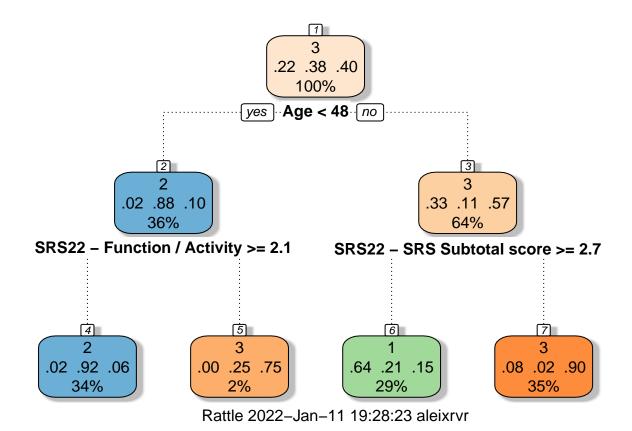
# Clusters Descriptives

#### 

Initial Patients: 370 Number of patients

cluster N 1: 1 81 2: 2 142 3: 3 147



# **Demographics**

Female

0.7605634 0.2394366

Male

variable All.mean All.sd 1.mean 1.sd 52.36 19.43 67.01 11.01 Age Age Height (cm)\_First Visit Height (cm)\_First Visit 163.10 9.43 164.01 8.85 Weight (kgs)\_First Visit Weight (kgs)\_First Visit 65.61 13.04 66.30 13.17 BMI\_First Visit BMI\_First Visit 24.68 4.58 24.62 4.50 2.mean 2.sd 3.mean 3.sd p.val\_1.2 p.val\_1.3 Age 33.37 14.30 62.64 10.66 0.0000 0.0042 Height (cm)\_First Visit 165.74 9.84 160.05 8.47 0.1818 0.0013 Weight (kgs)\_First Visit 64.35 14.09 66.45 11.85 0.3029 0.9329 23.38 4.47 25.97 4.39 BMI\_First Visit 0.0515 0.0308 p.val\_2.3 p.val\_all 0.000 0.0000 Age Height (cm)\_First Visit 0.000 0.0000 Weight (kgs)\_First Visit 0.172 0.3402 BMI\_First Visit 0.000 0.0000 \$Gender \$Gender\$All \$Gender\$All\$table variable Female Male 289 81 \$Gender\$All\$proportion variable Female Male 0.7810811 0.2189189 \$Gender\$'1' \$Gender\$'1'\$table variable Female Male 58 23 \$Gender\$'1'\$proportion variable Female Male 0.7160494 0.2839506 \$Gender\$'2' \$Gender\$'2'\$table variable Female Male 108 34 \$Gender\$'2'\$proportion variable

```
$Gender$'3'
$Gender$'3'$table
variable
Female Male
   123
           24
$Gender$'3'$proportion
variable
   Female
               Male
0.8367347 0.1632653
$'Prior Spine Surgery'
$'Prior Spine Surgery'$All
$'Prior Spine Surgery'$All$table
variable
No Yes
255 115
$'Prior Spine Surgery'$All$proportion
variable
       No
0.6891892 0.3108108
$'Prior Spine Surgery'$'1'
$'Prior Spine Surgery'$'1'$table
variable
No Yes
52 29
$'Prior Spine Surgery'$'1'$proportion
variable
      No
0.6419753 0.3580247
$'Prior Spine Surgery'$'2'
$'Prior Spine Surgery'$'2'$table
variable
No Yes
115 27
$'Prior Spine Surgery'$'2'$proportion
variable
       No
                Yes
0.8098592 0.1901408
$'Prior Spine Surgery'$'3'
$'Prior Spine Surgery'$'3'$table
```

variable

No Yes 88 59

\$'Prior Spine Surgery'\$'3'\$proportion
variable

No Yes 0.5986395 0.4013605

112 202 56

86 50 6

\$'ASA classification'
\$'ASA classification'\$All
\$'ASA classification'\$All\$table
variable
1 2 3

\$'ASA classification'\$All\$proportion
variable

1 2 3 0.3027027 0.5459459 0.1513514

\$'ASA classification'\$'1'
\$'ASA classification'\$'1'\$table
variable
1 2 3
8 52 21

\$'ASA classification'\$'1'\$proportion
variable

1 2 3 0.09876543 0.64197531 0.25925926

\$'ASA classification'\$'2'
\$'ASA classification'\$'2'\$table
variable
1 2 3

\$'ASA classification'\$'2'\$proportion
variable

1 2 3 0.60563380 0.35211268 0.04225352

\$'ASA classification'\$'3'
\$'ASA classification'\$'3'\$table
variable
 1 2 3
18 100 29

\$'ASA classification'\$'3'\$proportion

```
variable
```

1 2 3

0.1224490 0.6802721 0.1972789

\$'Tobacco use First Visit'

\$'Tobacco use\_First Visit'\$All

\$'Tobacco use\_First Visit'\$All\$table

variable

Current Ex Non-User 74 66 230

\$'Tobacco use\_First Visit'\$All\$proportion

variable

Current Ex Non-User 0.2000000 0.1783784 0.6216216

\$'Tobacco use\_First Visit'\$'1'

\$'Tobacco use\_First Visit'\$'1'\$table

variable

Current Ex Non-User 11 16 54

\$'Tobacco use\_First Visit'\$'1'\$proportion

variable

Current Ex Non-User 0.1358025 0.1975309 0.6666667

\$'Tobacco use\_First Visit'\$'2'

\$'Tobacco use\_First Visit'\$'2'\$table

variable

Current Ex Non-User 28 26 88

\$'Tobacco use\_First Visit'\$'2'\$proportion

variable

Current Ex Non-User 0.1971831 0.1830986 0.6197183

\$'Tobacco use\_First Visit'\$'3'

\$'Tobacco use\_First Visit'\$'3'\$table

variable

Current Ex Non-User 35 24 88

\$'Tobacco use\_First Visit'\$'3'\$proportion

variable

Current Ex Non-User 0.2380952 0.1632653 0.5986395

\$'ESSG Diagnosis' \$'ESSG Diagnosis'\$All \$'ESSG Diagnosis'\$All\$table variable Congenital Degenerative 10 132 Failed-back Idiopathic 19 166 Neuromuscular Other: Ankylosing spondylitis Other: hyperkyphosis Other: radiotherapy induced Other: spondylolisthesis Post-traumatic 15 Scheuermann Syndromic 15 \$'ESSG Diagnosis'\$All\$proportion variable Congenital Degenerative 0.027027027 0.356756757 Failed-back Idiopathic 0.051351351 0.448648649 Neuromuscular Other: Ankylosing spondylitis 0.010810811 0.002702703 Other: hyperkyphosis Other: radiotherapy induced 0.002702703 0.002702703 Other: spondylolisthesis Post-traumatic 0.002702703 0.040540541 Scheuermann Syndromic 0.040540541 0.013513514 \$'ESSG Diagnosis'\$'1' \$'ESSG Diagnosis'\$'1'\$table variable Failed-back Idiopathic Degenerative Other: spondylolisthesis Post-traumatic Scheuermann \$'ESSG Diagnosis'\$'1'\$proportion variable Failed-back Degenerative Idiopathic 0.67901235 0.08641975 0.18518519 Other: spondylolisthesis Post-traumatic Scheuermann 0.01234568 0.02469136 0.01234568 \$'ESSG Diagnosis'\$'2'

\$'ESSG Diagnosis'\$'2'\$table

variable

Congenital	Degenerative								
8	8								
Failed-back	Idiopathic								
1	103								
Neuromuscular O	ther: radiotherapy induced								
2	1								
Post-traumatic	Scheuermann								
3	12								
Syndromic									
4									
<pre>\$'ESSG Diagnosis'\$'2'\$proport variable</pre>	ion								
Congenital	Degenerative								
0.056338028	0.056338028								
Failed-back	Idiopathic								
0.007042254	0.725352113								
Neuromuscular O	ther: radiotherapy induced								
0.014084507	0.007042254								
Post-traumatic	Scheuermann								
0.021126761	0.084507042								
Syndromic									
0.028169014									
<pre>\$'ESSG Diagnosis'\$'3' \$'ESSG Diagnosis'\$'3'\$table variable</pre>									
Congenital	Degenerative								
2	69								
Failed-back	Idiopathic								
11	48								
Neuromuscular	Other: Ankylosing spondylitis								
2	1								
Other: hyperkyphosis	Post-traumatic								
1	10								
Scheuermann	Syndromic								
2	1								
<pre>\$'ESSG Diagnosis'\$'3'\$proport. variable</pre>	ion								
Congenital	Degenerative								
0.013605442	0.469387755								
Failed-back	Idiopathic								
0.074829932	0.326530612								
	Other: Ankylosing spondylitis								
0.013605442	0.006802721								
Other: hyperkyphosis	Post-traumatic								
0.006802721	0.068027211								
Scheuermann	a 1 ·								
0.013605442	Syndromic 0.006802721								

