Clusters Descriptives

```
$vars
 [1] "Weight (kgs)_First Visit"
                                         "Age"
 [3] "Sagittal Balance"
                                         "Coronal Balance (C7PL to CSVL)"
 [5] "Static Major curve Cobb angle"
                                         "Pelvic Tilt"
 [7] "ODI - Score (%)"
                                         "SRS22 - Function / Activity"
 [9] "SRS22 - Mental health"
                                         "SRS22 - Pain"
[11] "SRS22 - Self image / Appearance" "SRS22 - SRS Subtotal score"
Initial Patients: 372
Number of patients
   cluster
             N
            66
1:
         1
         2 139
2:
3:
         3 63
4:
         4 66
5:
         5
            38
```

Demographics

```
variable All.mean All.sd 1.mean
                                                     52.42 19.39 68.85 9.14
Age
                                              Age
Height (cm)_First Visit
                          Height (cm)_First Visit
                                                    163.08
                                                             9.41 162.62 8.51
Weight (kgs)_First Visit Weight (kgs)_First Visit
                                                     65.62
                                                           13.01 67.65 13.67
BMI_First Visit
                                  BMI First Visit
                                                     24.69
                                                             4.57 25.50 4.49
                         2.mean 2.sd 3.mean 3.sd 4.mean 4.sd 5.mean 5.sd
Age
                          56.47 15.43 63.22 10.37 29.61 11.04 30.76 13.80
Height (cm) First Visit 162.43 8.21 161.35 10.24 164.71 11.74 166.26 8.27
Weight (kgs)_First Visit 63.91 10.39 72.59 11.91 64.11 16.98 59.46 8.87
BMI_First Visit
                          24.27 3.94 27.98 4.61 23.46 4.76 21.51 2.81
                         p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5 p.val_2.3
                                                          0.0000
                            0.0000
                                      0.0014
                                                0.0000
                                                                    0.0004
Height (cm)_First Visit
                            0.8848
                                      0.4491
                                                0.2438
                                                          0.0358
                                                                    0.4621
Weight (kgs)_First Visit
                            0.0536
                                      0.0310
                                                0.1908
                                                          0.0004
                                                                    0.0000
BMI_First Visit
                            0.0617
                                      0.0025
                                                0.0130
                                                          0.0000
                                                                    0.0000
                         p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
                            0.0000
                                      0.0000
                                                0.0000
                                                          0.0000
                                                                    0.6602
Age
Height (cm)_First Visit
                            0.1584
                                      0.0140
                                                0.0850
                                                          0.0098
                                                                    0.4335
Weight (kgs)_First Visit
                            0.9326
                                      0.0103
                                                0.0013
                                                          0.0000
                                                                    0.0701
BMI_First Visit
                            0.2327
                                      0.0000
                                                0.0000
                                                          0.0000
                                                                    0.0096
                         p.val_all
Age
                            0.0000
Height (cm)_First Visit
                            0.0535
Weight (kgs)_First Visit
                            0.0000
BMI_First Visit
                            0.0000
```

\$Gender \$Gender\$All \$Gender\$All\$table variable Female Male 291 81

\$Gender\$All\$proportion variable Female Male 0.7822581 0.2177419

\$Gender\$'1'\$table
variable
Female Male
49 17

\$Gender\$'1'\$proportion variable Female Male 0.7424242 0.2575758

\$Gender\$'2'\$table
variable
Female Male
119 20

\$Gender\$'2'\$proportion variable Female Male 0.8561151 0.1438849

\$Gender\$'3'\$table
variable
Female Male
49 14

\$Gender\$'3'\$proportion variable Female Male 0.7777778 0.2222222

```
$Gender$'4'$proportion
variable
   Female
               Male
0.6969697 0.3030303
$Gender$'5'
$Gender\$5'\$table
variable
Female
        Male
    28
           10
$Gender$'5'$proportion
variable
   Female
               Male
0.7368421 0.2631579
$'Prior Spine Surgery'
$'Prior Spine Surgery'$All
$'Prior Spine Surgery'$All$table
variable
No Yes
255 117
$'Prior Spine Surgery'$All$proportion
variable
      No
                Yes
0.6854839 0.3145161
$'Prior Spine Surgery'$'1'
$'Prior Spine Surgery'$'1'$table
variable
No Yes
41 25
$'Prior Spine Surgery'$'1'$proportion
variable
      Nο
                Yes
0.6212121 0.3787879
$'Prior Spine Surgery'$'2'
$'Prior Spine Surgery'$'2'$table
variable
No Yes
98 41
$'Prior Spine Surgery'$'2'$proportion
variable
```

No

Yes

0.705036 0.294964

\$'Prior Spine Surgery'\$'3' \$'Prior Spine Surgery'\$'3'\$table variable No Yes 29 34 \$'Prior Spine Surgery'\$'3'\$proportion variable Yes No 0.4603175 0.5396825 \$'Prior Spine Surgery'\$'4' \$'Prior Spine Surgery'\$'4'\$table variable No Yes 53 13 \$'Prior Spine Surgery'\$'4'\$proportion variable 0.8030303 0.1969697 \$'Prior Spine Surgery'\$'5' \$'Prior Spine Surgery'\$'5'\$table variable No Yes 34 4 \$'Prior Spine Surgery'\$'5'\$proportion variable No 0.8947368 0.1052632 \$'ASA classification' \$'ASA classification'\$All \$'ASA classification'\$All\$table variable 1 2 112 203 57 \$'ASA classification'\$All\$proportion variable 0.3010753 0.5456989 0.1532258

\$'ASA classification'\$'1'

4

\$'ASA classification'\$'1'\$table variable 1 2 3 7 43 16 \$'ASA classification'\$'1'\$proportion variable 1 2 0.1060606 0.6515152 0.2424242 \$'ASA classification'\$'2' \$'ASA classification'\$'2'\$table variable 1 2 3 32 86 21 \$'ASA classification'\$'2'\$proportion variable 0.2302158 0.6187050 0.1510791 \$'ASA classification'\$'3' \$'ASA classification'\$'3'\$table variable 1 2 3 7 40 16 \$'ASA classification'\$'3'\$proportion variable 1 2 0.1111111 0.6349206 0.2539683 \$'ASA classification'\$'4' \$'ASA classification'\$'4'\$table variable 1 2 3 37 25 4 \$'ASA classification'\$'4'\$proportion variable 1 0.56060606 0.37878788 0.06060606 \$'ASA classification'\$'5' \$'ASA classification'\$'5'\$table variable 1 2 29 9

\$'ASA classification'\$'5'\$proportion

```
variable
```

1

0.7631579 0.2368421

\$'Tobacco use First Visit'

\$'Tobacco use_First Visit'\$All

\$'Tobacco use_First Visit'\$All\$table

variable

Current Ex Non-User 74 67 231

\$'Tobacco use_First Visit'\$All\$proportion

variable

Current Ex Non-User 0.1989247 0.1801075 0.6209677

\$'Tobacco use_First Visit'\$'1'

\$'Tobacco use_First Visit'\$'1'\$table

variable

Current Ex Non-User 8 13 45

\$'Tobacco use_First Visit'\$'1'\$proportion

variable

Current Ex Non-User 0.1212121 0.1969697 0.6818182

\$'Tobacco use_First Visit'\$'2'

\$'Tobacco use_First Visit'\$'2'\$table

variable

Current Ex Non-User 32 30 77

\$'Tobacco use_First Visit'\$'2'\$proportion

variable

Current Ex Non-User 0.2302158 0.2158273 0.5539568

\$'Tobacco use_First Visit'\$'3'

\$'Tobacco use_First Visit'\$'3'\$table

variable

Current Ex Non-User 14 7 42

\$'Tobacco use_First Visit'\$'3'\$proportion

variable

Current Ex Non-User 0.2222222 0.1111111 0.6666667

\$'Tobacco use_First Visit'\$'4' \$'Tobacco use_First Visit'\$'4'\$table variable Current Ex Non-User 19 11 36 \$'Tobacco use_First Visit'\$'4'\$proportion variable Current Ex Non-User 0.2878788 0.1666667 0.5454545 \$'Tobacco use_First Visit'\$'5' \$'Tobacco use_First Visit'\$'5'\$table variable Current Ex Non-User 6 1 31 \$'Tobacco use_First Visit'\$'5'\$proportion variable Current Ex Non-User 0.02631579 0.15789474 0.81578947 \$'ESSG Diagnosis' \$'ESSG Diagnosis'\$All \$'ESSG Diagnosis'\$All\$table variable Congenital Degenerative 10 132 Failed-back Idiopathic Neuromuscular Other: Ankylosing spondylitis Other: hyperkyphosis Other: radiotherapy induced Other: spondylolisthesis Post-traumatic 15 Scheuermann Syndromic 15 5 \$'ESSG Diagnosis'\$All\$proportion variable Congenital Degenerative 0.026881720 0.354838710 Failed-back Idiopathic 0.053763441 0.446236559 Neuromuscular Other: Ankylosing spondylitis 0.013440860 0.002688172 Other: hyperkyphosis Other: radiotherapy induced 0.002688172 0.002688172

