

# American Spine Registry (ASR) 2024 Fact Sheet

The American Spine Registry (ASR) launched in January 2020 with two modules: Degenerative Lumbar Spine and Degenerative Cervical Spine. This report provides a preview of the data in the ASR.

ASR, a partnership between the American Association of Neurological Surgeons (AANS) and the American Academy of Orthopaedic Surgeons (AAOS), represents a collaboration to enhance and improve the quality of spine care by providing spine surgeons access to a national data-collection program. The partnership incorporates the resources and experiences of both organizations.

Thank you to the ASR Executive Committee and ASR Data Use Committee for their contributions and leadership in bringing this registry report to fruition.

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Rick C. Sasso, MD, FAAOS  
Chris Shaffrey, MD, FAAOS, FACS, FAANS

Thanks to the following for their time and commitment to the growth of ASR: Chris Shaffrey, MD, FAAOS, FACS and Darrel Brodke, MD, FAAOS

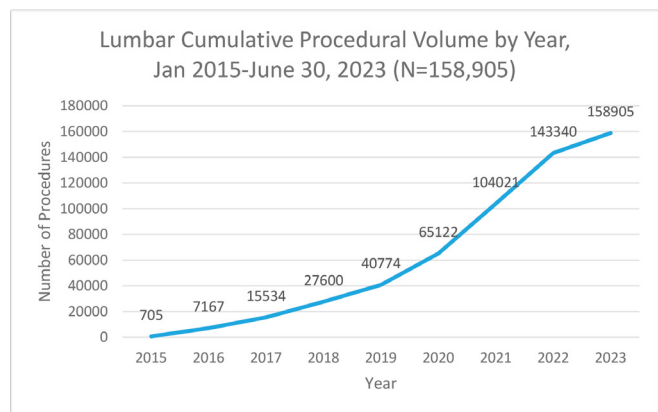
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Rajiv K. Sethi, MD, FAAOS  
Michael Wang, MD, FACS, FAANS  
S. Tim Yoon, MD, PhD, FAAOS

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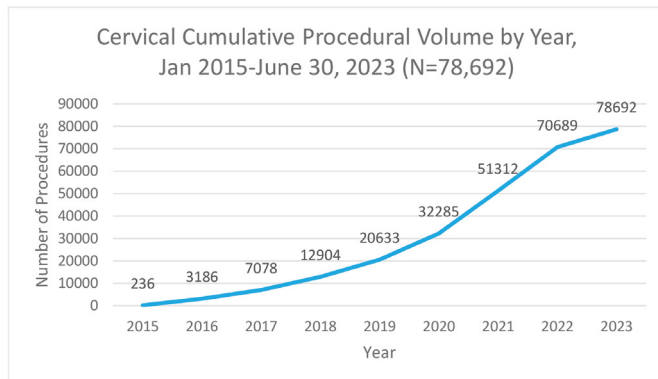
Reagan Bayer, MBA, PMP  
Patrick Donnelly, MS  
Nathan Glusenkamp, MA  
Emily Jimenez, MPH  
Erik Michalesko  
Kyle Mullen, MPH  
Kimberly Porter, PhD, MPH  
Olivia Sterling, MPH  
Namrah Mirza-Haq, MSPH  
Ayushmita De, PhD  
Hollie Muir  
Ajla Smajlovic, MPH  
Amanda Bagus, MS, ATC  
Stefan Rykowski

**Figure 1** Lumbar Cumulative Procedural Volume by Year, Jan 2015-June 30, 2023 (N=158,905)\*



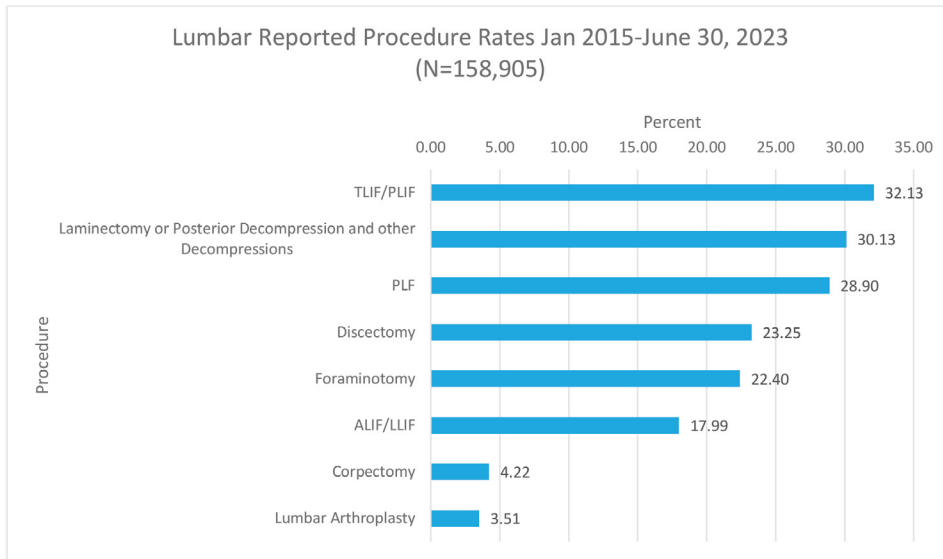
\*Cases may include more than one reported diagnosis