\$'Surgical Approach' \$'Surgical Approach'\$All \$'Surgical Approach'\$All\$table variable Anterior Anterior-Posterior Posterior Posterior-Anterior 350 Posterior-Posterior Posterior-Posterior-Anterior \$'Surgical Approach'\$All\$proportion variable Anterior Anterior-Posterior 0.002702703 0.010810811 Posterior Posterior-Anterior 0.945945946 0.029729730 Posterior-Posterior Posterior-Posterior-Anterior 0.008108108 0.002702703 \$'Surgical Approach'\$'1' \$'Surgical Approach'\$'1'\$table variable Anterior-Posterior Posterior Posterior-Anterior Posterior-Posterior \$'Surgical Approach'\$'1'\$proportion variable Anterior-Posterior Posterior Posterior-Anterior Posterior-Posterior 0.01234568 0.93827160 0.03703704 0.01234568 \$'Surgical Approach'\$'2' \$'Surgical Approach'\$'2'\$table variable Anterior Anterior-Posterior Posterior Posterior-Posterior Posterior-Posterior-Anterior \$'Surgical Approach'\$'2'\$proportion variable Anterior-Posterior Anterior 0.007042254 0.021126761 Posterior Posterior-Posterior 0.007042254 0.957746479 Posterior-Posterior-Anterior 0.007042254

\$'Surgical Approach'\$'3'

```
$'Surgical Approach'$'3'$table
variable
```

Posterior Posterior-Anterior Posterior-Posterior
138 8 1

\$'Surgical Approach'\$'3'\$proportion
variable

Posterior Posterior-Anterior Posterior-Posterior 0.938775510 0.054421769 0.006802721

# Radiology

# [1] "Static Major curve Cobb angle"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd
Static Major curve Cobb angle
                                     42.38 21.32 32.64 15.93 54.69 20.38
6W. Static Major curve Cobb angle
                                     22.96 16.26 18.99 13.73
                                                                28.97 18.53
6M. Static Major curve Cobb angle
                                     22.88 17.12 17.03 12.01
                                                                29.41 19.63
                                     20.61 15.97 16.96 13.76
1Y. Static Major curve Cobb angle
                                                                26.14 17.99
2Y. Static Major curve Cobb angle
                                     22.34 16.89 16.88 13.39 29.00 19.50
5Y. Static Major curve Cobb angle
                                     25.54 17.29 19.01 11.47 33.07 18.31
                                  3.mean 3.sd p.val_1.2 p.val_1.3 p.val_2.3
Static Major curve Cobb angle
                                   35.98 19.20
                                                   0e+00
                                                            0.1726
                                                                       0e+00
6W. Static Major curve Cobb angle 19.07 13.02
                                                   0e+00
                                                            0.9690
                                                                       0e+00
6M. Static Major curve Cobb angle 19.40 14.46
                                                   0e+00
                                                            0.2381
                                                                       0e+00
1Y. Static Major curve Cobb angle 17.07 13.25
                                                   1e-04
                                                            0.9546
                                                                       0e+00
2Y. Static Major curve Cobb angle 18.43 13.16
                                                   0e+00
                                                            0.4795
                                                                       0e+00
5Y. Static Major curve Cobb angle
                                  22.02 16.19
                                                   2e-04
                                                            0.3458
                                                                       9e-04
                                  p.val_all
Static Major curve Cobb angle
                                      0e+00
6W. Static Major curve Cobb angle
                                      0e+00
6M. Static Major curve Cobb angle
                                      0e+00
1Y. Static Major curve Cobb angle
                                      0e+00
2Y. Static Major curve Cobb angle
                                      0e+00
5Y. Static Major curve Cobb angle
                                      3e-04
      t0 t1
                1
                        2
                               3
                                   All
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000
2: Preop 5Y 0.0001 0.0000 0.0000 0.0000
3: Preop 6W 0.0000 0.0000 0.0000 0.0000
     6W 2Y 0.3892 0.9894 0.7072 0.6501
4:
5:
      6W 5Y 0.9957 0.1830 0.1945 0.1328
6.
     2Y 5Y 0.4927 0.2018 0.1213 0.0713
```

#### [1] "Coronal Balance (C7PL to CSVL)"

All.mean All.sd 1.mean 1.sd 2.mean 2.sd Coronal Balance (C7PL to CSVL) 22.37 19.09 31.13 18.77 19.21 13.90

```
6W. Coronal Balance (C7PL to CSVL)
                                      20.18 15.08 20.33 17.26 18.78 13.89
6M. Coronal Balance (C7PL to CSVL)
                                      18.63 14.72
                                                    19.44 15.55 15.65 11.37
1Y. Coronal Balance (C7PL to CSVL)
                                      18.02 13.84
                                                    19.06 12.62 15.55 11.51
2Y. Coronal Balance (C7PL to CSVL)
                                      17.93 15.23 18.65 17.27 14.96 12.43
5Y. Coronal Balance (C7PL to CSVL)
                                      20.81 17.32 23.49 14.07 14.97 11.72
                                   3.mean 3.sd p.val_1.2 p.val_1.3 p.val_2.3
Coronal Balance (C7PL to CSVL)
                                    20.63 21.87
                                                   0.0000
                                                              0.0003
                                                                        0.5259
6W. Coronal Balance (C7PL to CSVL)
                                    21.45 15.14
                                                   0.5620
                                                              0.6792
                                                                        0.1577
6M. Coronal Balance (C7PL to CSVL)
                                    20.99 16.58
                                                   0.1127
                                                             0.5501
                                                                        0.0047
1Y. Coronal Balance (C7PL to CSVL)
                                    19.91 15.97
                                                   0.0942
                                                             0.7132
                                                                        0.0184
2Y. Coronal Balance (C7PL to CSVL)
                                    20.14 16.08
                                                   0.1750
                                                              0.5974
                                                                        0.0099
5Y. Coronal Balance (C7PL to CSVL)
                                    24.30 20.37
                                                   0.0228
                                                              0.8395
                                                                        0.0019
                                   p.val_all
Coronal Balance (C7PL to CSVL)
                                      0.0000
6W. Coronal Balance (C7PL to CSVL)
                                      0.3940
6M. Coronal Balance (C7PL to CSVL)
                                      0.0209
1Y. Coronal Balance (C7PL to CSVL)
                                      0.0489
2Y. Coronal Balance (C7PL to CSVL)
                                      0.0477
5Y. Coronal Balance (C7PL to CSVL)
                                      0.0096
      t0 t1
                 1
                        2
                               3
                                    Δ٦٦
1: Preop 2Y 0.0002 0.0177 0.8394 0.0017
2: Preop 5Y 0.0532 0.0415 0.2323 0.3844
3: Preop 6W 0.0010 0.8108 0.7215 0.1078
4:
      6W 2Y 0.6132 0.0359 0.5240 0.0837
5:
      6W 5Y 0.4243 0.0699 0.3110 0.7103
6:
      2Y 5Y 0.2259 0.9965 0.1504 0.0995
[1] "Sagittal Balance"
                     All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
                              62.42 90.16 66.34 -3.61 32.14 58.64 54.05
Sagittal Balance
                        40.94
6W. Sagittal Balance
                        18.93
                               37.95
                                      37.02 37.30
                                                   -0.26 32.50
                                                                28.25 35.49
6M. Sagittal Balance
                        16.74 44.75 34.34 46.83
                                                   -2.63 34.71
                                                                26.96 45.77
1Y. Sagittal Balance
                        19.20 48.86 45.94 45.40 -3.48 39.65
                                                                28.73 49.37
2Y. Sagittal Balance
                        24.01
                               48.87 46.07 45.47 -1.57 38.13
                                                                36.89 49.28
5Y. Sagittal Balance
                        34.29 48.85 51.88 43.04 12.97 38.90
                                                                44.41 51.98
                     p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Sagittal Balance
                         0.000
                                  0.0006
                                             0e+00
6W. Sagittal Balance
                         0.000
                                  0.1380
                                             0e+00
                                                        0e + 00
                         0.000
6M. Sagittal Balance
                                  0.3236
                                             0e+00
                                                        0e+00
                         0.000
1Y. Sagittal Balance
                                  0.0248
                                             0e+00
                                                        0e+00
                         0.000
                                  0.2508
2Y. Sagittal Balance
                                             0e+00
                                                        0e+00
5Y. Sagittal Balance
                         0.001
                                  0.5100
                                                        3e-04
                                             2e-04
      t0 t1
                               3
                                    All
1: Preop 2Y 0.0000 0.6668 0.0010 0.0002
2: Preop 5Y 0.0028 0.0081 0.0662 0.2087
3: Preop 6W 0.0000 0.4140 0.0000 0.0000
     6W 2Y 0.2671 0.7883 0.1277 0.1751
4:
```

5:

6:

6W 5Y 0.1712 0.0368 0.0217 0.0011

2Y 5Y 0.6128 0.0313 0.3332 0.0441

# [1] "Sagittal T2-T5"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Sagittal T2-T5
                              9.85 11.41 10.60 11.11 9.37 10.96 9.94
                      11.11
6W. Sagittal T2-T5
                              8.19 14.58 7.76 13.29
                      13.64
                                                       8.03 13.54 8.56
6M. Sagittal T2-T5
                      14.04
                              9.63
                                    14.99 10.27
                                                13.67
                                                       8.30 13.94 10.57
                              9.59
                                                14.01 8.86 13.63 10.20
1Y. Sagittal T2-T5
                      13.92
                                    14.35 9.77
2Y. Sagittal T2-T5
                      14.35
                              9.97
                                    13.49 10.46 14.96 9.25 14.16 10.45
                      15.76 11.63 16.52 10.72 14.82 10.76 16.22 12.58
5Y. Sagittal T2-T5
                   p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Sagittal T2-T5
                                          0.9023
                                                    0.9524
                     0.8402
                                0.7669
6W. Sagittal T2-T5
                      0.3076
                                0.4145
                                          0.8195
                                                    0.6082
6M. Sagittal T2-T5
                      0.3929
                                0.5274
                                          0.8238
                                                    0.6843
                                                    0.8892
1Y. Sagittal T2-T5
                     0.8269
                                0.6521
                                          0.7581
2Y. Sagittal T2-T5
                      0.3919
                                0.7046
                                          0.5494
                                                    0.6634
5Y. Sagittal T2-T5
                                          0.5085
                                                    0.7657
                      0.5436
                                0.9141
      t0 t1
                 1
                        2
                               3
                                    A 1 1
1: Preop 2Y 0.2767 0.0017 0.0141 0.0001
2: Preop 5Y 0.0626 0.0322 0.0027 0.0000
3: Preop 6W 0.0501 0.0482 0.0241 0.0004
4:
      6W 2Y 0.5408 0.1512 0.6184 0.3566
5:
      6W 5Y 0.4548 0.3633 0.1136 0.0515
6:
      2Y 5Y 0.2794 0.9348 0.2531 0.2203
```

