Australian Orthopaedic Association National Joint Replacement Registry

2026 SUPPLEMENTARY REPORT

Demographics of Spinal Disc Arthroplasty

AUSTRALIAN ORTHOPAEDIC ASSOCIATION

Australian Orthopaedic Association National Joint Replacement Registry

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Demographics of Spinal Disc Arthroplasty

2026 Supplementary Report

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Australian Orthopaedic Association
National Joint Replacement Registry

Demographics of Spinal Disc Arthroplasty

2026 Supplementary Report

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Introduction

The 2026 Demographics of Spinal Disc Arthroplasty Supplementary Report is based on the analysis of 14,733 spinal disc procedures recorded by the Registry with a procedure date up to and including 31 December 2025.

This supplementary report provides summary data and demographic information on spinal disc replacement surgery.

Data are broken down into the five classes of spinal disc replacement: spinal segment, spinal ball trough, insert and endplate, cervical intervertebral disc and lumbar intervertebral disc. Revision rates are not provided for spinal disc replacement.

The Spinal Disc Arthroplasty Report is one of 14 supplementary reports to complete the AOANJRR Annual Report for 2026.

Information on the background, purpose, aims, benefits and governance of the Registry can be found in the Introductory chapter of the 2026 Hip, Knee and Shoulder Arthroplasty Annual Report.

The Registry data quality processes, including data collection, validation and outcome assessment, are provided in detail in the Data Quality chapter of the 2026 Hip, Knee and Shoulder Arthroplasty Annual Report: https://registry.aoa.org.au/annual-reports-2026

Spinal Disc Replacement

Demographics of Spinal Disc Replacement

Table SD1 Number of Primary Spinal Disc Replacements by Sex

Spinal Disc Replacement	Male		Female		TOTAL	
	N	Total%	N	Total%	N	Total%
Spinal Segment	197	1.3	162	1.1	359	2.4
Spinal Ball Trough	1930	13.1	1775	12.0	3705	25.1
Insert & Endplates	639	4.3	387	2.6	1026	7.0
Intervertebral Disc (Cervical)	3228	21.9	2804	19.0	6032	40.9
Intervertebral Disc (Lumbar)	2221	15.1	1390	9.4	3611	24.5
TOTAL	**8215**	**55.8**	**6518**	**44.2**	**14733**	**100.0**

Table SD2 Number of Primary Spinal Disc Replacements by Age

Spinal Disc Replacement	<55		55-64		65-74		75-84		≥85		TOTAL	
	N	Total%	N	Total%	N	Total%	N	Total%	N	Total%	N	Total%
Spinal Segment	317	2.2	26	0.2	15	0.1	1	0.0	.	.	359	2.4
Spinal Ball Trough	2978	20.2	533	3.6	170	1.2	22	0.1	2	0.0	3705	25.1
Insert & Endplates	824	5.6	137	0.9	56	0.4	9	0.1	.	.	1026	7.0
Intervertebral Disc (Cervical)	4775	32.4	986	6.7	249	1.7	22	0.1	.	.	6032	40.9
Intervertebral Disc (Lumbar)	2852	19.4	511	3.5	209	1.4	38	0.3	1	0.0	3611	24.5
TOTAL	**11746**	**79.7**	**2193**	**14.9**	**699**	**4.7**	**92**	**0.6**	**3**	**0.0**	**14733**	**100.0**