**Figure 2** Cervical Cumulative Procedural Volume by Year, Jan 2015-June 30, 2023 (N=78,692)\*

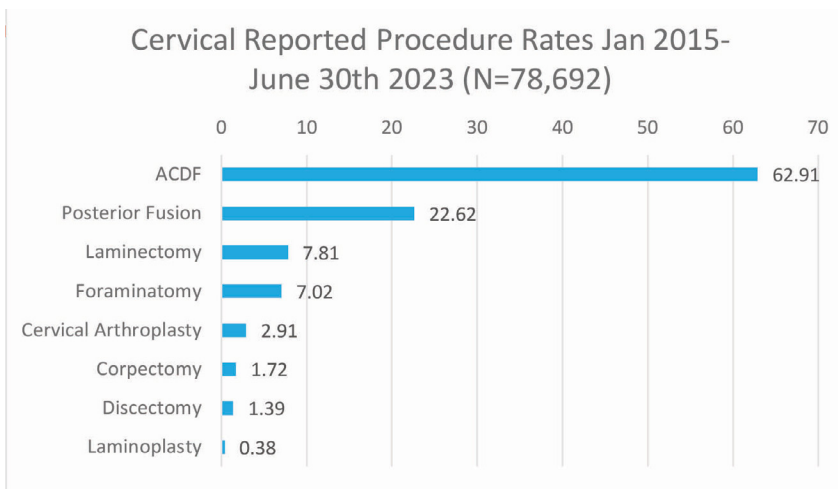


\*Cases may include more than one reported diagnosis

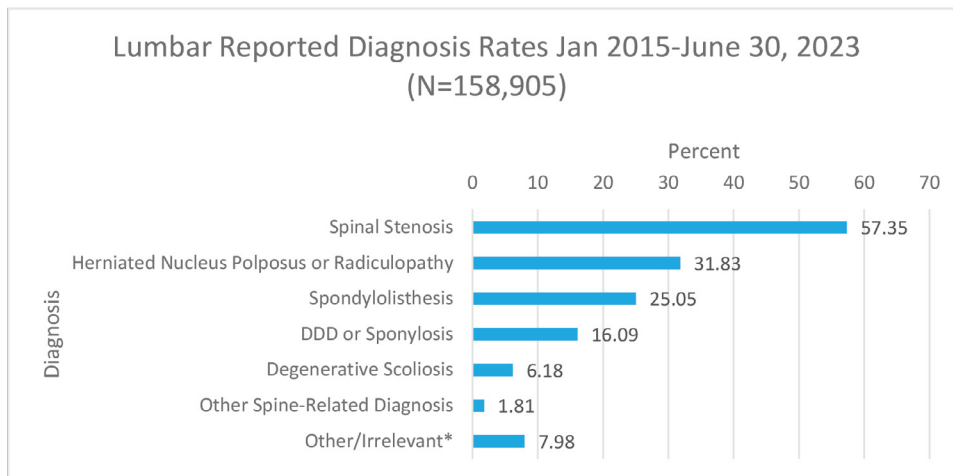
**Figure 3** Lumbar Reported Procedure Rates Jan 2015-June 30, 2023 (N=158,905)