# [1] "Sagittal T5-T12"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
                       32.95 18.75 29.62 19.38 34.68 20.23
Sagittal T5-T12
                                                               33.01 16.81
6W. Sagittal T5-T12
                       33.69
                             13.83 34.79 14.02 31.19 14.58
                                                               35.52 12.72
6M. Sagittal T5-T12
                       34.62 13.89 35.72 15.05 31.25 13.82
                                                               37.39 12.76
1Y. Sagittal T5-T12
                       35.43
                             13.85
                                    36.77 14.36 32.11 13.51
                                                               37.92 13.42
2Y. Sagittal T5-T12
                       36.28 15.66 37.68 15.04 32.24 12.75
                                                               39.55 17.65
5Y. Sagittal T5-T12
                       40.10 16.53 41.61 14.37 34.83 17.38 43.46 15.70
                    p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Sagittal T5-T12
                       0.0773
                                 0.2029
                                           0.4537
                                                     0.1749
6W. Sagittal T5-T12
                       0.1111
                                 0.7337
                                           0.0136
                                                     0.0372
6M. Sagittal T5-T12
                                           0.0003
                                                     0.0017
                       0.0574
                                 0.4616
1Y. Sagittal T5-T12
                       0.0448
                                 0.6117
                                           0.0010
                                                     0.0035
                                           0.0005
2Y. Sagittal T5-T12
                       0.0259
                                 0.4833
                                                     0.0017
5Y. Sagittal T5-T12
                       0.0935
                                 0.6133
                                           0.0054
                                                     0.0137
                        2
      t0 t1
                                    All
1: Preop 2Y 0.0095 0.2515 0.0029 0.0154
2: Preop 5Y 0.0034 0.9605 0.0000 0.0000
3: Preop 6W 0.0760 0.1112 0.1624 0.5579
4:
      6W 2Y 0.2955 0.5593 0.0466 0.0358
5:
      6W 5Y 0.0683 0.1894 0.0004 0.0001
6:
     2Y 5Y 0.3021 0.3413 0.1178 0.0227
```

# [1] "Sagittal T2-T12"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Sagittal T2-T12
                       39.97 19.66 37.38 21.52 40.96 20.22 40.36 18.12
6W. Sagittal T2-T12
                       43.10 15.30 43.95 16.60 39.89 15.71
                                                               45.79 13.74
6M. Sagittal T2-T12
                       44.71
                              15.25 46.74 16.45 41.54 14.19
                                                               46.97 15.26
                       44.92
1Y. Sagittal T2-T12
                              15.31
                                    46.79 16.48 41.60 14.11
                                                               47.26 15.40
2Y. Sagittal T2-T12
                       45.73
                             15.44 45.87 17.44 42.62 13.41
                                                               48.63 15.87
5Y. Sagittal T2-T12
                       49.45 16.87 51.74 15.19 43.85 14.83
                                                               52.88 17.83
                    p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
                       0.2402
                                           0.7911
Sagittal T2-T12
                                 0.3085
                                                     0.4300
6W. Sagittal T2-T12
                       0.1179
                                 0.4567
                                           0.0019
                                                     0.0084
6M. Sagittal T2-T12
                       0.0391
                                 0.9270
                                           0.0039
                                                     0.0096
                                           0.0032
1Y. Sagittal T2-T12
                       0.0436
                                 0.8570
                                                     0.0091
2Y. Sagittal T2-T12
                       0.2376
                                 0.3327
                                           0.0024
                                                     0.0135
5Y. Sagittal T2-T12
                                 0.7751
                                           0.0027
                                                     0.0099
                       0.0503
      t0 t1
                 1
                        2
                               3
                                    All
1: Preop 2Y 0.0161 0.4423 0.0001 0.0000
2: Preop 5Y 0.0012 0.2853 0.0000 0.0000
3: Preop 6W 0.0482 0.6325 0.0052 0.0213
4:
      6W 2Y 0.5523 0.1555 0.1392 0.0397
5:
      6W 5Y 0.0555 0.1170 0.0044 0.0002
6:
      2Y 5Y 0.1598 0.6131 0.1028 0.0279
```