Table SD3 Number of Primary Spinal Disc Replacements by Year of Implant

Year of Implant	Spinal Segment		Spinal Ball Trough		Insert & Endplates		Intervertebral Disc (Cervical)		Intervertebral Disc (Lumbar)		TOTAL	
	N	Total%	N	Total%	N	Total%	N	Total%	N	Total%	N	Total%
2007	1	0.0	4	0.0	1	0.0	.	.	1	0.0	7	0.0
2008	39	0.3	40	0.3	23	0.2	2	0.0	11	0.1	115	0.8
2009	36	0.2	31	0.2	27	0.2	3	0.0	4	0.0	101	0.7
2010	57	0.4	15	0.1	32	0.2	23	0.2	14	0.1	141	1.0
2011	51	0.3	14	0.1	30	0.2	33	0.2	14	0.1	142	1.0
2012	26	0.2	7	0.0	22	0.1	64	0.4	36	0.2	155	1.1
2013	30	0.2	116	0.8	44	0.3	139	0.9	52	0.4	381	2.6
2014	30	0.2	192	1.3	33	0.2	301	2.0	89	0.6	645	4.4
2015	18	0.1	257	1.7	25	0.2	403	2.7	265	1.8	968	6.6
2016	24	0.2	264	1.8	24	0.2	313	2.1	316	2.1	941	6.4
2017	21	0.1	338	2.3	21	0.1	514	3.5	415	2.8	1309	8.9
2018	13	0.1	386	2.6	22	0.1	558	3.8	400	2.7	1379	9.4
2019	4	0.0	297	2.0	25	0.2	683	4.6	458	3.1	1467	10.0
2020	.	.	278	1.9	32	0.2	618	4.2	436	3.0	1364	9.3
2021	2	0.0	222	1.5	25	0.2	666	4.5	396	2.7	1311	8.9
2022	6	0.0	217	1.5	123	0.8	476	3.2	214	1.5	1036	7.0
2023	1	0.0	330	2.2	164	1.1	436	3.0	198	1.3	1129	7.7
2024	.	.	334	2.3	173	1.2	464	3.1	167	1.1	1138	7.7
2025	.	.	363	2.5	180	1.2	336	2.3	125	0.8	1004	6.8
TOTAL	**359**	**2.4**	**3705**	**25.1**	**1026**	**7.0**	**6032**	**40.9**	**3611**	**24.5**	**14733**	**100.0**

Table SD4 Number of Primary Spinal Disc Replacements by Level

Spinal Disk Replacement	Spinal Segment		Spinal Ball Trough		Insert & Endplates		Intervertebral Disc (Cervical)		Intervertebral Disc (Lumbar)		TOTAL	
	N	Total%	N	Total%	N	Total%	N	Total%	N	Total%	N	Total%
T12-L1	.	.	1	0.0	1	0.0	.	.	.	.	2	0.0
L1-L2	1	0.0	6	0.0	.	.	1	0.0	10	0.1	18	0.1
L2-L3	9	0.1	.	.	45	0.3	.	.	151	1.0	205	1.4
L3-L4	46	0.3	13	0.1	207	1.4	.	.	524	3.6	790	5.4
L4-L5	227	1.5	22	0.1	514	3.5	.	.	1952	13.2	2715	18.4
L5-S1	64	0.4	5	0.0	243	1.6	.	.	970	6.6	1282	8.7
C2-C3	.	.	7	0.0	.	.	5	0.0	.	.	12	0.1
C3-C4	1	0.0	202	1.4	2	0.0	180	1.2	.	.	385	2.6
C4-C5	1	0.0	651	4.4	7	0.0	766	5.2	2	0.0	1427	9.7
C5-C6	8	0.1	1697	11.5	3	0.0	2802	19.0	2	0.0	4512	30.6
C6-C7	2	0.0	1081	7.3	3	0.0	2215	15.0	.	.	3301	22.4
C7-T1	.	.	20	0.1	.	.	63	0.4	.	.	83	0.6
TOTAL	**359**	**2.4**	**3705**	**25.1**	**1026**	**7.0**	**6032**	**40.9**	**3611**	**24.5**	**14733**	**100.0**

Primary Spinal Disc Replacement

Table SD5 Age and Sex of Primary Spinal Disc Replacement

Sex	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	6518	44.2%	15	87	45	45.8	10.6
Male	8215	55.8%	17	99	45	45.9	11.0
TOTAL	**14733**	**100.0%**	**15**	**99**	**45**	**45.9**	**10.8**

Figure SD1 Primary Spinal Disc Replacement by Age and Sex

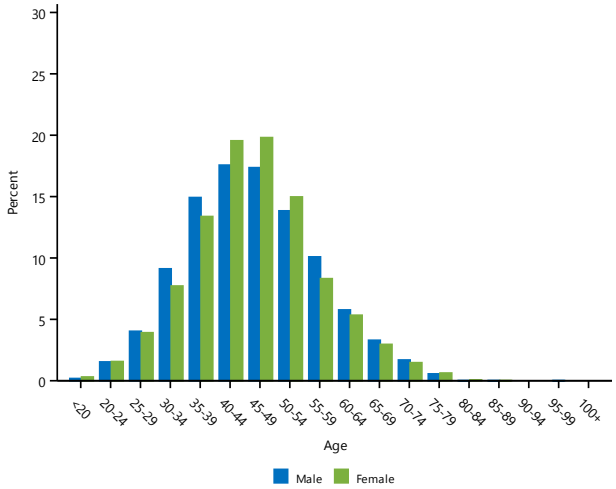

Table SD6 Primary Spinal Disc Replacement by Primary Diagnosis

Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	13181	89.5
Disc Disease Without Radiculopathy	1081	7.3
Pain Of Unknown Cause	138	0.9
Spondylolisthesis	112	0.8
Adjacent To Concurrent Fusion	92	0.6
Adjacent Segment Syndrome	44	0.3
Post Laminectomy Or Discectomy	41	0.3
Other	44	0.3
TOTAL	**14733**	**100.0**