Other: spondylolisthesis

Post-traumatic

	0.002688172 Scheuermann 0.040322581		0.040322581 Syndromic 0.013440860	
<pre>\$'ESSG Diagno \$'ESSG Diagno variable</pre>	sis'\$'1' sis'\$'1'\$table			
Degenerativ 4		Idiopathic 10	Neuromuscular	Post-traumatic 2
<pre>\$'ESSG Diagno variable</pre>	sis'\$'1'\$proport:	ion		
Degenerativ 0.6969697		Idiopathic 0.15151515	Neuromuscular 0.01515152	Post-traumatic 0.03030303
\$'ESSG Diagno \$'ESSG Diagno variable	sis'\$'2' sis'\$'2'\$table			
	Congenital		Degenerative	
	1		50	
	Failed-back		Idiopathic	
	5 Neuromuscular	Other: Ankylosi	68	
	1	Jones : mmy 1981	1	
Othe	r: hyperkyphosis 1	Other: spo	ndylolisthesis	
	Post-traumatic		Scheuermann	
	5		4	
	Syndromic 2			
\$'ESSG Diagno variable	sis'\$'2'\$proport	ion		
	Congenital		Degenerative	
	0.007194245		0.359712230	
	Failed-back 0.035971223		Idiopathic 0.489208633	
		Other: Ankylosi		
	0.007194245	y	0.007194245	
Othe	r: hyperkyphosis	Other: spo	ndylolisthesis	
	0.007194245		0.007194245	
	Post-traumatic 0.035971223		Scheuermann 0.028776978	
	Syndromic			
	0.014388489			
\$'ESSG Diagno	sis'\$'3'			
	sis'\$'3'\$table			
Congenita	l Degenerative	Failed-back	Idiopathic	Neuromuscular
•	2 35	7	10	2

Post-traumatic Scheuermann 6 \$'ESSG Diagnosis'\$'3'\$proportion variable Congenital Degenerative Failed-back Idiopathic Neuromuscular 0.5555556 0.15873016 0.03174603 0.11111111 0.03174603 Scheuermann Post-traumatic 0.09523810 0.01587302 \$'ESSG Diagnosis'\$'4' \$'ESSG Diagnosis'\$'4'\$table variable Congenital Degenerative 5 Failed-back Idiopathic Neuromuscular Other: radiotherapy induced Post-traumatic Scheuermann Syndromic \$'ESSG Diagnosis'\$'4'\$proportion variable Congenital Degenerative 0.07575758 0.01515152 Failed-back Idiopathic 0.01515152 0.69696970 Neuromuscular Other: radiotherapy induced 0.01515152 0.01515152 Post-traumatic Scheuermann 0.01515152 0.10606061 Syndromic 0.04545455 \$'ESSG Diagnosis'\$'5' \$'ESSG Diagnosis'\$'5'\$table variable Congenital Idiopathic Post-traumatic Scheuermann 32 3 \$'ESSG Diagnosis'\$'5'\$proportion variable Congenital Idiopathic Post-traumatic Scheuermann 0.05263158 0.84210526 0.02631579 0.07894737

^{\$&#}x27;Surgical Approach'
\$'Surgical Approach'\$All

variable Anterior Anterior-Posterior Posterior Posterior-Anterior 352 Posterior-Posterior Posterior-Posterior-Anterior \$'Surgical Approach'\$All\$proportion variable Anterior Anterior-Posterior 0.002688172 0.010752688 Posterior-Anterior Posterior 0.946236559 0.029569892 Posterior-Posterior Posterior-Posterior-Anterior 0.008064516 0.002688172 \$'Surgical Approach'\$'1' \$'Surgical Approach'\$'1'\$table variable Posterior Posterior-Anterior Posterior-Posterior 4 \$'Surgical Approach'\$'1'\$proportion variable Posterior Posterior-Anterior Posterior-Posterior 0.92424242 0.06060606 0.01515152 \$'Surgical Approach'\$'2' \$'Surgical Approach'\$'2'\$table variable Posterior Posterior-Posterior Anterior Anterior-Posterior 135 \$'Surgical Approach'\$'2'\$proportion variable Anterior Anterior-Posterior Posterior Posterior-Posterior 0.007194245 0.014388489 0.971223022 0.007194245 \$'Surgical Approach'\$'3' \$'Surgical Approach'\$'3'\$table variable Posterior Posterior-Anterior 56 \$'Surgical Approach'\$'3'\$proportion variable Posterior Posterior-Anterior

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

0.8888889

0.1111111

```
$'Surgical Approach'$'4'
$'Surgical Approach'$'4'$table
variable
          Anterior-Posterior
                                                Posterior
         Posterior-Posterior Posterior-Posterior-Anterior
$'Surgical Approach'$'4'$proportion
variable
          Anterior-Posterior
                                                Posterior
                  0.03030303
                                               0.93939394
         Posterior-Posterior Posterior-Posterior-Anterior
                  0.01515152
                                               0.01515152
$'Surgical Approach'$'5'
$'Surgical Approach'$'5'$table
variable
Posterior
$'Surgical Approach'$'5'$proportion
variable
Posterior
```

Radiology

[1] "Static Major curve Cobb angle"

I.	All.mean All.sd 1.mean 1.sd 2.mean 2.sd
Static Major curve Cobb angle	42.46 21.33 33.57 17.10 39.93 17.98
6W. Static Major curve Cobb angle	23.00 16.25 19.68 14.27 22.54 14.81
6M. Static Major curve Cobb angle	23.05 17.22 17.52 12.27 21.77 15.49
1Y. Static Major curve Cobb angle	20.74 16.11 17.40 14.46 21.09 15.96
2Y. Static Major curve Cobb angle	22.52 17.11 17.11 13.71 22.21 15.37
5Y. Static Major curve Cobb angle	25.54 17.29 17.46 10.22 26.74 16.96
3	3.mean 3.sd 4.mean 4.sd 5.mean 5.sd
Static Major curve Cobb angle	31.68 20.00 59.68 22.63 55.81 14.55
6W. Static Major curve Cobb angle	15.42 11.56 31.58 20.83 26.71 14.76
6M. Static Major curve Cobb angle	17.86 14.98 33.49 22.15 26.71 16.30
1Y. Static Major curve Cobb angle	13.61 10.38 28.41 20.33 23.11 12.79
2Y. Static Major curve Cobb angle	16.39 13.18 31.42 22.55 26.69 16.16
5Y. Static Major curve Cobb angle	15.43 9.49 39.31 21.67 30.20 14.78
F	p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
Static Major curve Cobb angle	0.0192 0.5772 0.0000 0.0000
6W. Static Major curve Cobb angle	0.2262 0.0948 0.0006 0.0289
6M. Static Major curve Cobb angle	0.0573 0.9037 0.0000 0.0061

```
1Y. Static Major curve Cobb angle
                                     0.1316
                                                0.1204
                                                          0.0012
                                                                    0.0544
2Y. Static Major curve Cobb angle
                                                          0.0003
                                     0.0475
                                                0.7933
                                                                    0.0069
                                                0.4885
                                                          0.0002
5Y. Static Major curve Cobb angle
                                     0.0056
                                                                    0.0069
                                  p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4
Static Major curve Cobb angle
                                     0.0075
                                                0.0000
                                                          0.0000
                                                                     0e+00
6W. Static Major curve Cobb angle
                                                0.0042
                                                                     0e+00
                                     0.0011
                                                          0.1470
6M. Static Major curve Cobb angle
                                     0.1348
                                                0.0008
                                                          0.1182
                                                                     1e-04
1Y. Static Major curve Cobb angle
                                     0.0003
                                               0.0177
                                                          0.4393
                                                                     0e+00
2Y. Static Major curve Cobb angle
                                     0.0176
                                                0.0113
                                                          0.1637
                                                                     1e-04
5Y. Static Major curve Cobb angle
                                     0.0002
                                                0.0203
                                                          0.4310
                                                                     0e+00
                                  p.val_3.5 p.val_4.5 p.val_all
Static Major curve Cobb angle
                                               0.3090
                                     0.0000
6W. Static Major curve Cobb angle
                                     0.0004
                                                0.1936
                                                               0
6M. Static Major curve Cobb angle
                                                               0
                                     0.0137
                                                0.1005
1Y. Static Major curve Cobb angle
                                     0.0005
                                                               0
                                                0.1264
2Y. Static Major curve Cobb angle
                                     0.0031
                                                0.2665
5Y. Static Major curve Cobb angle
                                     0.0016
                                                0.1324
      t0 t1
                        2
                               3
                                             5
                                                  All
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000 0.0000
2: Preop 5Y 0.0000 0.0000 0.0000 0.0006 0.000 0.0000
3: Preop 6W 0.0000 0.0000 0.0000 0.0000 0.0000
      6W 2Y 0.3607 0.8744 0.6962 0.9690 0.996 0.7258
      6W 5Y 0.4614 0.1141 0.9974 0.1591 0.439 0.1398
      2Y 5Y 0.9103 0.1013 0.7108 0.1669 0.452 0.0902
6:
```