# [1] "Lordosis (top of L1-S1)"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean
Lordosis (top of L1-S1)
                              -43.94 20.31 -33.02 18.46 -54.49 18.75 -39.63
6W. Lordosis (top of L1-S1)
                              -51.21 14.24 -47.51 14.68 -53.43 13.45 -51.07
6M. Lordosis (top of L1-S1)
                              -51.02 14.07 -47.93 14.56 -53.70 13.47 -50.01
1Y. Lordosis (top of L1-S1)
                              -51.30 14.27 -46.11 14.54 -54.55 13.74 -50.88
2Y. Lordosis (top of L1-S1)
                              -51.74 14.99 -46.93 17.96 -55.11 13.31 -50.77
5Y. Lordosis (top of L1-S1)
                              -50.64 15.97 -47.02 14.36 -52.35 17.16 -50.49
                             3.sd p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Lordosis (top of L1-S1)
                            17.99
                                     0.0000
                                               0.0105
                                                          0.0000
6W. Lordosis (top of L1-S1) 14.40
                                     0.0048
                                               0.0930
                                                          0.1643
                                                                    0.0158
6M. Lordosis (top of L1-S1) 14.02
                                     0.0069
                                               0.3308
                                                          0.0309
                                                                    0.0120
1Y. Lordosis (top of L1-S1) 13.89
                                     0.0002
                                               0.0285
                                                          0.0356
                                                                    0.0004
2Y. Lordosis (top of L1-S1) 14.29
                                     0.0031
                                               0.1615
                                                          0.0176
                                                                    0.0021
5Y. Lordosis (top of L1-S1) 15.54
                                     0.1741
                                               0.3368
                                                          0.5343
                                                                    0.4206
      t0 t1
                                    All
1: Preop 2Y 0.0000 0.7575 0.0000 0.0000
2: Preop 5Y 0.0005 0.4512 0.0000 0.0001
3: Preop 6W 0.0000 0.5909 0.0000 0.0000
      6W 2Y 0.8447 0.3271 0.8719 0.6493
5:
      6W 5Y 0.8890 0.6805 0.7929 0.7076
6:
     2Y 5Y 0.9832 0.3026 0.8983 0.4863
```

# [1] "Pelvic Incidence"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Pelvic Incidence
                        54.13 13.06 57.29 12.77 49.50 11.46 56.79 13.46
6W. Pelvic Incidence
                        54.19 12.92 57.08 13.27 49.50 11.22 57.09 13.00
6M. Pelvic Incidence
                        54.04 12.66 56.61 12.82 50.15 11.11
                                                                56.51 13.12
1Y. Pelvic Incidence
                        53.67 12.59 55.59 12.31
                                                  49.42 11.65
                                                                56.74 12.55
2Y. Pelvic Incidence
                        53.81 12.44 56.17 12.70 50.00 10.69
                                                                56.36 13.04
5Y. Pelvic Incidence
                        54.90 12.41 53.17 12.33 51.75 11.09
                                                                57.74 12.84
                     p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Pelvic Incidence
                        0.0000
                                            0.0000
                                                     0.0000
                                 0.7823
6W. Pelvic Incidence
                        0.0001
                                 0.9959
                                            0.0000
                                                      0.0000
6M. Pelvic Incidence
                        0.0005
                                 0.9564
                                            0.0000
                                                      0.0000
1Y. Pelvic Incidence
                        0.0010
                                 0.5381
                                            0.0000
                                                     0.0000
2Y. Pelvic Incidence
                        0.0024
                                 0.9255
                                            0.0001
                                                      0.0001
5Y. Pelvic Incidence
                        0.6437
                                 0.1409
                                           0.0062
                                                     0.0213
     t0 t1
                1
                        2
                               3
                                   ΔΊΊ
1: Preop 2Y 0.6128 0.7182 0.7933 0.7501
2: Preop 5Y 0.1771 0.2148 0.6155 0.5344
3: Preop 6W 0.9201 0.9998 0.8498 0.9520
4:
      6W 2Y 0.6920 0.7201 0.6579 0.7097
5:
      6W 5Y 0.2083 0.2169 0.7314 0.5698
6:
     2Y 5Y 0.3441 0.3398 0.4786 0.3900
```

#### [1] "Pelvic Tilt"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val_1.2
Pelvic Tilt
                   21.95 10.89 27.27 9.02 13.57 7.91 26.72 9.41
                                                                       0.0000
                           9.65 21.73 9.04 12.47 8.34
6W. Pelvic Tilt
                   18.17
                                                         21.64 8.55
                                                                       0.0000
6M. Pelvic Tilt
                   19.54
                           9.98 23.19 8.54 13.45 8.62 23.50 8.98
                                                                       0.0000
1Y. Pelvic Tilt
                   19.33 10.19 23.39 8.41 13.08 9.37 23.14 8.79
                                                                       0.0000
2Y. Pelvic Tilt
                   19.24
                           9.45
                                23.47 8.18 13.19 7.89 23.01 8.32
                                                                       0.0000
5Y. Pelvic Tilt
                   21.93
                           9.91 22.93 7.96 15.85 8.86 26.10 8.96
                                                                       0.0015
                p.val_1.3 p.val_2.3 p.val_all
Pelvic Tilt
                   0.6682
                                  0
6W. Pelvic Tilt
                   0.9445
                                  0
                                            0
6M. Pelvic Tilt
                                  0
                                            0
                  0.8105
1Y. Pelvic Tilt
                                  0
                                            0
                  0.8409
2Y. Pelvic Tilt
                   0.7271
5Y. Pelvic Tilt
                                  0
                   0.1201
                               3
      t0 t1
                 1
                                    All
1: Preop 2Y 0.0122 0.7039 0.0008 0.0008
2: Preop 5Y 0.0345 0.1069 0.6405 0.9888
3: Preop 6W 0.0002 0.2717 0.0000 0.0000
     6W 2Y 0.2529 0.4912 0.1986 0.1652
5:
     6W 5Y 0.5510 0.0196 0.0007 0.0001
     2Y 5Y 0.7885 0.0657 0.0191 0.0070
6:
```

# [1] "Sacral Slope"

```
Sacral Slope
                    32.63 11.10 30.61 11.07 36.31 9.94 30.19 11.27
6W. Sacral Slope
                    35.95 10.11 35.15 10.71 36.92
                                                      8.86
                                                            35.44 10.87
6M. Sacral Slope
                    34.47
                            9.94
                                  33.21 11.13
                                               36.72
                                                      8.56
                                                            32.93 10.19
                    34.37
                            9.59 31.99 9.80
                                               36.49
                                                      9.49
1Y. Sacral Slope
                                                            33.57 9.22
2Y. Sacral Slope
                    34.66 10.38 32.62 11.24
                                               36.96 9.63
                                                            33.40 10.32
5Y. Sacral Slope
                    32.97 10.72 30.24 11.43
                                               35.92 10.48 31.63 10.32
                 p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Sacral Slope
                              0.7872
                                        0.0000
                                                  0.0000
                    0.0002
6W. Sacral Slope
                    0.2321
                              0.8527
                                        0.2236
                                                  0.3678
6M. Sacral Slope
                    0.0234
                              0.8594
                                        0.0013
                                                  0.0040
1Y. Sacral Slope
                    0.0027
                              0.2751
                                        0.0137
                                                  0.0037
2Y. Sacral Slope
                    0.0150
                              0.6634
                                        0.0072
                                                  0.0084
5Y. Sacral Slope
                    0.0522
                              0.6134
                                        0.0247
                                                  0.0363
      t0 t1
                 1
                        2
                               3
                                    All
1: Preop 2Y 0.3050 0.5994 0.0169 0.0169
2: Preop 5Y 0.8932 0.8151 0.3489 0.7481
3: Preop 6W 0.0112 0.5979 0.0001 0.0000
4:
      6W 2Y 0.1989 0.9688 0.1273 0.1171
5:
      6W 5Y 0.0826 0.5446 0.0140 0.0046
6:
      2Y 5Y 0.4110 0.5420 0.2547 0.1186
[1] "RLL"
        All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val_1.2
RLL
          -18.66 20.17 -31.54 16.93 -5.08 17.29 -24.58 16.68
                                                                  0.0000
6W. RLL
          -11.32
                 13.09 -16.90 12.35
                                     -5.90 12.33 -13.38 12.37
                                                                  0.0000
6M. RLL
         -11.45
                 13.13 -16.17 12.25
                                     -6.50 12.65 -13.81 12.52
                                                                  0.0000
1Y. RLL
         -11.08 13.71 -17.36 13.16 -5.21 12.86 -13.33 12.71
                                                                  0.0000
2Y. RLL
          -10.42 13.92 -16.75 15.69 -4.83 11.97 -12.79 12.86
                                                                  0.0000
5Y. RLL
          -12.40 14.34 -14.95 11.48 -8.74 15.46 -14.31 13.89
                                                                  0.0608
       p.val_1.3 p.val_2.3 p.val_all
RLL
           0.0035
                     0.0000
                               0.0000
6W. RLL
           0.0514
                     0.0000
                               0.0000
6M. RLL
           0.1992
                     0.0000
                               0.0000
1Y. RLL
           0.0419
                     0.0000
                               0.0000
2Y. RLL
           0.1037
                     0.0000
                               0.0000
5Y. RLL
           0.8295
                     0.0401
                               0.0653
                        2
      t0 t1
                                    All
1: Preop 2Y 0.0000 0.8920 0.0000 0.0000
2: Preop 5Y 0.0000 0.1590 0.0000 0.0001
3: Preop 6W 0.0000 0.6519 0.0000 0.0000
4:
     6W 2Y 0.9522 0.4931 0.7101 0.4080
5:
      6W 5Y 0.4965 0.2389 0.6339 0.4357
     2Y 5Y 0.5791 0.1074 0.4524 0.1703
6:
```

All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd

# [1] "Global Tilt"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Global Tilt
                   26.16 17.66 38.37 16.37 11.27 9.98 33.37 14.14
6W. Global Tilt
                   18.63 12.15 24.39 11.59 10.48 9.54
                                                           23.47 10.33
6M. Global Tilt
                   20.37
                         13.67
                                 26.77 12.52 12.01 11.07
                                                           25.10 12.50
                   20.68 13.93
                                 27.81 12.46
                                             11.98 11.51
1Y. Global Tilt
                                                           25.07 12.58
2Y. Global Tilt
                   20.82 13.93 27.92 11.85
                                              11.26 11.12
                                                           26.31 12.17
5Y. Global Tilt
                   24.89 14.93 27.82 11.80
                                              16.17 12.26
                                                           30.41 14.73
                p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Global Tilt
                             0.0278
                    0e+00
                                            0
                                                      0
6W. Global Tilt
                    0e+00
                             0.6044
                                            0
                                                      0
6M. Global Tilt
                    0e+00
                             0.4013
                                            0
                                                      0
                    0e+00
                                            0
                                                      0
1Y. Global Tilt
                             0.1730
2Y. Global Tilt
                    0e+00
                             0.4228
                                            0
                                                      0
5Y. Global Tilt
                    4e-04
                             0.4010
                                                      0
     t0 t1
                 1
                        2
                               3
                                    All
1: Preop 2Y 0.0001 0.9919 0.0000 0.0000
2: Preop 5Y 0.0017 0.0117 0.1612 0.4136
3: Preop 6W 0.0000 0.5248 0.0000 0.0000
4:
      6W 2Y 0.1166 0.5808 0.0566 0.0479
5:
      6W 5Y 0.2502 0.0037 0.0006 0.0000
6:
      2Y 5Y 0.9730 0.0163 0.0508 0.0070
```