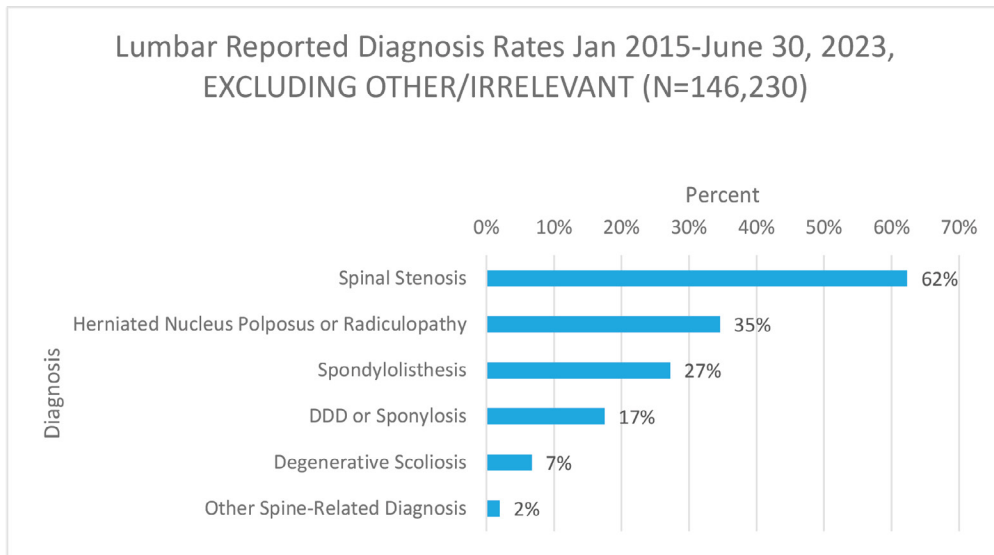
**Figure 4** Cervical Reported Procedure Rates Jan 2015-June 30, 2023 (N=78,692)



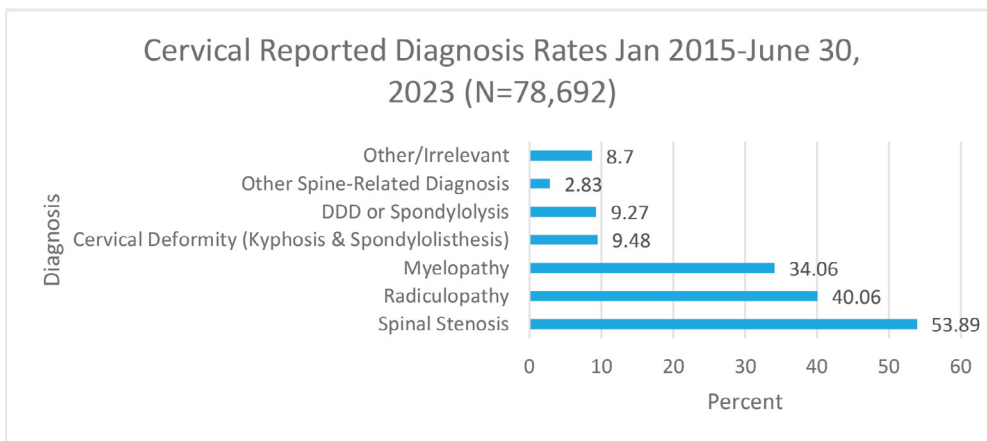
**Figure 5a** Lumbar Reported Diagnosis Rates Jan 2015-June 30, 2023 (N=158,905)



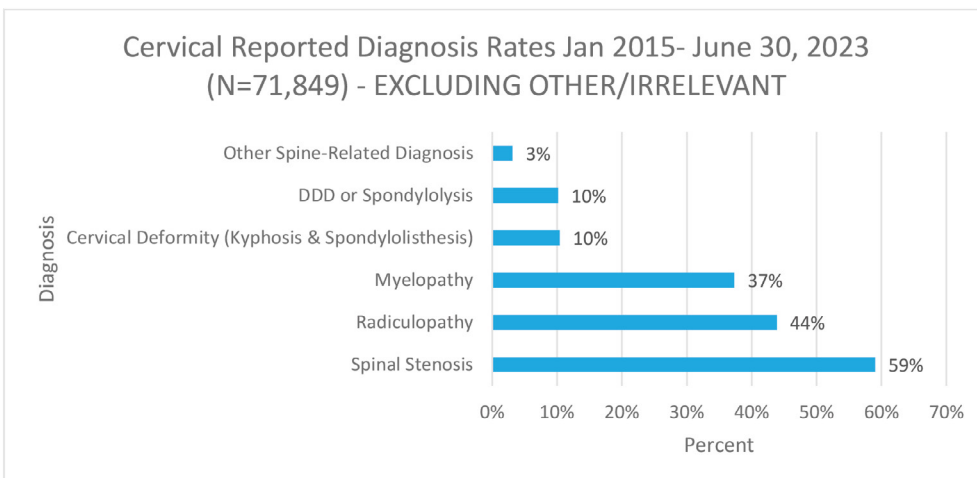
**Figure 5b** Lumbar Reported Diagnosis Rates Jan 2015-June 30, 2023 (N=158,905), EXCLUDING OTHER/IRRELEVANT (N=146,230)