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

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd
Coronal Balance (C7PL to CSVL)
                                      22.49 19.35
                                                   36.26 17.12 14.52 10.98
6W. Coronal Balance (C7PL to CSVL)
                                      20.14
                                            15.06
                                                   21.83 16.64
                                                                20.21 15.43
6M. Coronal Balance (C7PL to CSVL)
                                                   19.38 16.00 19.20 14.24
                                      18.59
                                             14.71
1Y. Coronal Balance (C7PL to CSVL)
                                      18.02 13.84
                                                   19.63 13.22
                                                                17.86 12.91
2Y. Coronal Balance (C7PL to CSVL)
                                      18.12 15.53
                                                   19.73 17.80 18.21 13.68
5Y. Coronal Balance (C7PL to CSVL)
                                      20.81 17.32 28.69 22.70 22.68 17.95
                                   3.mean 3.sd 4.mean 4.sd 5.mean 5.sd
Coronal Balance (C7PL to CSVL)
                                    30.02 29.64
                                                21.20 16.01 15.05 8.75
6W. Coronal Balance (C7PL to CSVL)
                                    21.00 14.80
                                                19.77 12.88 16.79 15.42
6M. Coronal Balance (C7PL to CSVL)
                                    23.15 18.44
                                                 15.47 11.13 13.45 10.54
1Y. Coronal Balance (C7PL to CSVL)
                                    21.43 19.15
                                                 16.88 12.41
                                                             12.69 7.81
2Y. Coronal Balance (C7PL to CSVL)
                                    22.14 19.70
                                                16.22 13.47
                                                             10.97 7.86
5Y. Coronal Balance (C7PL to CSVL)
                                    20.21 16.21 15.76 11.51 12.70 11.06
                                   p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
Coronal Balance (C7PL to CSVL)
                                      0.0000
                                                0.1613
                                                          0.0000
                                                                    0.0000
6W. Coronal Balance (C7PL to CSVL)
                                      0.5654
                                                0.7912
                                                          0.4892
                                                                    0.1607
6M. Coronal Balance (C7PL to CSVL)
                                      0.9447
                                                0.2853
                                                          0.1622
                                                                    0.0478
1Y. Coronal Balance (C7PL to CSVL)
                                      0.4477
                                                0.5962
                                                          0.2961
                                                                    0.0050
2Y. Coronal Balance (C7PL to CSVL)
                                      0.6166
                                                0.5278
                                                          0.2995
                                                                    0.0052
5Y. Coronal Balance (C7PL to CSVL)
                                      0.2940
                                                0.1619
                                                          0.0302
                                                                    0.0094
                                   p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4
Coronal Balance (C7PL to CSVL)
                                      0.0002
                                                0.0043
                                                          0.7768
                                                                    0.0465
6W. Coronal Balance (C7PL to CSVL)
                                      0.7572
                                                0.8510
                                                          0.2657
                                                                    0.6524
```

```
6M. Coronal Balance (C7PL to CSVL)
                                      0.1917
                                                0.0784
                                                           0.0160
                                                                     0.0152
1Y. Coronal Balance (C7PL to CSVL)
                                      0.2441
                                                0.6505
                                                           0.0076
                                                                     0.1679
2Y. Coronal Balance (C7PL to CSVL)
                                      0.2061
                                                 0.4288
                                                           0.0006
                                                                     0.0869
5Y. Coronal Balance (C7PL to CSVL)
                                      0.5289
                                                 0.0522
                                                           0.0083
                                                                     0.2674
                                   p.val_3.5 p.val_4.5 p.val_all
Coronal Balance (C7PL to CSVL)
                                      0.0006
                                                0.0187
                                                           0.0000
6W. Coronal Balance (C7PL to CSVL)
                                      0.2133
                                                0.3525
                                                           0.6476
6M. Coronal Balance (C7PL to CSVL)
                                                 0.4112
                                                           0.0245
                                      0.0038
1Y. Coronal Balance (C7PL to CSVL)
                                      0.0063
                                                 0.0658
                                                           0.0737
2Y. Coronal Balance (C7PL to CSVL)
                                                           0.0282
                                      0.0006
                                                 0.0408
5Y. Coronal Balance (C7PL to CSVL)
                                      0.0721
                                                 0.4099
                                                           0.0327
      t0 t1
                        2
                               3
                                             5
                 1
                                      4
                                                   All
1: Preop 2Y 0.0000 0.0347 0.0986 0.0897 0.0601 0.0023
2: Preop 5Y 0.1816 0.0026 0.0497 0.1002 0.4548 0.3511
3: Preop 6W 0.0000 0.0018 0.0419 0.5998 0.5714 0.0873
4:
      6W 2Y 0.5565 0.3358 0.7386 0.1939 0.0596 0.1213
      6W 5Y 0.2309 0.3870 0.8319 0.1992 0.2833 0.6961
5:
      2Y 5Y 0.1279 0.1150 0.6396 0.8877 0.5765 0.1253
6:
```

[1] "Sagittal Balance"

	All.mean A	All.sd 1.m	ean 1.sd	2.mean	2.sd 3.m	ean 3.sd
Sagittal Balance	41.67	63.02 107	.98 58.77	21.11 3	7.82 93	.82 59.04
6W. Sagittal Balance		37.88 42				
6M. Sagittal Balance		44.68 35				
1Y. Sagittal Balance		48.86 49	.55 45.24	11.96 4	1.47 49	.10 54.00
2Y. Sagittal Balance		49.64 55	.12 44.50	15.51 38	3.52 60	.15 54.87
5Y. Sagittal Balance	34.29	48.85 63	.31 60.57	29.78 42	2.75 61	.98 43.51
J		sd 5.mean	5.sd p.v	ral_1.2 p	.val_1.3	p.val_1.4
Sagittal Balance	-0.75 33.	23 -10.03	26.30	0.0000	0.1868	0e+00
6W. Sagittal Balance	1.14 33.	94 -5.89	22.75	0.0000	0.3551	0e+00
6M. Sagittal Balance	-4.04 30.	61 -6.31	36.05	0.0111	0.7720	0e+00
1Y. Sagittal Balance	-3.45 39.	92 -14.36	28.47	0.0000	0.9642	0e+00
2Y. Sagittal Balance	-6.58 33.	02 -5.87	36.08	0.0000	0.6235	0e+00
5Y. Sagittal Balance	4.65 30.	96 6.21	38.17	0.0272	0.9330	4e-04
	p.val_1.5	p.val_2.3	p.val_2.4	p.val_2	.5 p.val	_3.4
Sagittal Balance	0.0000	0.0000	0.0001	0.000	00	0
6W. Sagittal Balance	0.0000	0.0016	0.0123	0.000	00	0
6M. Sagittal Balance	0.0000	0.0061	0.0008	0.004	46	0
1Y. Sagittal Balance	0.0000	0.0000	0.0270	0.000	01	0
2Y. Sagittal Balance	0.0000	0.0000	0.0008	0.00	70	0
5Y. Sagittal Balance	0.0012	0.0025	0.0064	0.038	32	0
	p.val_3.5	p.val_4.5	p.val_all	-		
Sagittal Balance	0e+00	0.1295	()		
6W. Sagittal Balance	0e+00	0.2563	()		
6M. Sagittal Balance	0e+00	0.7639	()		
1Y. Sagittal Balance	0e+00	0.1508	()		
2Y. Sagittal Balance	0e+00	0.9308	()		
5Y. Sagittal Balance	1e-04	0.8925	()		
t0 t1 1	2	3 4	5	All		