# [1] "T1 Sagittal Tilt"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
                        -1.92
                                6.10
                                       2.38 7.01 -4.84 3.79
                                                             -1.29 5.97
T1 Sagittal Tilt
6W. T1 Sagittal Tilt
                        -3.58
                                4.01
                                     -2.564.40
                                                  -4.05 3.66
                                                              -3.644.09
                                                              -3.97 4.72
6M. T1 Sagittal Tilt
                        -4.14
                                4.30 -3.20 4.89 -4.80 3.35
1Y. T1 Sagittal Tilt
                        -3.90
                                5.00 -2.71 5.16 -4.64 4.36
                                                             -3.795.37
2Y. T1 Sagittal Tilt
                        -3.67
                                4.43 -2.29 4.84 -4.75 3.48
                                                              -3.36 4.79
5Y. T1 Sagittal Tilt
                        -2.75
                                4.89 -1.34 4.60 -3.42 3.62
                                                              -2.715.67
                     p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
T1 Sagittal Tilt
                        0.0000
                                  0.0005
                                            0.0000
                                                      0.0000
6W. T1 Sagittal Tilt
                        0.0358
                                  0.1361
                                            0.4379
                                                      0.0849
6M. T1 Sagittal Tilt
                        0.0275
                                  0.3231
                                            0.1280
                                                      0.0603
1Y. T1 Sagittal Tilt
                        0.0239
                                  0.2208
                                            0.2045
                                                      0.0747
                                  0.1939
                        0.0017
2Y. T1 Sagittal Tilt
                                            0.0182
                                                      0.0032
                                  0.2553
5Y. T1 Sagittal Tilt
                        0.0683
                                            0.3972
                                                      0.2465
      t0 t1
                        2
                                    All
1: Preop 2Y 0.0000 0.8507 0.0033 0.0001
2: Preop 5Y 0.0064 0.0207 0.0962 0.1164
3: Preop 6W 0.0000 0.1069 0.0004 0.0001
     6W 2Y 0.7627 0.1619 0.6474 0.8134
4:
5:
      6W 5Y 0.2931 0.3079 0.2311 0.0800
     2Y 5Y 0.4273 0.0323 0.4237 0.0624
6:
```

#### [1] "Thoracolumbar L2-T10"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Thoracolumbar L2-T10
                            10.03 20.54
                                           9.72 17.89
                                                        8.26 21.74 11.86 20.56
6W. Thoracolumbar L2-T10
                             4.88 12.51
                                           7.55 11.41
                                                        2.11 13.67
                                                                      6.24 11.38
6M. Thoracolumbar L2-T10
                             5.07 12.17
                                           7.94 10.59
                                                        2.45 14.19
                                                                      6.17 10.24
                             5.27 12.67
                                           8.58 10.74
1Y. Thoracolumbar L2-T10
                                                        2.22 15.12
                                                                      6.55 10.23
2Y. Thoracolumbar L2-T10
                             6.02 12.80
                                           8.06 13.29
                                                        3.73 13.61
                                                                      7.25 11.47
5Y. Thoracolumbar L2-T10
                             7.26 14.64 11.14 16.95
                                                        3.59 15.86
                                                                      8.73 12.47
                         p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
Thoracolumbar L2-T10
                            0.6070
                                      0.4359
                                                          0.3378
                                                0.1556
6W. Thoracolumbar L2-T10
                            0.0054
                                      0.4652
                                                0.0112
                                                          0.0061
6M. Thoracolumbar L2-T10
                            0.0043
                                      0.2847
                                                0.0218
                                                          0.0073
1Y. Thoracolumbar L2-T10
                            0.0018
                                                0.0113
                                                          0.0025
                                      0.2311
2Y. Thoracolumbar L2-T10
                            0.0569
                                      0.7017
                                                0.0404
                                                          0.0543
5Y. Thoracolumbar L2-T10
                            0.0825
                                      0.5413
                                                0.0552
                                                          0.0620
     t0 t1
                 1
                        2
                               3
                                    ΔΊΊ
1: Preop 2Y 0.5568 0.0484 0.0235 0.0029
2: Preop 5Y 0.7370 0.1082 0.1664 0.0905
3: Preop 6W 0.4035 0.0067 0.0052 0.0001
4:
      6W 2Y 0.8263 0.3742 0.5005 0.2796
5:
      6W 5Y 0.3646 0.5610 0.1670 0.0918
6:
      2Y 5Y 0.4527 0.9570 0.4185 0.3897
[1] "RSA"
        All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val_1.2
RSA
           15.12 15.32 26.01 14.43
                                       2.40 8.80 21.03 12.29
                                                                    0e+00
6W. RSA
            7.56
                  9.52 11.85 8.85
                                       1.66
                                            7.74 11.01 8.55
                                                                    0e+00
6M. RSA
            9.37
                 10.81 14.56 10.19
                                       2.99 8.99 12.83 9.76
                                                                    0e+00
1Y. RSA
           9.73 11.01 16.20 9.79
                                       3.07 9.44 12.60 9.77
                                                                    0e+00
2Y. RSA
           9.98 11.58 16.06 10.21
                                       2.21 9.56 14.31 9.86
                                                                    0e+00
5Y. RSA
           13.54 12.84 17.30 10.37
                                       6.33 11.31 17.70 12.35
                                                                    2e-04
        p.val_1.3 p.val_2.3 p.val_all
RSA
           0.0128
                          0
6W. RSA
           0.5467
                          0
                                    0
6M. RSA
                                    0
           0.2777
                          0
1Y. RSA
                          0
                                    0
           0.0235
2Y. RSA
           0.3042
                          0
                                    0
5Y. RSA
                                    0
           0.8805
                          0
                                    All
      t0 t1
                        2
1: Preop 2Y 0.0000 0.8726 0.0000 0.0000
2: Preop 5Y 0.0030 0.0264 0.0632 0.2406
3: Preop 6W 0.0000 0.4840 0.0000 0.0000
     6W 2Y 0.0231 0.6466 0.0069 0.0072
4:
5:
      6W 5Y 0.0360 0.0080 0.0001 0.0000
6:
     2Y 5Y 0.6392 0.0257 0.0518 0.0056
```