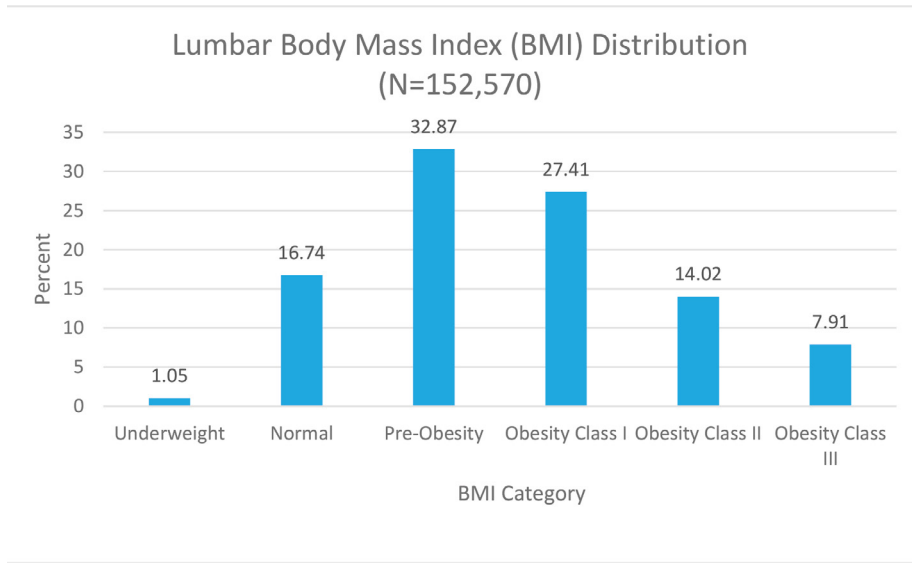
**Figure 6a** Cervical Reported Diagnosis Rates Jan 2015-June 30, 2023 (N=78,692)



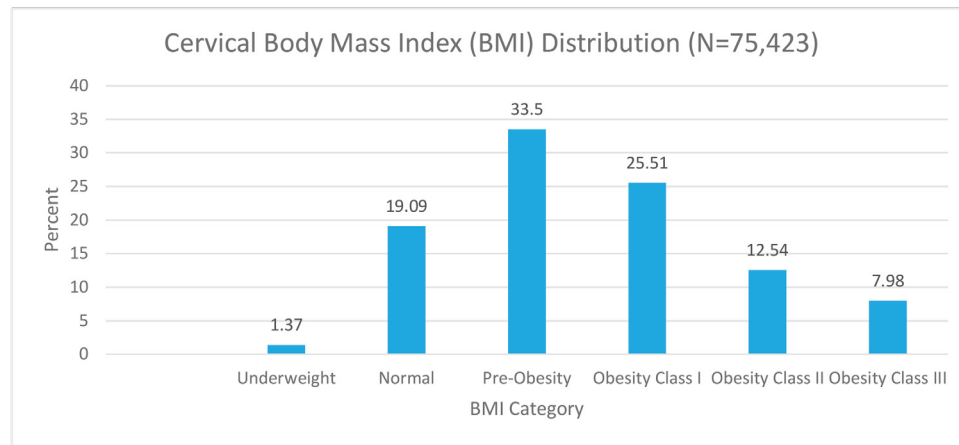
**Figure 6b** Cervical Reported Diagnosis Rates Jan 2015-June 30, 2023 (N=78,692) - EXCLUDING OTHER/IRRELEVANT



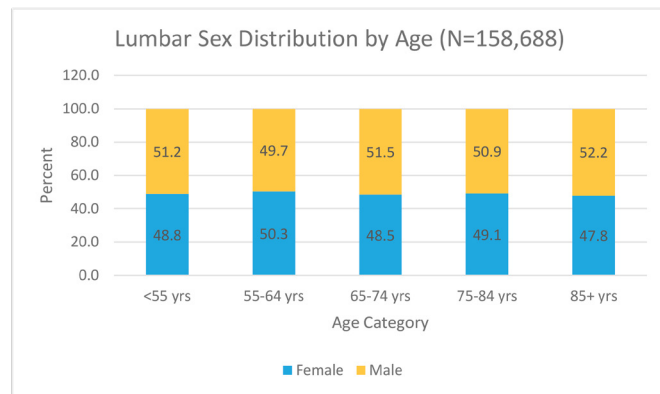
**Figure 7 Lumbar Body Mass Index (BMI) Distribution (N=152,570)**



