.8</b>	<b>10.0</b>

**Figure SDG6-P: Primary by Age and Gender**



**Table SDG6-PD: Primary Diagnosis**

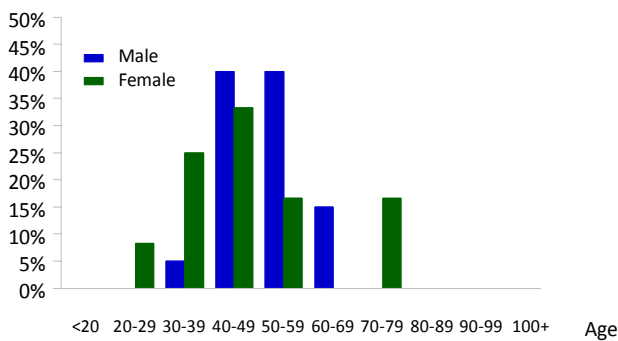
Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	15	39.5
Disc Disease Without Radiculopathy	14	36.8
Adjacent To Concurrent Fusion	5	13.2
Pain Of Unknown Cause	2	5.3
Spondylolisthesis	1	2.6
Post Laminectomy Or Discectomy	1	2.6
<b>TOTAL</b>	<b>38</b>	<b>100.0</b>

## Primary Spinal Ball Trough Replacement

**Table SDG7-P: Primary Spinal Ball Trough Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	12	37.5	28	73	47	47.1	14.6
Male	20	62.5	33	68	50	50.8	8.9
<b>TOTAL</b>	<b>32</b>	<b>100.0</b>	<b>28</b>	<b>73</b>	<b>49</b>	<b>49.4</b>	<b>11.3</b>

**Figure SDG7-P: Primary by Age and Gender**



**Table SDG7-PD: Primary Diagnosis**

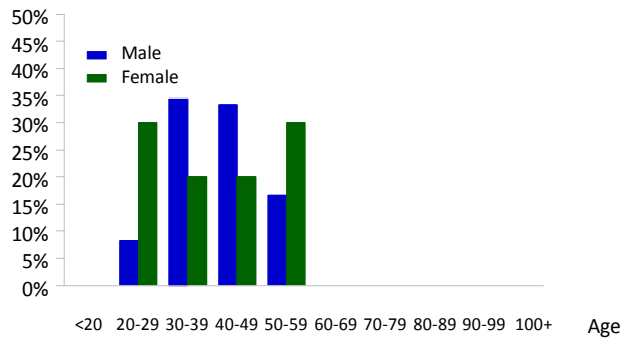
Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	22	68.8
Post Laminectomy Or Discectomy	5	15.6
Spondylolisthesis	2	6.3
Disc Disease Without Radiculopathy	1	3.1
Pain Of Unknown Cause	1	3.1
Adjacent To Concurrent Fusion	1	3.1
<b>TOTAL</b>	<b>32</b>	<b>100.0</b>

## Primary Spinal Insert & Endplates Replacement

**Table SDG8-P: Primary Spinal Insert & Endplates Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	10	45.5	26	52	43	40.4	10.9
Male	12	54.5	28	52	40	40.3	7.6
<b>TOTAL</b>	<b>22</b>	<b>100.0</b>	<b>26</b>	<b>52</b>	<b>41</b>	<b>40.3</b>	<b>9.0</b>

**Figure SDG8-P: Primary by Age and Gender**



**Table SDG8-PD: Primary Diagnosis**

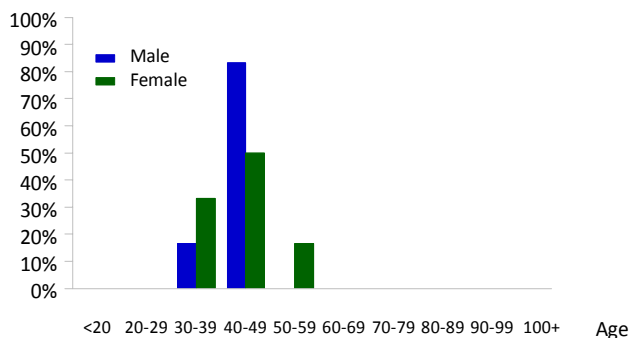
Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	11	50.0
Disc Disease Without Radiculopathy	10	45.5
Discogenic Pain	1	4.5
<b>TOTAL</b>	<b>22</b>	<b>100.0</b>

## Primary Spinal Disc Replacement

**Table SDG9-P: Primary Spinal Disc Age by Gender**

Gender	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	6	50.0	31	55	45	43.2	8.4
Male	6	50.0	36	49	46	44.3	5.0
<b>TOTAL</b>	<b>12</b>	<b>100.0</b>	<b>31</b>	<b>55</b>	<b>46</b>	<b>43.8</b>	<b>6.6</b>

**Figure SDG9-P: Primary by Age and Gender**



**Table SDG9-PD: Primary Diagnosis**

Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	6	50.0
Disc Disease Without Radiculopathy	5	41.7
Post Laminectomy Or Discectomy	1	8.3
<b>TOTAL</b>	<b>12</b>	<b>100.0</b>