```
1: Preop 2Y 0.0000 0.2840 0.0022 0.3690 0.5975 0.0002 2: Preop 5Y 0.0059 0.1892 0.0063 0.5013 0.1263 0.1640 3: Preop 6W 0.0000 0.2684 0.0000 0.7674 0.4803 0.0000 4: 6W 2Y 0.1527 0.9305 0.0102 0.2642 0.9982 0.1367 5: 6W 5Y 0.1602 0.0371 0.0113 0.6742 0.2404 0.0011 6: 2Y 5Y 0.5857 0.0425 0.8715 0.1864 0.2931 0.0573
```

[1] "Sagittal T2-T5"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Sagittal T2-T5
                      11.09
                              9.83
                                     9.94
                                          8.09
                                                11.76 10.47 10.67 10.35
                      13.65
                                                13.35 7.60 14.64 9.57
6W. Sagittal T2-T5
                              8.18 13.76 8.21
                              9.61
                                   14.30 9.88
                                                13.96 10.06 13.60 11.43
6M. Sagittal T2-T5
                      14.05
1Y. Sagittal T2-T5
                      13.92
                              9.59
                                   13.31
                                          9.64
                                                 12.84 9.23
                                                             14.70 11.87
                                   12.40 9.87 12.68 9.19 16.11 11.27
2Y. Sagittal T2-T5
                      14.33
                              9.94
5Y. Sagittal T2-T5
                      15.76 11.63 14.15 11.13 15.22 10.41 17.54 15.18
                   4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4
Sagittal T2-T5
                   11.17 9.30 11.19 10.42
                                                0.1890
                                                          0.6662
6W. Sagittal T2-T5 11.97 6.85 15.64 9.38
                                                0.7646
                                                          0.6175
                                                                    0.2341
6M. Sagittal T2-T5 13.30 7.18
                                15.81
                                                          0.7429
                                                                    0.5553
                                       8.54
                                                0.8437
1Y. Sagittal T2-T5 14.42
                                                                    0.5476
                          8.67
                                16.53 7.48
                                                0.7722
                                                          0.5178
2Y. Sagittal T2-T5 15.47 9.16 17.14 10.25
                                                0.8719
                                                          0.0885
                                                                    0.1186
5Y. Sagittal T2-T5 17.93 11.76 13.88 9.99
                                                0.7025
                                                          0.3769
                                                                    0.2853
                   p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
Sagittal T2-T5
                      0.5434
                               0.5021
                                         0.6980
                                                   0.7744
                                                              0.7799
                                                                        0.8155
                                                              0.1038
6W. Sagittal T2-T5
                      0.3461
                               0.3936
                                         0.2455
                                                    0.1992
                                                                        0.6334
6M. Sagittal T2-T5
                                                    0.2886
                                                              0.8748
                                                                        0.3093
                     0.4502
                               0.8449
                                         0.6232
1Y. Sagittal T2-T5
                      0.0990
                               0.3185
                                         0.2938
                                                    0.0253
                                                              0.8916
                                                                        0.3895
2Y. Sagittal T2-T5
                      0.0441
                                0.0658
                                         0.0830
                                                    0.0318
                                                              0.7546
                                                                        0.6664
5Y. Sagittal T2-T5
                      0.9377
                               0.4782
                                         0.3514
                                                    0.6332
                                                              0.9198
                                                                        0.3405
                  p.val_4.5 p.val_all
Sagittal T2-T5
                      0.9945
                               0.8170
6W. Sagittal T2-T5
                      0.0538
                               0.2700
6M. Sagittal T2-T5
                     0.1520
                               0.7976
1Y. Sagittal T2-T5
                     0.2487
                               0.3589
2Y. Sagittal T2-T5
                      0.4506
                               0.0540
5Y. Sagittal T2-T5
                      0.2530
                                0.6749
                        2
                               3
1: Preop 2Y 0.1753 0.4840 0.0098 0.0160 0.0205 0.0001
2: Preop 5Y 0.1220 0.0382 0.0391 0.0210 0.3750 0.0000
3: Preop 6W 0.0157 0.1711 0.0372 0.6026 0.0663 0.0003
      6W 2Y 0.4698 0.5745 0.4781 0.0301 0.5344 0.3771
5:
      6W 5Y 0.8852 0.2301 0.3725 0.0346 0.5493 0.0525
     2Y 5Y 0.5410 0.1312 0.6693 0.3897 0.2861 0.2119
```

[1] "Sagittal T5-T12"

All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd Sagittal T5-T12 32.91 18.82 29.36 18.97 32.37 17.88 32.25 18.30

```
6W. Sagittal T5-T12
                       33.74 13.83 34.13 13.00 35.31 13.78 36.00 12.79
                       34.66 13.88 36.88 13.25 35.37 13.85 37.34 13.61
6M. Sagittal T5-T12
                       35.43 13.85 39.10 12.11 35.34 14.54 37.85 13.79
1Y. Sagittal T5-T12
2Y. Sagittal T5-T12
                       36.18 15.75 37.97 14.42 38.92 18.75 37.17 15.11
5Y. Sagittal T5-T12
                       40.10 16.53 43.78 14.27 40.65 16.49 44.81 15.15
                    4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4
                     37.39 20.98 34.23 18.41
                                                0.2974
Sagittal T5-T12
                                                           0.3907
6W. Sagittal T5-T12 32.00 15.36 26.65 12.28
                                                 0.5931
                                                           0.4545
                                                                     0.4374
6M. Sagittal T5-T12 33.81 14.33 26.47 12.02
                                                0.5067
                                                           0.8635
                                                                     0.2510
1Y. Sagittal T5-T12 33.56 14.17 29.13 11.30
                                                 0.0920
                                                           0.6287
                                                                     0.0380
2Y. Sagittal T5-T12 32.91 12.42 29.52 11.19
                                                 0.7395
                                                           0.7921
                                                                     0.0680
5Y. Sagittal T5-T12 36.99 19.37 29.93 13.81
                                                           0.8086
                                                0.4151
                                                                     0.1971
                    p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
                                                               0.1472
Sagittal T5-T12
                       0.2166
                                0.9681
                                           0.1032
                                                     0.5881
                                                                         0.6084
                       0.0100
                                0.7510
                                           0.1743
                                                     0.0011
                                                               0.1385
6W. Sagittal T5-T12
                                                                         0.0012
6M. Sagittal T5-T12
                       0.0003
                                0.3930
                                           0.5001
                                                     0.0005
                                                               0.1915
                                                                         0.0002
1Y. Sagittal T5-T12
                       0.0003
                                0.2898
                                           0.4619
                                                     0.0128
                                                               0.1229
                                                                         0.0023
2Y. Sagittal T5-T12
                       0.0045
                                0.5424
                                           0.0217
                                                     0.0009
                                                               0.1215
                                                                         0.0094
                                           0.4393
5Y. Sagittal T5-T12
                       0.0046
                                0.2524
                                                     0.0117
                                                               0.1277
                                                                         0.0018
                    p.val_4.5 p.val_all
Sagittal T5-T12
                       0.4383
                                0.1914
6W. Sagittal T5-T12
                       0.0773
                                0.0145
6M. Sagittal T5-T12
                       0.0103
                                0.0028
1Y. Sagittal T5-T12
                       0.1197
                                0.0127
2Y. Sagittal T5-T12
                       0.1967
                                0.0181
5Y. Sagittal T5-T12
                       0.1922
                                 0.0291
                        2
                               3
      t0 t1
                1
1: Preop 2Y 0.0089 0.0085 0.1204 0.1589 0.1999 0.0174
2: Preop 5Y 0.0007 0.0024 0.0012 0.9364 0.3490 0.0000
3: Preop 6W 0.1180 0.1426 0.1985 0.1099 0.0479 0.5127
4:
      6W 2Y 0.1716 0.1222 0.6677 0.7334 0.3277 0.0475
5:
      6W 5Y 0.0111 0.0380 0.0113 0.2865 0.4172 0.0001
6:
      2Y 5Y 0.1310 0.5548 0.0362 0.3691 0.9171 0.0197
```