Primary Spinal Segment Replacement

Table SD7 Age and Sex of Primary Spinal Segment Replacement

Sex	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	162	45.1%	19	73	40	40.4	10.8
Male	197	54.9%	19	75	40	41.9	11.4
TOTAL	**359**	**100.0%**	**19**	**75**	**40**	**41.2**	**11.1**

Figure SD2 Primary Spinal Segment Replacement by Age and Sex

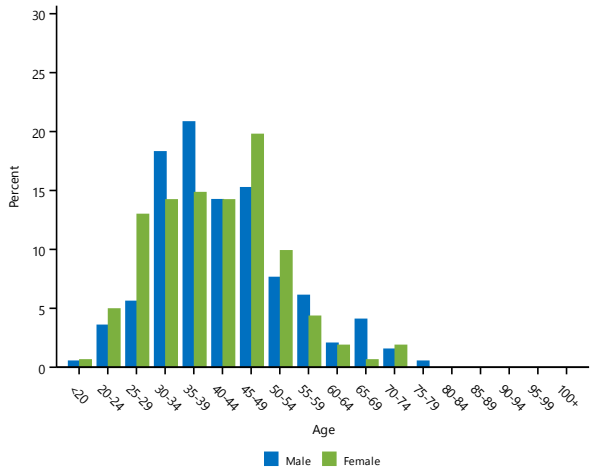

Table SD8 Primary Spinal Segment Replacement by Primary Diagnosis

Primary Diagnosis	Number	Percent
Disc Disease Without Radiculopathy	183	51.0
Disc Disease With Radiculopathy	151	42.1
Adjacent To Concurrent Fusion	8	2.2
Pain Of Unknown Cause	7	1.9
Spondylolisthesis	5	1.4
Post Laminectomy Or Discectomy	1	0.3
Adjacent Segment Syndrome	1	0.3
Other	3	0.8
TOTAL	**359**	**100.0**

Table SD9 Most Used Segment Prostheses in Primary Spinal Segment Replacement

2008		2021		2022		2023	
N	Model	N	Model	N	Model	N	Model
39	Maverick	2	Verte-Stack	6	Verte-Stack	1	Verte-Stack
Most Used							
39	(1) 100.0	2	(1) 100.0	6	(1) 100.0	1	(1) 100.0

Note: There were no procedures recorded in 2024 or 2025

Primary Spinal Ball Trough Replacement

Table SD10 Age and Sex of Primary Spinal Ball Trough Replacement

Sex	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1775	47.9%	22	81	46	46.3	9.7
Male	1930	52.1%	21	99	46	46.7	10.4
TOTAL	**3705**	**100.0%**	**21**	**99**	**46**	**46.5**	**10.1**

Figure SD3 Primary Spinal Ball Trough Replacement by Age and Sex

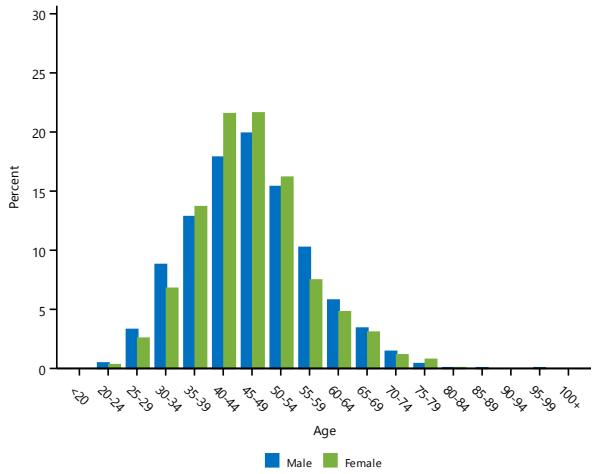

Table SD11 Primary Spinal Ball Trough Replacement by Primary Diagnosis

Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	3439	92.8
Disc Disease Without Radiculopathy	158	4.3
Spondylolisthesis	26	0.7
Pain Of Unknown Cause	21	0.6
Adjacent Segment Syndrome	18	0.5
Adjacent To Concurrent Fusion	15	0.4
Post Laminectomy Or Discectomy	14	0.4
Other	14	0.4
TOTAL	**3705**	**100.0**