# [1] "RPV"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val 1.2 p.val 1.3
RPV
                   9.08 -12.40 8.11 -1.89 7.00 -12.36 7.69
                                                                0.0000
                                                                          0.9696
                   7.61 -7.53 7.37 -1.22 6.59 -7.24 7.22
           -5.00
                                                                0.0000
                                                                          0.7890
6W. RPV
                                     -1.86 6.60
6M. RPV
           -6.42
                   7.80 -9.19 7.36
                                                 -9.41 6.97
                                                                0.0000
                                                                          0.8362
1Y. RPV
           -6.32
                   7.85 -9.81 6.72 -1.71 7.49
                                                 -8.89 6.53
                                                                0.0000
                                                                          0.3625
2Y. RPV
           -6.10
                   7.77 -9.52 7.21 -1.54 6.92 -8.86 6.62
                                                                0.0000
                                                                          0.5638
5Y. RPV
                   8.24 -10.13 7.36 -3.61 7.86 -11.43 7.15
           -8.42
                                                                0.0014
                                                                          0.4692
        p.val_2.3 p.val_all
RPV
                0
                          0
6W. RPV
                0
                          0
6M. RPV
                0
                          0
1Y. RPV
                0
                          0
                          0
2Y. RPV
                0
5Y. RPV
                0
                          0
      t0 t1
                 1
                        2
                               3
                                    All
1: Preop 2Y 0.0316 0.6922 0.0001 0.0006
2: Preop 5Y 0.2186 0.1652 0.3816 0.9537
3: Preop 6W 0.0002 0.4209 0.0000 0.0000
4:
      6W 2Y 0.1270 0.7138 0.0646 0.0759
5:
      6W 5Y 0.1555 0.0541 0.0001 0.0000
6:
      2Y 5Y 0.7414 0.1033 0.0144 0.0051
```

# Quality of Life

# [1] "ODI - Score (%)"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
ODI - Score (%)
                       37.21 19.78 33.32 13.74 22.75 15.54 52.99 13.80
                       28.12 17.87 24.31 14.44 19.85 14.17
6M. ODI - Score (%)
                                                               37.79 18.12
1Y. ODI - Score (%)
                       25.50 17.88 23.07 14.87 15.91 13.04
                                                               36.13 17.78
2Y. ODI - Score (%)
                       27.29 21.11 23.00 17.59 16.44 14.53
                                                               40.41 21.43
5Y. ODI - Score (%)
                       28.03 21.21 23.93 18.11 16.97 15.60 39.46 21.22
                    p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
ODI - Score (%)
                       0.0000
                                      0
                                                0
                                                          0
6M. ODI - Score (%)
                       0.0353
                                                0
                                                          0
                                      0
1Y. ODI - Score (%)
                       0.0008
                                      0
                                                0
                                                          0
2Y. ODI - Score (%)
                       0.0070
                                                0
                                                          0
5Y. ODI - Score (%)
                       0.0204
                                      0
                                                          0
                        2
                               3
      t0 t1
                                    All
                 1
1: Preop 2Y 0.0001 0.0007 0.0000 0.0000
2: Preop 5Y 0.0016 0.0075 0.0000 0.0000
3: Preop 6M 0.0001 0.1188 0.0000 0.0000
      6M 2Y 0.6197 0.0600 0.2810 0.5831
```

- 5: 6M 5Y 0.8982 0.1714 0.5197 0.9565 6: 2Y 5Y 0.7709 0.8028 0.7334 0.6770
- [1] "SRS22 Function / Activity"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean
SRS22 - Function / Activity
                                   3.10
                                          0.87
                                                 3.21 0.54
                                                              3.69 0.84
                                                                          2.48
6M. SRS22 - Function / Activity
                                   3.27
                                           0.81
                                                  3.31 0.64
                                                              3.67 0.79
                                                                          2.86
1Y. SRS22 - Function / Activity
                                   3.41
                                           0.89
                                                  3.43 0.63
                                                             3.91 0.83
                                                                          2.91
2Y. SRS22 - Function / Activity
                                   3.48
                                           0.93
                                                 3.50 0.74
                                                              4.03 0.79
                                                                          2.92
5Y. SRS22 - Function / Activity
                                   3.51
                                           0.90
                                                 3.60 0.73
                                                             4.00 0.78
                                                                          3.06
                               3.sd p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
SRS22 - Function / Activity
                               0.57
                                       0.0000
                                                      0
                                                                 0
6M. SRS22 - Function / Activity 0.72
                                       0.0005
                                                       0
                                                                 0
                                                                           0
1Y. SRS22 - Function / Activity 0.78
                                       0.0000
                                                      0
                                                                0
                                                                           0
                                                                0
2Y. SRS22 - Function / Activity 0.81
                                       0.0000
                                                      0
                                                                           0
5Y. SRS22 - Function / Activity 0.85
                                       0.0025
                                                      0
                                                                 0
                                                                           0
```

t0 t1 1 2 3 All
1: Preop 2Y 0.0055 0.0007 0.0000 0.0000
2: Preop 5Y 0.0009 0.0046 0.0000 0.0000
3: Preop 6M 0.2940 0.8732 0.0000 0.0080
4: 6M 2Y 0.0893 0.0003 0.5057 0.0015
5: 6M 5Y 0.0185 0.0025 0.0606 0.0007
6: 2Y 5Y 0.4380 0.8127 0.2211 0.6574

#### [1] "SRS22 - Pain"

All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val\_1.2 SRS22 - Pain 2.63 0.97 2.95 0.59 3.19 0.98 1.93 0.65 0.0224 3.74 0.75 6M. SRS22 - Pain 3.43 0.89 3.65 0.88 3.06 0.85 0.4289 1Y. SRS22 - Pain 3.58 0.97 3.91 0.73 3.95 0.80 3.03 0.99 0.7507 1.09 3.85 0.85 2Y. SRS22 - Pain 3.50 3.89 0.92 2.91 1.11 0.7301 5Y. SRS22 - Pain 3.39 1.12 3.73 0.86 3.77 1.03 2.89 1.14 0.7732 p.val\_1.3 p.val\_2.3 p.val\_all SRS22 - Pain 0 0 Ω 6M. SRS22 - Pain 0 0 0 0 1Y. SRS22 - Pain 0 0 2Y. SRS22 - Pain 0 0 0 5Y. SRS22 - Pain 0 Λ Λ 2 3 1

1: Preop 2Y 0.0000 0.0000 0.0000 0.0000 2: Preop 5Y 0.0000 0.0000 0.0000 0.0000 3: Preop 6M 0.0000 0.0001 0.0000 0.0000 4: 6M 2Y 0.4324 0.0326 0.2087 0.4087 5: 6M 5Y 0.9259 0.3490 0.1976 0.6127 6: 2Y 5Y 0.4418 0.3968 0.8949 0.2478

# [1] "SRS22 - Self image / Appearance"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd
SRS22 - Self image / Appearance
                                       2.42 0.76
                                                     2.70 0.70 2.79 0.69
                                                                  3.76 0.73
6M. SRS22 - Self image / Appearance
                                       3.48 0.83
                                                     3.66 0.75
1Y. SRS22 - Self image / Appearance
                                      3.53
                                              0.80
                                                     3.67 0.64
                                                                  3.86 0.68
2Y. SRS22 - Self image / Appearance
                                              0.93
                                                     3.57 0.77
                                                                  3.85 0.78
                                       3.43
5Y. SRS22 - Self image / Appearance
                                       3.38
                                              0.93
                                                     3.58 0.69
                                                                  3.81 0.76
                                   3.mean 3.sd p.val_1.2 p.val_1.3 p.val_2.3
SRS22 - Self image / Appearance
                                     1.92 0.55
                                                  0.3640
6M. SRS22 - Self image / Appearance
                                     3.13 0.84
                                                   0.3331
                                                                            0
                                                                  0
1Y. SRS22 - Self image / Appearance
                                                  0.0469
                                                                  0
                                                                            0
                                    3.13 0.81
                                                  0.0120
2Y. SRS22 - Self image / Appearance
                                     2.94 0.93
                                                                  0
                                                                            0
5Y. SRS22 - Self image / Appearance
                                     2.91 0.96
                                                   0.0683
                                                                            0
                                   p.val_all
SRS22 - Self image / Appearance
6M. SRS22 - Self image / Appearance
1Y. SRS22 - Self image / Appearance
                                           0
2Y. SRS22 - Self image / Appearance
5Y. SRS22 - Self image / Appearance
      t0 t1
                        2
                                   All
                1
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000
2: Preop 5Y 0.0000 0.0000 0.0000 0.0000
3: Preop 6M 0.0000 0.0000 0.0000 0.0000
     6M 2Y 0.4855 0.3255 0.0797 0.4487
5:
     6M 5Y 0.5591 0.6596 0.0736 0.1597
     2Y 5Y 0.9203 0.6586 0.8589 0.4945
6:
```