[1] "Sagittal T2-T12"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
                      39.93 19.68 35.77 21.37 39.91 18.45 40.27 19.30
Sagittal T2-T12
6W. Sagittal T2-T12
                      43.16 15.31 42.13 15.63 45.48 13.82 46.84 14.87
6M. Sagittal T2-T12
                      44.77
                            15.26 47.31 15.20 44.54 14.32 48.90 17.79
1Y. Sagittal T2-T12
                      44.92 15.31 47.78 15.21 44.57 14.92 47.84 17.38
2Y. Sagittal T2-T12
                      45.64 15.57 44.82 15.52 45.98 15.51 49.21 17.78
                      49.45 16.87 51.21 14.13 50.95 15.89 52.61 20.93
5Y. Sagittal T2-T12
                   4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4
Sagittal T2-T12
                    44.24 20.56 39.19 19.71
                                               0.1901
                                                         0.2191
                                                                   0.0262
6W. Sagittal T2-T12 40.01 17.05 36.32 14.71
                                               0.1877
                                                         0.1154
                                                                   0.5014
6M. Sagittal T2-T12 43.60 14.62 38.08 13.43
                                               0.2734
                                                         0.6298
                                                                   0.2003
1Y. Sagittal T2-T12 43.23 14.55 39.99 13.35
                                               0.2192
                                                         0.9843
                                                                   0.1282
2Y. Sagittal T2-T12 44.20 14.15 42.34 13.81
                                               0.6810
                                                         0.1953
                                                                   0.8403
5Y. Sagittal T2-T12 47.46 16.72 39.83 14.07
                                               0.9450
                                                         0.7829
                                                                   0.4310
                   p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
```

```
Sagittal T2-T12
                       0.4163
                                 0.9033
                                            0.1598
                                                      0.8408
                                                                0.2676
                                                                          0.7899
6W. Sagittal T2-T12
                       0.0847
                                            0.0395
                                                      0.0021
                                                                0.0270
                                                                          0.0017
                                 0.5738
                                            0.6917
6M. Sagittal T2-T12
                       0.0035
                                 0.1275
                                                      0.0149
                                                                0.0966
                                                                          0.0016
1Y. Sagittal T2-T12
                       0.0159
                                 0.2416
                                            0.5879
                                                      0.0944
                                                                0.1432
                                                                          0.0200
2Y. Sagittal T2-T12
                       0.4561
                                 0.2697
                                            0.4861
                                                      0.2062
                                                                0.1148
                                                                          0.0468
5Y. Sagittal T2-T12
                       0.0185
                                            0.4048
                                                      0.0096
                                                                0.3428
                                                                          0.0199
                                 0.7160
                    p.val_4.5 p.val_all
                                 0.2128
Sagittal T2-T12
                       0.2250
6W. Sagittal T2-T12
                       0.2806
                                 0.0040
6M. Sagittal T2-T12
                       0.0634
                                 0.0125
1Y. Sagittal T2-T12
                       0.2926
                                 0.0962
2Y. Sagittal T2-T12
                                 0.2971
                       0.5477
5Y. Sagittal T2-T12
                       0.1309
                                 0.1116
                        2
                               3
      t0 t1
                                                   All
1: Preop 2Y 0.0126 0.0074 0.0107 0.9914 0.4318 0.0000
2: Preop 5Y 0.0004 0.0001 0.0118 0.4706 0.8921 0.0000
3: Preop 6W 0.0696 0.0070 0.0400 0.2246 0.4824 0.0172
      6W 2Y 0.3984 0.8093 0.4567 0.1675 0.0864 0.0527
5:
      6W 5Y 0.0206 0.0293 0.2077 0.0862 0.4134 0.0002
6.
      2Y 5Y 0.1049 0.0617 0.4737 0.4308 0.5500 0.0245
```

[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)
                              -43.79 20.39 -29.95 17.51 -45.68 17.08 -32.81
6W. Lordosis (top of L1-S1)
                              -51.20 14.22 -46.98 15.43 -51.76 13.28 -49.95
6M. Lordosis (top of L1-S1)
                              -50.88 14.30 -48.14 15.11 -50.59 12.88 -46.07
1Y. Lordosis (top of L1-S1)
                              -51.16 14.46 -45.60 14.29 -51.92 13.30 -47.19
2Y. Lordosis (top of L1-S1)
                              -51.59 15.20 -45.47 17.65 -52.69 13.97 -46.87
5Y. Lordosis (top of L1-S1)
                              -50.64 15.97 -44.96 14.82 -49.87 16.53 -49.25
                             3.sd 4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3
Lordosis (top of L1-S1)
                            19.24 -56.41 19.77 -56.43 15.14
                                                               0.0000
                                                                         0.3828
6W. Lordosis (top of L1-S1) 15.56 -54.99 14.48 -51.80 11.31
                                                               0.0394
                                                                         0.3074
6M. Lordosis (top of L1-S1) 17.04 -56.75 12.62 -53.72 12.61
                                                               0.2920
                                                                         0.5004
1Y. Lordosis (top of L1-S1) 16.62 -56.20 13.03 -55.34 13.43
                                                               0.0070
                                                                         0.5949
2Y. Lordosis (top of L1-S1) 16.23 -56.70 12.21 -56.26 13.24
                                                               0.0157
                                                                         0.6795
5Y. Lordosis (top of L1-S1) 14.85 -59.72 14.96 -50.83 15.31
                                                               0.2135
                                                                         0.3225
                            p.val_1.4 p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5
Lordosis (top of L1-S1)
                               0.0000
                                         0.0000
                                                   0.0000
                                                             0.0002
                                                                       0.0004
6W. Lordosis (top of L1-S1)
                               0.0037
                                         0.0785
                                                   0.4554
                                                                       0.9835
                                                             0.1425
6M. Lordosis (top of L1-S1)
                               0.0012
                                         0.0563
                                                   0.0847
                                                             0.0026
                                                                       0.1916
1Y. Lordosis (top of L1-S1)
                                         0.0019
                                                   0.0652
                               0.0001
                                                             0.0464
                                                                       0.1932
2Y. Lordosis (top of L1-S1)
                               0.0005
                                         0.0022
                                                   0.0278
                                                             0.0683
                                                                       0.1788
5Y. Lordosis (top of L1-S1)
                               0.0023
                                         0.2416
                                                   0.8599
                                                             0.0143
                                                                       0.8252
                            p.val_3.4 p.val_3.5 p.val_4.5 p.val_all
Lordosis (top of L1-S1)
                               0.0000
                                         0.0000
                                                   0.9952
                                                             0.0000
6W. Lordosis (top of L1-S1)
                               0.0761
                                         0.5118
                                                   0.2282
                                                             0.0332
6M. Lordosis (top of L1-S1)
                               0.0003
                                         0.0159
                                                   0.2552
                                                             0.0005
1Y. Lordosis (top of L1-S1)
                               0.0020
                                         0.0131
                                                   0.7676
                                                             0.0002
2Y. Lordosis (top of L1-S1)
                               0.0006
                                         0.0037
                                                   0.8749
                                                             0.0001
5Y. Lordosis (top of L1-S1)
                               0.0176
                                         0.7357
                                                   0.0783
                                                             0.0362
```

```
t0 t1 1 2 3 4 5 All
1: Preop 2Y 0.0000 0.0005 0.0000 0.9213 0.9591 0.0000
2: Preop 5Y 0.0004 0.1087 0.0000 0.4138 0.2180 0.0001
3: Preop 6W 0.0000 0.0012 0.0000 0.6430 0.1375 0.0000
4: 6W 2Y 0.6426 0.6063 0.3172 0.4960 0.1302 0.7430
5: 6W 5Y 0.5982 0.4432 0.8430 0.2080 0.8170 0.7105
6: 2Y 5Y 0.9035 0.2736 0.5085 0.4098 0.2209 0.5499
```