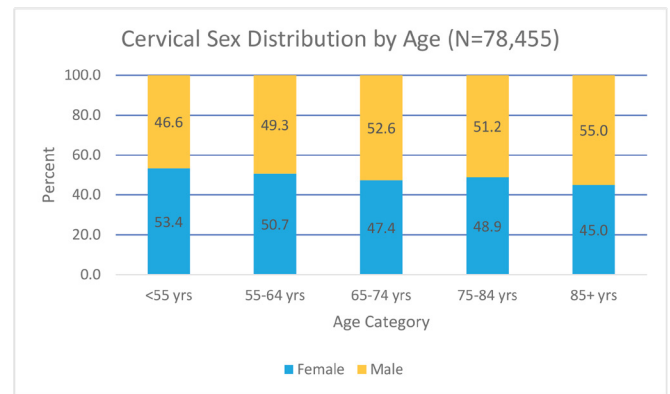
**Figure 8 Cervical Body Mass Index (BMI) Distribution (N=75,423)**



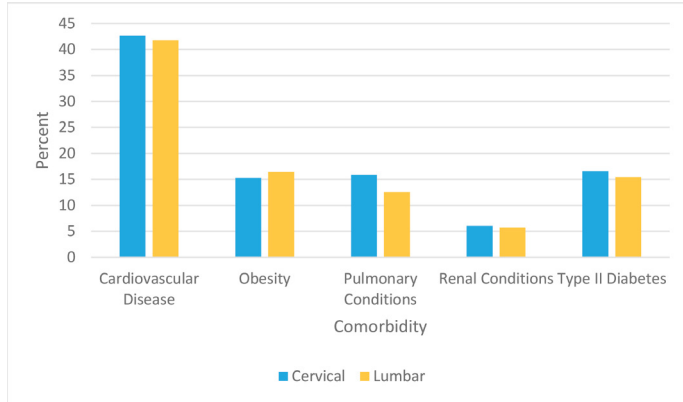
**Figure 9 Lumbar Sex Distribution by Age (N=158,688)**



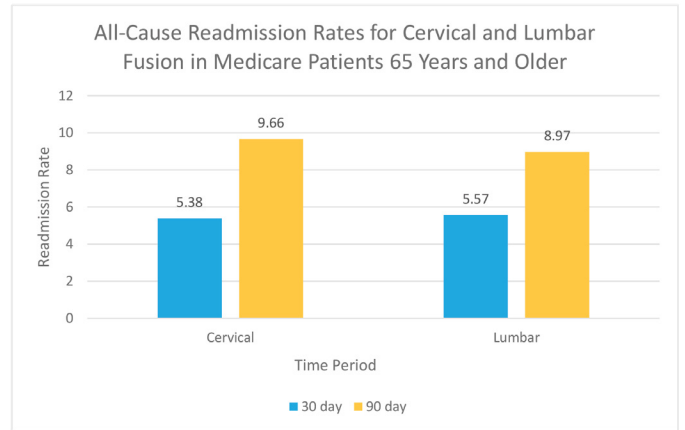
**Figure 10 Cervical Sex Distribution by Age (N=158,688)**



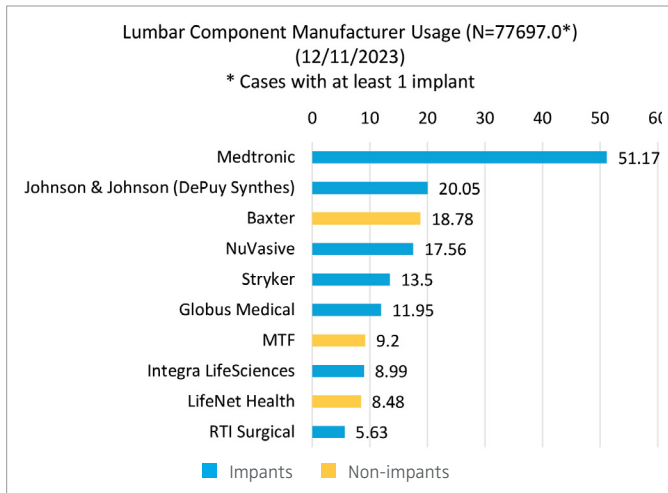
**Figure 11** ASR Comorbidity Rates (Cervical N= 79,455 Lumbar N=161,193)