# [1] "SRS22 - Mental health"

	All.mean A	All.sd	1.mean	1.sd	2.mean	2.sd	3.mean	3.sd
SRS22 - Mental health	3.17	0.86	3.83	0.64	3.43	0.70	2.56	0.71
6M. SRS22 - Mental health	3.56	0.85	3.99	0.73	3.75	0.68	3.14	0.87
1Y. SRS22 - Mental health	3.61	0.83	4.04	0.63	3.80	0.68	3.19	0.87
2Y. SRS22 - Mental health	3.51	0.94	3.95	0.78	3.79	0.77	2.99	0.95
5Y. SRS22 - Mental health	3.56	0.89	4.05	0.67	3.86	0.69	3.06	0.88
	p.val_1.2	p.val_	1.3 p.v	7al_2.	3 p.va	l_all		
SRS22 - Mental health	0.0001		0		0	0		
6M. SRS22 - Mental health	0.0214		0		0	0		
1Y. SRS22 - Mental health	0.0131		0		0	0		
2Y. SRS22 - Mental health	0.1571		0		0	0		
5Y. SRS22 - Mental health	0.1040		0		0	0		
t0 t1 1 2	3	All						
1: Preop 2Y 0.2896 0.0001	0.0000 0.0	0000						
2: Preop 5Y 0.0602 0.0000	0.0000 0.0	0000						
3: Preop 6M 0.1514 0.0003	0.0000 0.0	0000						
4: 6M 2Y 0.7541 0.6194	0.1731 0.5	5293						
5: 6M 5Y 0.6412 0.2404	0.4782 0.9	9418						
6: 2Y 5Y 0.4477 0.5031	0.5505 0.5	5209						

# [1] "SRS22 - SRS Subtotal score"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean
SRS22 - SRS Subtotal score
                                    2.84
                                           0.70
                                                  3.18 0.37
                                                               3.28 0.62
6M. SRS22 - SRS Subtotal score
                                                  3.68 0.57
                                    3.44
                                           0.69
                                                                           3.05
                                                               3.71 0.60
1Y. SRS22 - SRS Subtotal score
                                    3.54
                                           0.73
                                                  3.77 0.51
                                                               3.88 0.60
                                                                           3.08
2Y. SRS22 - SRS Subtotal score
                                    3.48
                                                               3.89 0.67
                                                                           2.94
                                           0.85
                                                  3.71 0.66
5Y. SRS22 - SRS Subtotal score
                                    3.45
                                           0.87
                                                  3.67 0.78
                                                               3.86 0.70
                                                                           2.98
                                3.sd p.val_1.2 p.val_1.3 p.val_2.3 p.val_all
SRS22 - SRS Subtotal score
                                0.42
                                        0.1476
                                                       0
                                                                  0
                                                                            0
6M. SRS22 - SRS Subtotal score 0.65
                                        0.7491
                                                       0
                                                                  0
                                                                            0
1Y. SRS22 - SRS Subtotal score 0.72
                                                       0
                                                                  0
                                                                            0
                                        0.1758
2Y. SRS22 - SRS Subtotal score 0.81
                                        0.0665
                                                       0
                                                                  0
                                                                            0
5Y. SRS22 - SRS Subtotal score 0.82
                                                       0
                                                                  0
                                                                            0
                                        0.1472
      t0 t1
                                3
                 1
                        2
```

t0 t1 1 2 3 All
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000
2: Preop 5Y 0.0000 0.0000 0.0000 0.0000
3: Preop 6M 0.0000 0.0000 0.0000 0.0000
4: 6M 2Y 0.7228 0.0200 0.2298 0.4570
5: 6M 5Y 0.9641 0.0931 0.4985 0.8577
6: 2Y 5Y 0.7492 0.7434 0.6902 0.6514

# [1] "SF36 - PCS"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val_1.2
SF36 - PCS
                  36.52
                         9.45 35.77 7.69 42.63 9.41 31.40 6.87
                                                                       0.0000
                          9.10 40.72 8.66 44.75 8.76
                                                       36.89 8.03
                                                                       0.0020
6M. SF36 - PCS
                  40.64
1Y. SF36 - PCS
                  42.06
                         9.91 42.38 8.53 47.26 8.58
                                                       36.91 9.19
                                                                       0.0001
2Y. SF36 - PCS
                  42.15 10.34 42.69 9.04 47.04 9.32
                                                       37.13 9.63
                                                                       0.0014
5Y. SF36 - PCS
                  41.78 11.14 42.23 9.95 47.48 9.97 36.84 10.41
                                                                       0.0028
              p.val_1.3 p.val_2.3 p.val_all
SF36 - PCS
                  0.0000
                                 0
6M. SF36 - PCS
                  0.0020
                                 0
                                           0
                                 0
                                           0
1Y. SF36 - PCS
                 0.0000
2Y. SF36 - PCS
                  0.0001
                                 0
                                           0
5Y. SF36 - PCS
                  0.0018
                                 0
                                           0
      t0 t1
                        2
                               3
                                    All
                 1
1: Preop 2Y 0.0000 0.0002 0.0000 0.0000
2: Preop 5Y 0.0001 0.0005 0.0000 0.0000
3: Preop 6M 0.0003 0.0669 0.0000 0.0000
4:
      6M 2Y 0.1807 0.0464 0.8253 0.0456
5:
      6M 5Y 0.3711 0.0428 0.9695 0.1900
     2Y 5Y 0.7890 0.7436 0.8279 0.6839
6:
```

[1] "SF36 - MCS"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd p.val_1.2
                 43.01 11.82 49.80 10.51 45.00 10.55 37.41 11.07
SF36 - MCS
6M. SF36 - MCS
                 47.18 11.85 52.08 10.70 48.93 10.16 42.91 12.47
                                                                      0.0438
                 47.59 11.58 52.72 9.18 49.71 9.62 42.75 12.67
1Y. SF36 - MCS
                                                                      0.0299
2Y. SF36 - MCS
                 46.99 12.10 51.70 10.26 50.22 9.84 41.30 12.80
                                                                      0.3213
                 47.74 11.29 52.70 8.58 50.92 9.77 42.44 11.61
5Y. SF36 - MCS
              p.val_1.3 p.val_2.3 p.val_all
SF36 - MCS
                      0
                                0
6M. SF36 - MCS
                      0
                                0
                                         0
1Y. SF36 - MCS
                      0
                               0
                                         0
2Y. SF36 - MCS
                      0
                                0
                                         0
5Y. SF36 - MCS
                      0
     t0 t1
                       2
                             3
               1
1: Preop 2Y 0.2624 0.0001 0.0077 0.0000
2: Preop 5Y 0.0809 0.0000 0.0007 0.0000
3: Preop 6M 0.1873 0.0030 0.0001 0.0000
     6M 2Y 0.8276 0.3080 0.2984 0.8357
     6M 5Y 0.7122 0.1561 0.7655 0.5663
5:
     2Y 5Y 0.5471 0.6093 0.4725 0.4431
6:
```

# Surgery

	All.mean	All.sd	1.mean	1.sd	
Total Operative Blood Loss st1+st2+st3	1440.59	1252.63	1384.92	1507.35	
Total surgical time st1+st2+st3	308.41	164.90	290.14	152.37	
Number of Posterior Instrumented Levels	9.11	4.56	7.74	4.80	
Number of Interbody Fusions	0.80 1.17		1.09	1.20	
	2.mean	2.sd	3.mean	3.sd	
Total Operative Blood Loss st1+st2+st3	1144.61	1009.95	1710.52	1219.18	
Total surgical time st1+st2+st3	324.18	181.08	303.12	154.45	
Number of Posterior Instrumented Levels	9.50	4.48	9.44	4.40	
Number of Interbody Fusions	0.41	1.15	1.02	1.06	
	p.val_1.2	2 p.val_:	1.3 p.va	1_2.3 p.	val_all
Total Operative Blood Loss st1+st2+st3	0.2196	6 0.10	0 880	.0001	0.0016
Total surgical time st1+st2+st3	0.137	5 0.54	424 0	.2891	0.2971
Number of Posterior Instrumented Levels	0.0104	4 0.0	127 0	.9140	0.0148
Number of Interbody Fusions	0.000	1 0.6	790 0	.0000	0.0000

\$'Pelvic fixation'
\$'Pelvic fixation'\$All
\$'Pelvic fixation'\$All\$table
variable
NA No Yes
24 214 132

\$'Pelvic fixation'\$All\$proportion
variable

NA No Yes 0.06486486 0.57837838 0.35675676

\$'Pelvic fixation'\$'1'
\$'Pelvic fixation'\$'1'\$table
variable
NA No Yes
8 33 40

\$'Pelvic fixation'\$'1'\$proportion
variable

NA No Yes 0.09876543 0.40740741 0.49382716

\$'Pelvic fixation'\$'2'
\$'Pelvic fixation'\$'2'\$table
variable
NA No Yes
11 120 11

\$'Pelvic fixation'\$'2'\$proportion
variable

NA No Yes 0.07746479 0.84507042 0.07746479

\$'Pelvic fixation'\$'3'
\$'Pelvic fixation'\$'3'\$table
variable
NA No Yes
5 61 81

\$'Pelvic fixation'\$'3'\$proportion

variable

NA No Yes 0.03401361 0.41496599 0.55102041

\$'Surgical Approach'
\$'Surgical Approach'\$All
\$'Surgical Approach'\$All\$table
variable

Anterior Anterior-Posterior

1 4
Posterior Posterior-Anterior
350 11
Posterior-Posterior Posterior-Posterior-Anterior
3 1

\$'Surgical Approach'\$All\$proportion
variable

 Anterior
 Anterior-Posterior

 0.002702703
 0.010810811

 Posterior
 Posterior-Anterior

 0.945945946
 0.029729730

# Posterior-Posterior Posterior-Posterior-Anterior 0.008108108 0.002702703

\$'Surgical Approach'\$'1'

\$'Surgical Approach'\$'1'\$table

variable

Anterior-Posterior Posterior Posterior Posterior

1 76 3

\$'Surgical Approach'\$'1'\$proportion

variable

Anterior-Posterior Posterior Posterior Posterior-Anterior Posterior

\$'Surgical Approach'\$'2'

\$'Surgical Approach'\$'2'\$table

variable

Anterior Anterior-Posterior

3

Posterior Posterior

136

Posterior-Posterior-Anterior

1

\$'Surgical Approach'\$'2'\$proportion

variable

Anterior Anterior-Posterior

0.957746479 0.007042254

Posterior-Posterior-Anterior

0.007042254

\$'Surgical Approach'\$'3'

\$'Surgical Approach'\$'3'\$table

variable

Posterior Posterior-Anterior Posterior-Posterior

138 8 1

\$'Surgical Approach'\$'3'\$proportion

variable

Posterior Posterior-Anterior Posterior-Posterior

0.938775510 0.054421769 0.006802721

 ${\tt \$Decompression}$ 

\$Decompression\$All

\$Decompression\$All\$table

variable

No Yes