[1] "Pelvic Incidence"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
Pelvic Incidence
                        54.11 13.05 60.40 14.17 52.87 12.45
                                                                55.85 13.73
6W. Pelvic Incidence
                        54.15 12.92 59.33 14.77 53.61 12.47
                                                                56.27 13.25
6M. Pelvic Incidence
                        53.99 12.65 58.78 14.37 53.55 12.11
                                                                54.70 13.44
1Y. Pelvic Incidence
                        53.66 12.57 56.77 13.28 53.36 12.59
                                                                56.59 12.86
2Y. Pelvic Incidence
                        53.75 12.42 57.54 14.20 53.19 11.90
                                                                56.40 13.54
                        54.90 12.41 55.60 14.69 54.09 12.34
5Y. Pelvic Incidence
                                                                58.62 12.57
                     4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4
Pelvic Incidence
                     50.12 11.51 51.66 10.57
                                                  0.0004
                                                            0.0671
6W. Pelvic Incidence 50.20 11.16 50.65 10.22
                                                  0.0106
                                                            0.2460
                                                                      0.0002
6M. Pelvic Incidence 50.94 11.47 51.77 10.32
                                                  0.0181
                                                            0.1249
                                                                      0.0015
1Y. Pelvic Incidence 50.11 11.25 50.96 11.31
                                                  0.1144
                                                            0.9433
                                                                      0.0061
2Y. Pelvic Incidence 49.73 10.51 52.12 10.29
                                                  0.0716
                                                            0.6799
                                                                      0.0027
5Y. Pelvic Incidence 54.07 11.03 51.76 10.83
                                                  0.6769
                                                            0.4539
                                                                      0.7016
                     p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4
                        0.0006
                                           0.1249
Pelvic Incidence
                                 0.1447
                                                      0.5539
                                                                0.0121
                                            0.0626
6W. Pelvic Incidence
                        0.0011
                                  0.2103
                                                      0.1513
                                                                0.0101
6M. Pelvic Incidence
                        0.0069
                                  0.5937
                                            0.1610
                                                      0.3784
                                                                0.1178
1Y. Pelvic Incidence
                        0.0306
                                  0.1232
                                            0.0902
                                                      0.2836
                                                                0.0063
2Y. Pelvic Incidence
                        0.0498
                                  0.1459
                                            0.0680
                                                      0.6183
                                                                0.0055
5Y. Pelvic Incidence
                        0.3598
                                  0.1204
                                                      0.4542
                                                                0.1794
                                            0.9926
                     p.val 3.5 p.val 4.5 p.val all
Pelvic Incidence
                        0.0911
                                 0.4951
                                           0.0000
6W. Pelvic Incidence
                        0.0269
                                  0.8438
                                            0.0005
6M. Pelvic Incidence
                        0.2461
                                  0.7149
                                            0.0099
1Y. Pelvic Incidence
                        0.0327
                                  0.7306
                                            0.0152
                                            0.0101
2Y. Pelvic Incidence
                        0.0976
                                  0.2989
5Y. Pelvic Incidence
                        0.0601
                                            0.4062
                                  0.5167
                              3
                1
                        2
                                     4
                                            5
1: Preop 2Y 0.2950 0.8432 0.8289 0.8491 0.8534 0.7170
2: Preop 5Y 0.1980 0.5271 0.3499 0.1601 0.9767 0.5238
3: Preop 6W 0.6798 0.6253 0.8664 0.9672 0.6799 0.9695
      6W 2Y 0.5271 0.7906 0.9610 0.8180 0.5525 0.6936
4:
5:
      6W 5Y 0.3242 0.8059 0.4341 0.1702 0.7271 0.5476
6:
      2Y 5Y 0.6137 0.6507 0.4627 0.1251 0.9086 0.3628
```

[1] "Pelvic Tilt"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean
Pelvic Tilt
                   21.99 10.97 30.59 8.22 21.31 10.44 27.72 8.21 13.45
                          9.64 23.33 9.50 18.12 9.04 22.18 8.79
6W. Pelvic Tilt
                   18.18
                  19.60 10.05
                                25.06 8.12 19.75 9.65
                                                         24.40 9.47 12.45
6M. Pelvic Tilt
1Y. Pelvic Tilt
                  19.40 10.25
                                25.08 7.97 19.19 10.40
                                                         24.32 8.30 12.44
                          9.43 25.05 7.61 19.30 8.63 24.20 8.37 12.42
2Y. Pelvic Tilt
                  19.25
                  21.93
                           9.91 25.75 8.28 22.95 9.05 27.04 8.52 13.30
5Y. Pelvic Tilt
                4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
Pelvic Tilt
               7.91 13.93 8.55
                                   0.0000
                                              0.0500
                                                             0
                                                                  0.0000
6W. Pelvic Tilt 8.20 14.07 7.71
                                   0.0005
                                              0.5032
                                                             0
                                                                  0.0000
6M. Pelvic Tilt 9.18 14.45 7.02
                                   0.0002
                                              0.6934
                                                             0
                                                                  0.0000
1Y. Pelvic Tilt 8.36 14.27 9.42
                                                             0
                                   0.0001
                                              0.6305
                                                                  0.0000
2Y. Pelvic Tilt 8.28 13.66 7.43
                                   0.0001
                                              0.5962
                                                             0
                                                                  0.0000
5Y. Pelvic Tilt 8.71 16.44 9.42
                                   0.2017
                                              0.5960
                                                             0
                                                                  0.0031
               p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
Pelvic Tilt
                  0.0000
                              0e+00
                                      0.0000
                                                     0
                                                            0e+00
                                                                     0.7791
6W. Pelvic Tilt
                  0.0056
                              0e+00
                                      0.0100
                                                     0
                                                            0e+00
                                                                     0.1739
                                      0.0004
6M. Pelvic Tilt
                  0.0036
                              0e+00
                                                      0
                                                            0e+00
                                                                     0.2387
1Y. Pelvic Tilt
                  0.0006
                              0e+00
                                      0.0099
                                                     0
                                                            0e+00
                                                                     0.3540
2Y. Pelvic Tilt
                  0.0009
                              0e+00
                                      0.0005
                                                     0
                                                            0e+00
                                                                     0.4721
5Y. Pelvic Tilt
                  0.0448
                             1e-04
                                      0.0179
                                                     0
                                                            6e-04
                                                                     0.2946
               p.val_all
Pelvic Tilt
6W. Pelvic Tilt
                        0
6M. Pelvic Tilt
                        0
1Y. Pelvic Tilt
2Y. Pelvic Tilt
                        0
5Y. Pelvic Tilt
      t0 t1
                        2
                               3
                                                  All
                1
1: Preop 2Y 0.0004 0.1084 0.0242 0.5044 0.8878 0.0007
2: Preop 5Y 0.0258 0.2720 0.7262 0.9455 0.3584 0.9521
3: Preop 6W 0.0000 0.0082 0.0007 0.2519 0.9425 0.0000
      6W 2Y 0.3023 0.3141 0.2242 0.6695 0.8239 0.1633
      6W 5Y 0.2750 0.0009 0.0186 0.4751 0.3766 0.0001
5:
     2Y 5Y 0.7422 0.0140 0.1555 0.6905 0.2989 0.0072
```

[1] "Sacral Slope"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean
                   32.56 11.12 30.19 11.42 32.27 11.04 28.08 11.06 37.00
Sacral Slope
                   35.90 10.13 35.78 11.48 35.44 9.36 34.00 12.20 38.36
6W. Sacral Slope
6M. Sacral Slope
                   34.37
                         10.03 33.55 12.00 33.61 9.26 30.28 10.78 38.74
1Y. Sacral Slope
                   34.30
                          9.66 31.47 10.15 34.12 9.22 32.28 9.93
                   34.58 10.38 32.58 12.03 34.02 9.35 32.18 11.37
2Y. Sacral Slope
5Y. Sacral Slope
                   32.97 10.72 29.85 11.40 31.14 10.28 31.58 10.66 40.81
                4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
                                  0.2256
                                            0.2941
Sacral Slope
                9.78 37.61 8.82
                                                      0.0004
                                                                0.0004
6W. Sacral Slope 8.97 36.51 8.48
                                   0.8389
                                            0.4240
                                                      0.1740
                                                                0.7247
6M. Sacral Slope 8.02 37.24 7.91
                                                      0.0072
                                 0.9711
                                            0.1341
                                                                0.0738
1Y. Sacral Slope 8.54 36.68 9.86
                                   0.1050
                                            0.6730
                                                      0.0005
                                                                0.0189
2Y. Sacral Slope 9.39 38.52 9.08
                                   0.4706
                                            0.8625
                                                      0.0308
                                                                0.0134
```