Table SD12 Most Used Ball Trough Prostheses in Primary Spinal Ball Trough Replacement

2008		2022		2023		2024		2025	
N	Model	N	Model	N	Model	N	Model	N	Model
30	Prestige	108	Prodisc-C	167	Prodisc-C	183	Prodisc-C	260	Prodisc-C
4	Wallis	41	Mobi-C	125	Simplify Disc	118	Simplify Disc	69	Simplify Disc
3	Prodisc-C	32	Prestige	30	Prestige	33	Prestige	30	Prestige
3	X-Stop	29	Simplify Disc	8	Secure-C			3	Mobi-C
		7	Secure-C					1	Prodisc-C Nova
Most Used									
40	(4) 100.0%	217	(5) 100.0%	330	(4) 100.0%	334	(3) 100.0%	363	(5) 100.0%

Primary Spinal Insert/Endplate Replacement

Table SD13 Age and Sex of Primary Spinal Insert/Endplate Replacement

Sex	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	387	37.7%	18	78	44	44.8	12.0
Male	639	62.3%	19	78	44	44.5	11.9
TOTAL	**1026**	**100.0%**	**18**	**78**	**44**	**44.6**	**11.9**

Figure SD4 Primary Spinal Insert/Endplate Replacement by Age and Sex

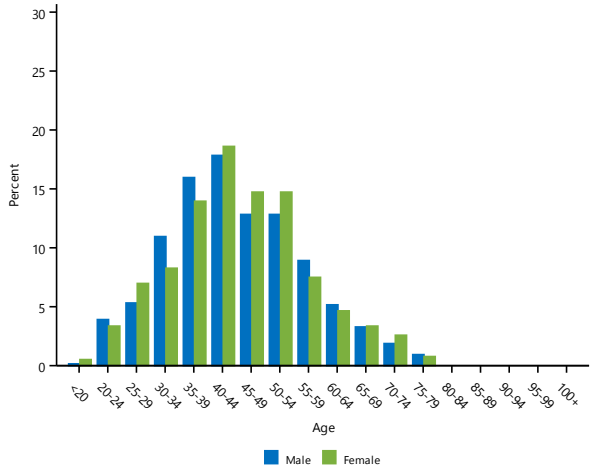

Table SD14 Primary Spinal Insert/Endplate Replacement by Primary Diagnosis

Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	849	82.7
Disc Disease Without Radiculopathy	107	10.4
Pain Of Unknown Cause	40	3.9
Spondylolisthesis	12	1.2
Adjacent To Concurrent Fusion	8	0.8
Adjacent Segment Syndrome	4	0.4
Post Laminectomy Or Discectomy	2	0.2
Other	4	0.4
TOTAL	**1026**	**100.0**

Table SD15 Most Used Insert Prostheses in Primary Spinal Insert/Endplate Replacement

2008		2022		2023		2024		2025	
N	Model	N	Model	N	Model	N	Model	N	Model
16	Prodisc-L	105	Activ L	105	Prodisc-L	159	Prodisc-L	177	Prodisc-L
7	In Motion	18	Prodisc-L	59	Activ L	14	Activ L	3	Activ L
Most Used									
23	(2) 100	123	(2) 100	164	(2) 100	173	(2) 100	180	(2) 100

Primary Cervical Intervertebral Disc Replacement

Table SD16 Age and Sex of Primary Cervical Intervertebral Disc Replacement

Sex	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	2804	46.5%	15	78	46	46.8	9.7
Male	3228	53.5%	18	78	46	46.6	10.1
TOTAL	**6032**	**100.0%**	**15**	**78**	**46**	**46.7**	**9.9**