```
274 96
```

\$Decompression\$All\$proportion
variable

No Yes

0.7405405 0.2594595

\$Decompression\$'1'
\$Decompression\$'1'\$table
variable
No Yes

48 33

\$Decompression\$'1'\$proportion
variable

No Yes

0.5925926 0.4074074

\$Decompression\$'2'
\$Decompression\$'2'\$table
variable
No Yes
124 18

\$Decompression\$'2'\$proportion
variable

No Yes 0.8732394 0.1267606

\$Decompression\$'3'
\$Decompression\$'3'\$table
variable
No Yes
102 45

\$Decompression\$'3'\$proportion
variable

No Yes 0.6938776 0.3061224

\$'Interbody Fusion'
\$'Interbody Fusion'\$All
\$'Interbody Fusion'\$All\$table
variable
No Yes
214 156

\$'Interbody Fusion'\$All\$proportion
variable

No Yes 0.5783784 0.4216216

\$'Interbody Fusion'\$'1'
\$'Interbody Fusion'\$'1'\$table
variable
No Yes
35 46

 $\$  'Interbody Fusion'\$'1'\$proportion variable

No Yes 0.4320988 0.5679012

\$'Interbody Fusion'\$'2'
\$'Interbody Fusion'\$'2'\$table
variable
No Yes
117 25

\$'Interbody Fusion'\$'2'\$proportion
variable

No Yes 0.8239437 0.1760563

\$'Interbody Fusion'\$'3'
\$'Interbody Fusion'\$'3'\$table
variable
No Yes
62 85

\$'Interbody Fusion'\$'3'\$proportion
variable

No Yes 0.4217687 0.5782313

\$Osteotomy
\$Osteotomy\$All
\$Osteotomy\$All\$table
variable
No Yes
200 170

\$Osteotomy\$All\$proportion
variable

No Yes 0.5405405 0.4594595 \$Osteotomy\$'1'
\$Osteotomy\$'1'\$table
variable
No Yes
35 46

\$Osteotomy\$'1'\$proportion
variable

No Yes 0.4320988 0.5679012

\$Osteotomy\$'2'
\$Osteotomy\$'2'\$table
variable
No Yes
97 45

\$Osteotomy\$'2'\$proportion
variable

No Yes 0.6830986 0.3169014

\$Osteotomy\$'3'
\$Osteotomy\$'3'\$table
variable
No Yes
68 79

\$0steotomy\$'3'\$proportion
variable
 No Yes
0.462585 0.537415

\$'3CO'
\$'3CO'\$All
\$'3CO'\$All\$table
variable

No Yes 317 53

\$'3CO'\$All\$proportion
variable
 No Yes

No Yes 0.8567568 0.1432432

\$'3CO'\$'1'
\$'3CO'\$'1'\$table
variable
No Yes

67 14

\$'3C0'\$'1'\$proportion
variable
 No Yes
0.8271605 0.1728395

\$'3CO'\$'2'
\$'3CO'\$'2'\$table
variable
No Yes
136 6

\$'3C0'\$'2'\$proportion
variable
 No Yes
0.95774648 0.04225352

\$'3CO'\$'3'
\$'3CO'\$'3'\$table
variable
No Yes
114 33

\$'3C0'\$'3'\$proportion
variable
 No Yes
0.7755102 0.2244898

# Reinterventions

group reiqs patients total 1: 2: 3: all 

p\_val\_all\_1 p\_val\_all\_2 p\_val\_all\_3 p\_val\_1\_2 p\_val\_1\_3 p\_val\_2\_3
1: 0.681 9e-04 0.0089 0.0029 0.2129 0

# **Impacts**

Complication Impact all\_num all\_patients 1\_num 1\_patients 2\_num 2\_patients 1: 2: Adverse Event 3: Major Complication 4: Minor Complication 3\_num 3\_patients all 1 2 3 p\_val\_all\_1 p\_val\_all\_2 p\_val\_all\_3 1: 1 370 81 142 147 1.0000 1.0000 

```
2:
                                                                1.0000
                 2 370 81 142 147
                                        0.6410
                                                    0.8229
3:
    152
                 62 370 81 142 147
                                        0.6480
                                                    0.0012
                                                                0.0110
    133
                                        0.0864
                                                    0.0070
                                                                0.1816
4:
                 79 370 81 142 147
  p_val_1_2 p_val_1_3 p_val_2_3
                        1.0000
1:
               1.0000
        {\tt NaN}
     0.4760
                0.7547
                          0.9689
2:
3:
     0.0034
                0.2427
                          0.0000
     0.0005
                0.6288
                          0.0006
4:
```

# Categories

	Cate	gory o	f the	complicati	on a	11_1	num a	all_p	patients	1_num	1_patients
1:	Central	neurol	ogic	complicatio:	ns		1		1	1	1
2:				Iatrogen	ic		72		64	21	19
3:		Infect	ious	complicatio:	ns		33		28	5	4
4:		Mechan	ical	complicatio:	ns	2	223		134	42	31
5:		0	ther	complicatio:	ns	:	124		80	43	22
6:				Pa	in		19		18	7	7
7:	Peripheral	neurol	ogic	complicatio:	ns		50		42	17	14
	2_num	ients	3_num	3_patients	all	1	2	3	p_val_al	ll_1 p	_val_all_2
1:	0	0	0	0	370	81	142	147	0.7	7949	1.0000
2:	20	19	31	26	370	81	142	147	0.2	2554	0.3458
3:	6	5	22	19	370	81	142	147	0.5	5512	0.1420
4:	30	23	151	80	370	81	142	147	0.8	3255	0.0000
5:	30	25	51	33	370	81	142	147	0.3	3510	0.3760
6:	3	3	9	8	370	81	142	147	0.2	2812	0.2473
7:	9	8	24	20	370	81	142	147	0.2	2004	0.0743
	p_val_all_3	p_val	_1_2	p_val_1_3 p	_val	_2_3	3				
1:	1.0000	0.	7756	0.7618		Nal	V				
2:	1.0000	0.	0819	0.3823	0.3	3969	9				
3:	0.0815	0.	8702	0.0917	0.0	007	3				
4:	0.0002	2 0.	0004	0.0280	0.0	0000	)				
5:	0.9304	0.	1306	0.5260	0.3	3784	1				
6:	0.9618	0.	0537	0.5133	0.2	241	5				
7:	0.5744	0.	0101	0.5809	0.0	036	5				