```
5Y. Sacral Slope 9.89 35.32 7.97
                                   0.6504
                                               0.5928
                                                         0.0017
                 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
                                                            0.0000
                                                                      0.7475
Sacral Slope
                    0.0142
                              0.0026
                                        0.0026
                                                  0.0000
                    0.4385
                              0.0417
                                        0.5151
                                                  0.0337
                                                            0.2527
6W. Sacral Slope
                                                                      0.3142
6M. Sacral Slope
                    0.0528
                              0.0002
                                        0.0213
                                                  0.0000
                                                            0.0007
                                                                      0.3714
1Y. Sacral Slope
                              0.0077
                                        0.1737
                                                  0.0017
                                                            0.0431
                                                                      0.5229
                    0.2460
2Y. Sacral Slope
                    0.3092
                              0.0385
                                        0.0161
                                                  0.0116
                                                            0.0050
                                                                      0.5770
5Y. Sacral Slope
                              0.0004
                                        0.0847
                                                  0.0027
                    0.8585
                                                            0.1872
                                                                      0.0628
                 p.val_all
Sacral Slope
                    0.0000
6W. Sacral Slope
                    0.2115
6M. Sacral Slope
                    0.0001
1Y. Sacral Slope
                    0.0017
2Y. Sacral Slope
                    0.0080
5Y. Sacral Slope
                    0.0018
                        2
      t0 t1
                1
                               3
                                      4
                                                  All
1: Preop 2Y 0.2921 0.1858 0.0520 0.8310 0.6677 0.0172
2: Preop 5Y 0.9077 0.4928 0.1598 0.1265 0.3489 0.7005
3: Preop 6W 0.0075 0.0116 0.0075 0.4214 0.5859 0.0000
4:
      6W 2Y 0.1670 0.2554 0.4246 0.5768 0.3419 0.1096
5:
      6W 5Y 0.0481 0.0073 0.3578 0.3147 0.6242 0.0053
      2Y 5Y 0.3749 0.0799 0.8143 0.1745 0.2060 0.1360
6.
[1] "RLL"
        All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean 4.sd
          -18.81 20.26 -36.57 13.35 -16.10 16.28 -30.81 18.11 -3.40 17.68
RLL
          -11.30 13.07 -18.84 12.86 -10.46 12.37 -13.94 12.33 -4.45 12.60
6W. RLL
6M. RLL
         -11.56 13.38 -17.09 11.83 -11.61 12.27 -16.63 15.43 -4.02 11.87
         -11.22 13.90 -18.60 12.39 -10.16 13.08 -17.05 14.32 -3.97 11.78
1Y. RLL
2Y. RLL
         -10.54 14.13 -18.88 13.86 -8.94 13.39 -17.09 13.93 -3.13 10.66
         -12.40 14.34 -18.51 12.89 -12.66 14.11 -16.10 12.46 -2.80 13.43
5Y. RLL
       5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5 p.val_2.3
RLL
        -4.45 16.02
                       0.0000
                                 0.0441
                                             0e+00
                                                      0.0000
                                                                0.0000
6W. RLL -8.78 10.81
                        0.0000
                                  0.0401
                                             0e+00
                                                      0.0001
                                                                0.0848
6M. RLL -7.38 11.75
                        0.0049
                                  0.8616
                                             0e+00
                                                      0.0002
                                                                0.0385
1Y. RLL -5.42 12.77
                        0.0001
                                  0.5488
                                             0e+00
                                                      0.0000
                                                                0.0032
2Y. RLL -4.96 12.06
                        0.0001
                                  0.5241
                                             0e+00
                                                      0.0000
                                                                0.0006
5Y. RLL -10.26 15.59
                        0.0898
                                  0.5142
                                             3e-04
                                                      0.0898
                                                                0.2548
       p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5 p.val_all
RLL
           0.0000
                     0.0002
                                0e+00
                                         0.0000
                                                             0.0000
                                                   0.7602
6W. RLL
           0.0030
                     0.4318
                                1e-04
                                         0.0407
                                                             0.0000
                                                   0.0825
6M. RLL
           0.0001
                     0.0610
                                0e+00
                                         0.0018
                                                   0.1804
                                                             0.0000
1Y. RLL
           0.0026
                     0.0616
                                0e+00
                                         0.0002
                                                   0.5977
                                                             0.0000
2Y. RLL
           0.0041
                                0e+00
                                         0.0000
                     0.1105
                                                   0.4734
                                                             0.0000
5Y. RLL
           0.0061
                     0.5724
                                8e-04
                                         0.2004
                                                   0.1261
                                                             0.0024
      t0 t1
                        2
                               3
                                             5
                 1
                                      4
                                                  \Lambda 1 1
1: Preop 2Y 0.0000 0.0002 0.0000 0.9184 0.8799 0.0000
2: Preop 5Y 0.0000 0.1371 0.0000 0.8697 0.2171 0.0001
```

3: Preop 6W 0.0000 0.0015 0.0000 0.7053 0.1818 0.0000

```
4: 6W 2Y 0.9898 0.3748 0.2156 0.5533 0.1710 0.4850 5: 6W 5Y 0.9198 0.3047 0.4589 0.6224 0.7284 0.4275 6: 2Y 5Y 0.9169 0.1028 0.7428 0.9207 0.2303 0.1988
```

[1] "Global Tilt"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean
                  26.29 17.73 44.43 13.30 23.12 14.64 38.32 13.42 11.67
Global Tilt
6W. Global Tilt
                  18.64 12.13 26.10 11.87 18.67 11.33 24.07 10.77 10.66
                  20.43 13.71
                                28.11 12.52 20.61 12.56 27.11 13.29 11.05
6M. Global Tilt
                                30.03 11.95
1Y. Global Tilt
                  20.75 13.96
                                             19.34 13.62 28.51 11.62 11.35
                  20.89 13.98 30.70 10.90
                                             20.37 11.51 29.75 12.90 10.01
2Y. Global Tilt
5Y. Global Tilt
                  24.89 14.93 32.78 15.67 25.25 13.47 33.16 12.33 12.78
                 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
                10.13 10.76 8.87
                                     0.0000
                                               0.0129
                                                                    0.0000
Global Tilt
                                                              0
                                                                   0.0000
6W. Global Tilt 9.73 10.53 8.11
                                      0.0003
                                               0.3645
                                                              0
6M. Global Tilt 10.60 12.15 11.07
                                     0.0006
                                               0.6953
                                                                   0.0000
                                                              0
1Y. Global Tilt 10.96 12.50 9.85
                                     0.0000
                                               0.5258
                                                              0
                                                                   0.0000
2Y. Global Tilt 11.06 11.43 11.03
                                     0.0000
                                               0.6964
                                                              0
                                                                   0.0000
5Y. Global Tilt 10.41 15.96 13.51
                                      0.0592
                                               0.9258
                p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
Global Tilt
                   0.0000
                             0e+00
                                      0.0000
                                                     0
                                                           0e+00
                                                                     0.6463
6W. Global Tilt
                  0.0040
                             0e+00
                                      0.0000
                                                     0
                                                           0e+00
                                                                     0.9450
6M. Global Tilt
                  0.0041
                             0e+00
                                      0.0005
                                                     0
                                                           0e+00
                                                                     0.6530
1Y. Global Tilt
                  0.0000
                             2e-04
                                      0.0029
                                                     0
                                                           0e+00
                                                                     0.6392
2Y. Global Tilt
                  0.0000
                             0e+00
                                                     0
                                                           0e+00
                                      0.0002
                                                                     0.5711
5Y. Global Tilt
                  0.0087
                             1e-04
                                      0.0192
                                                     0
                                                           2e-04
                                                                     0.4278
                p.val_all
Global Tilt
6W. Global Tilt
                       0
6M. Global Tilt
1Y. Global Tilt
                       0
2Y. Global Tilt
5Y. Global Tilt
                       2
                              3
                1
1: Preop 2Y 0.0000 0.1177 0.0007 0.4258 0.7821 0.0000
2: Preop 5Y 0.0048 0.3272 0.0794 0.6712 0.1605 0.3675
3: Preop 6W 0.0000 0.0077 0.0000 0.5991 0.9098 0.0000
      6W 2Y 0.0521 0.2906 0.0165 0.7562 0.7079 0.0418
      6W 5Y 0.0896 0.0018 0.0019 0.4213 0.1425 0.0000
     2Y 5Y 0.5887 0.0240 0.2500 0.3156 0.2427 0.0080
6:
```