Figure SD5 Primary Cervical Intervertebral Disc Replacement by Age and Sex

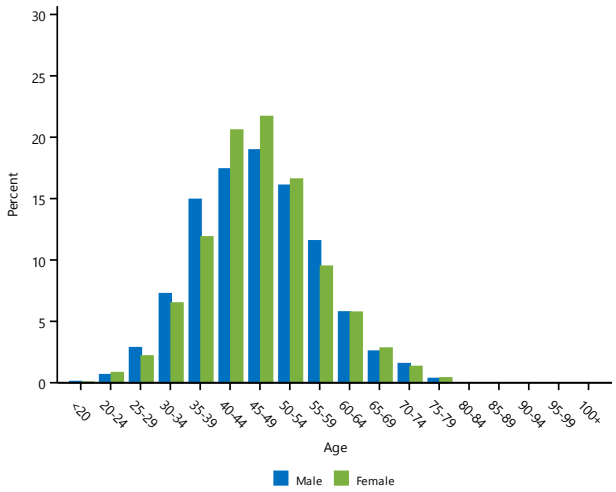

Table SD17 Primary Cervical Intervertebral Disc Replacement by Primary Diagnosis

Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	5614	93.1
Disc Disease Without Radiculopathy	252	4.2
Spondylolisthesis	48	0.8
Pain Of Unknown Cause	37	0.6
Adjacent To Concurrent Fusion	31	0.5
Post Laminectomy Or Discectomy	20	0.3
Adjacent Segment Syndrome	14	0.2
Other	16	0.3
TOTAL	**6032**	**100.0**

Table SD18 Most Used Disc Prostheses in Primary Cervical Intervertebral Disc Replacement

2008		2022		2023		2024		2025	
N	Model	N	Model	N	Model	N	Model	N	Model
2	Spinal Disc (DePuy)	225	M6	131	Baguera	188	Baguera	144	Baguera
		132	CP-ESP	114	CP-ESP	137	Synergy Disc	126	Synergy Disc
		96	Synergy Disc	107	Synergy Disc	105	CP-ESP	55	CP-ESP
		22	Baguera	80	M6	34	M6	5	M6
		1	Generic All in One Spinal Disc	2	Generic All in One Spinal Disc			5	Move-C
				2	Rotaio			1	Rotaio
Most Used									
2	(1) 100.0%	476	(5) 100.0%	436	(6) 100.0%	464	(4) 100.0%	336	(6) 100.0%

Primary Lumbar Intervertebral Disc Replacement

Table SD19 Primary Lumbar Intervertebral Disc Replacement by Age and Sex

Sex	Number	Percent	Minimum	Maximum	Median	Mean	Std Dev
Female	1390	38.5%	16	87	43	44.1	12.5
Male	2221	61.5%	17	79	43	44.8	12.1
TOTAL	**3611**	**100.0%**	**16**	**87**	**43**	**44.5**	**12.3**

Figure SD6 Primary Lumbar Intervertebral Disc Replacement by Age and Sex

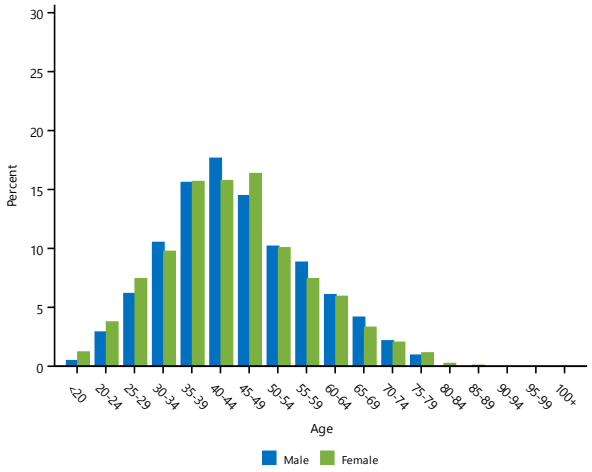

Table SD20 Primary Lumbar Intervertebral Disc Replacement by Primary Diagnosis

Primary Diagnosis	Number	Percent
Disc Disease With Radiculopathy	3128	86.6
Disc Disease Without Radiculopathy	381	10.6
Pain Of Unknown Cause	33	0.9
Adjacent To Concurrent Fusion	30	0.8
Spondylolisthesis	21	0.6
Adjacent Segment Syndrome	7	0.2
Post Laminectomy Or Discectomy	4	0.1
Other	7	0.2
TOTAL	**3611**	**100.0**

Table SD21 Most Used Disc Prostheses in Primary Lumbar Intervertebral Disc Replacement

2008		2022		2023		2024		2025	
N	Model	N	Model	N	Model	N	Model	N	Model
11	Flexicore	170	LP-ESP	134	LP-ESP	95	LP-ESP	59	Baguera
		40	M6	39	Baguera	52	Baguera	55	LP-ESP
		3	Baguera	25	M6	20	M6	11	M6
		1	Generic All In One Spinal Disc						
Most Used									
11	(1) 100.0%	214	(4) 100.0%	198	(3) 100.0%	167	(3) 100.0%	125	(3) 100.0%

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