**Figure 12** All-Cause Readmission Rates for Cervical and Lumbar Fusion in Medicare Patients 65 Years of Age and Older, 2015-2022 (Cervical N=11,558, Lumbar N=21,572)

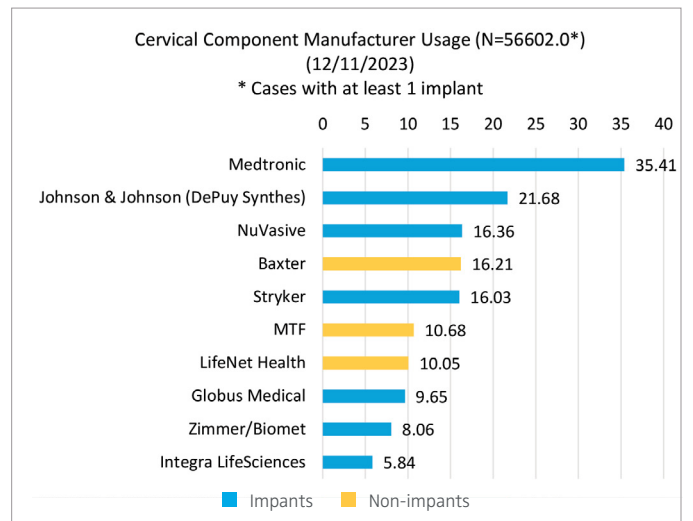


**Figure 13** Lumbar Component Manufacturer Usage (N=77697.0\*) (12/11/2023)



\* Cases with at least 1 implant

**Figure 14** Cervical Component Manufacturer Usage (N=56602.0\*) (12/11/2023)



\* Cases with at least 1 implant

**Table 1** Cervical Fusion/Approach Rates (Vanguard Operative Form)

	Fusion	Approach		
	Total (N=10508)	Anterior/Oblique (N= 8798 )	Posterior (N= 2138 )	Combined (N= 72)
<b>Fusion</b>	7423(70.6%)	6372 (85.8%)	1007 (13.5%)	44(0.59%)
<b>Non-Fusion</b>	3085(29.3%)	1926 (62.4%)	1131(36.6%)	28(0.90%)

**Table 2** Lumbar Fusion/Approach Rates (Vanguard Operative Form)

	Fusion	Approach			
	Total (N=23317)	Anterior/Oblique (N=853)	Transposas (N=463 )	Posterior (N=21214)	Combined (N=787)
<b>Fusion</b>	8363 (35.6%)	524(6.2%)	297(3.5%)	6992(83.6%)	550(6.5%)
<b>Non-Fusion</b>	14954 (64.3%)	329(2.2%)	166 (1.1%)	14222(95.1%)	237(1.5%)

**Table 3** Change Between Preoperative and 1-Year Postoperative PROM Scores after Cervical Procedure by PROM, (Jan, 2015- June 30, 2023)

Patient Reported Outcome Measure	Cases with Preoperative Score	Cases with Linked Postop Scores	Response Rate, Preop and 1-Year	Rate of Meaningful Improvement
ArmPain NRS	10,929	3,872	35.43%	61.05%
NeckPain NRS	11,216	3,982	35.50%	65.02%
Neck Disability Index	12,446	4,483	36.02%	66.23%
PROMIS-10 Physical T	8,542	2,657	31.11%	53.90%
PROMIS-10 Mental T	8,542	2,657	31.11%	39.67%

\*Meaningful improvement defined as achieving or exceeding minimal clinically important difference (MCID) via distribution method (half the pooled standard deviation of change)

**Table 4** Change Between Preoperative and 1-Year Postoperative PROM Scores after Lumbar Procedure by PROM, (Jan 1, 2015- June 30, 2023)

Patient Reported Outcome Measure	Cases with Preoperative Score	Cases with Linked Postop Scores	Response Rate, Preop and 1-Year	Rate of Meaningful Improvement
BackPain NRS	21,677	8,389	38.70%	66.63%
LegPain NRS	21,022	8,147	38.75%	68.58%
Oswestry Disability Index	22,887	9,751	42.60%	69.97%
PROMIS-10 Physical	16,716	6,158	36.84%	60.17%
PROMIS-10 Mental	16,716	6,158	36.84%	42.01%

\*Meaningful improvement defined as achieving or exceeding minimal clinically important difference (MCID) via distribution method (half the pooled standard deviation of change)

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