[1] "T1 Sagittal Tilt"

```
2Y. T1 Sagittal Tilt
                        -3.63
                                4.47 -1.59 5.03 -4.32 3.84 -1.39 5.60 -5.30
                        -2.75
                                4.89 -0.09 8.09 -3.81 3.84 -0.99 4.43 -3.48
5Y. T1 Sagittal Tilt
                     4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
                                         0.0000
                                                    0.2349
                                                              0.0000
T1 Sagittal Tilt
                     4.27 -5.27 3.26
                                                                        0.0000
6W. T1 Sagittal Tilt 4.08 -4.98 2.75
                                         0.0199
                                                    0.1654
                                                              0.0723
                                                                        0.0008
6M. T1 Sagittal Tilt 3.47
                                                                        0.0163
                          -5.21 3.04
                                         0.0526
                                                    0.6133
                                                              0.0321
1Y. T1 Sagittal Tilt 4.90 -5.72 3.24
                                         0.1293
                                                    0.5228
                                                              0.1568
                                                                        0.0079
2Y. T1 Sagittal Tilt 3.03 -5.16 3.04
                                         0.0022
                                                    0.8591
                                                              0.0001
                                                                        0.0003
5Y. T1 Sagittal Tilt 3.80 -4.36 2.75
                                         0.0541
                                                    0.6477
                                                              0.0931
                                                                        0.0327
                     p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
T1 Sagittal Tilt
                        0.0000
                                  0.4199
                                             0.0585
                                                       0.0000
6W. T1 Sagittal Tilt
                        0.4802
                                  0.8079
                                             0.0917
                                                       0.6911
                                                                 0.0497
6M. T1 Sagittal Tilt
                        0.0168
                                  0.6412
                                             0.3763
                                                       0.0104
                                                                 0.0052
1Y. T1 Sagittal Tilt
                        0.0166
                                  0.8753
                                             0.0766
                                                       0.0325
                                                                 0.0005
2Y. T1 Sagittal Tilt
                        0.0026
                                  0.1065
                                             0.2234
                                                       0.0001
                                                                 0.0004
5Y. T1 Sagittal Tilt
                        0.0058
                                  0.7329
                                             0.5199
                                                       0.0402
                                                                 0.0031
                     p.val_4.5 p.val_all
T1 Sagittal Tilt
                        0.3709
                                  0.0000
6W. T1 Sagittal Tilt
                        0.1130
                                  0.0322
6M. T1 Sagittal Tilt
                        0.6877
                                  0.0045
1Y. T1 Sagittal Tilt
                        0.2060
                                  0.0108
2Y. T1 Sagittal Tilt
                        0.8396
                                  0.0000
5Y. T1 Sagittal Tilt
                                  0.0039
                        0.4163
      t0 t1
                        2
                               3
                                                   All
1: Preop 2Y 0.0000 0.5627 0.0042 0.3091 0.8818 0.0001
2: Preop 5Y 0.0623 0.7404 0.0106 0.2910 0.2973 0.0932
3: Preop 6W 0.0000 0.8032 0.0000 0.3112 0.6982 0.0000
      6W 2Y 0.5973 0.4309 0.0631 0.0373 0.8139 0.9135
5:
      6W 5Y 0.2908 0.9071 0.0269 0.8211 0.4641 0.0780
6:
      2Y 5Y 0.4418 0.4278 0.7404 0.0624 0.3603 0.0758
```

[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 20.48
                                           9.05 19.69 11.51 20.98 12.01 19.20
6W. Thoracolumbar L2-T10
                             4.91 12.50
                                           8.71 11.61
                                                        5.00 13.08
                                                                     7.37 10.07
6M. Thoracolumbar L2-T10
                             5.08 12.15
                                           8.50 10.37
                                                        5.98 11.53
                                                                      6.98 9.83
1Y. Thoracolumbar L2-T10
                                           9.18 10.64
                                                        6.88 12.43
                             5.27 12.67
                                                                      7.36 11.02
2Y. Thoracolumbar L2-T10
                             6.07 12.79
                                           7.80 13.78
                                                        7.66 12.40
                                                                      8.45 11.79
5Y. Thoracolumbar L2-T10
                             7.26 14.64 11.75 16.10
                                                        7.98 13.44 10.45 12.40
                         4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3
Thoracolumbar L2-T10
                           8.47 21.82
                                        5.46 19.68
                                                      0.4355
                                                                0.4036
6W. Thoracolumbar L2-T10
                           0.09 11.77
                                        2.75 13.91
                                                      0.0707
                                                                0.5323
6M. Thoracolumbar L2-T10
                           1.36 15.45 -0.61 11.73
                                                      0.1650
                                                                0.4521
1Y. Thoracolumbar L2-T10
                           0.48 14.86
                                      -1.83 10.37
                                                      0.2340
                                                                0.4034
2Y. Thoracolumbar L2-T10
                           1.05 13.22
                                        2.81 11.29
                                                      0.9529
                                                                0.8041
5Y. Thoracolumbar L2-T10
                          -2.76 12.13
                                        6.98 18.39
                                                      0.3453
                                                                0.7610
                         p.val_1.4 p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5
Thoracolumbar L2-T10
                            0.8795
                                      0.3912
                                                0.8682
                                                          0.3598
                                                                    0.1122
6W. Thoracolumbar L2-T10
                            0.0003
                                      0.0391
                                                0.2041
                                                           0.0171
                                                                    0.3955
6M. Thoracolumbar L2-T10
                            0.0079
                                      0.0006
                                                0.5679
                                                          0.0618
                                                                     0.0061
```

```
1Y. Thoracolumbar L2-T10
                            0.0010
                                      0.0000
                                                0.8077
                                                           0.0086
                                                                     0.0002
2Y. Thoracolumbar L2-T10
                            0.0169
                                      0.0816
                                                0.7037
                                                          0.0047
                                                                     0.0430
5Y. Thoracolumbar L2-T10
                            0.0020
                                      0.4075
                                                0.4027
                                                           0.0014
                                                                     0.8373
                         p.val_3.4 p.val_3.5 p.val_4.5 p.val_all
Thoracolumbar L2-T10
                            0.3377
                                      0.1131
                                               0.4826
                                                          0.4697
6W. Thoracolumbar L2-T10
                            0.0009
                                      0.0932
                                                0.3497
                                                          0.0031
6M. Thoracolumbar L2-T10
                            0.0328
                                      0.0032
                                                0.5110
                                                          0.0011
1Y. Thoracolumbar L2-T10
                            0.0091
                                      0.0003
                                                0.4050
                                                          0.0000
2Y. Thoracolumbar L2-T10
                            0.0039
                                      0.0307
                                                0.5209
                                                          0.0074
5Y. Thoracolumbar L2-T10
                            0.0004
                                      0.4973
                                                0.0700
                                                          0.0069
                        2
      t0 t1
                1
                               3
                                             5
1: Preop 2Y 0.7037 0.0848 0.2274 0.0282 0.4919 0.0032
2: Preop 5Y 0.5379 0.1660 0.6460 0.0041 0.7846 0.0907
3: Preop 6W 0.9129 0.0033 0.1018 0.0100 0.5037 0.0001
4:
     6W 2Y 0.7261 0.1349 0.6175 0.7002 0.9853 0.2713
5:
      6W 5Y 0.4395 0.1682 0.2645 0.3561 0.4083 0.0955
6:
     2Y 5Y 0.3375 0.8827 0.4860 0.2407 0.4011 0.4062
```

[1] "RSA"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean 4.sd
          15.26 15.41 30.54 11.95 12.66 12.71 26.40 11.11
                                                               2.46 8.65
RSA
6W. RSA
           7.59
                 9.53 12.84 8.94
                                     7.76 8.81 12.02 8.99
                                                               1.43 7.79
6M. RSA
           9.46 10.88 15.12 10.17
                                      9.71 9.42 15.62 10.56
                                                               1.63 8.07
1Y. RSA
           9.81 11.07 17.91 9.07
                                     8.54 10.32 16.16 9.23
                                                               1.97 8.66
2Y. RSA
          10.09 11.67 18.11 9.00 9.65 8.85 17.87 11.23
                                                               1.11 9.23
          13.54 12.84 21.09 12.42 14.28 11.57 20.03 10.37
5Y. RSA
                                                               1.83 9.61
       5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5 p.val_2.3
RSA
         0.96 6.94
                       0.0000
                                0.0500
                                               0
                                                      0e+00
                                                              0.0000
         1.29 7.03
                       0.0010
                                 0.6417
                                                      0e+00
                                                              0.0055
6W. RSA
                                                0
6M. RSA
        2.46 9.57
                       0.0018
                                 0.8098
                                                      0e+00
                                                              0.0010
                                                0
1Y. RSA
         2.90 8.55
                       0.0000
                                0.3476
                                                0
                                                      0e+00
                                                              0.0000
2Y. RSA
         1.67 9.97
                       0.0000
                                 0.9084
                                               0
                                                     0e+00
                                                              0.0000
5Y. RSA
         6.12 11.19
                       0.0353
                                 0.7528
                                               0
                                                      4e-04
                                                              0.0237
       p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5 p.val_all
RSA
           0e+00
                    0.0000
                                 0
                                         0e+00
                                                  0.3575
           0e+00
                    0.0001
                                   0
                                                                0
6W. RSA
                                         0e+00
                                                 0.9339
6M. RSA
           0e+00
                    0.0004
                                   0
                                         0e+00
                                                 0.6848
                                                                0
1Y. RSA
           1e-04
                    0.0034
                                   0
                                         0e+00
                                                  0.6486
                                                                0
2Y. RSA
           0e+00
                    0.0002
                                         0e+00
                                   0
                                                  0.7993
                                                                0
5Y. RSA
           0e+00
                    0.0140
                                   0
                                         2e-04
                                                                0
                                                 0.2160
                       2
                              3
                1
                                                 All
1: Preop 2Y 0.0000 0.0374 0.0001 0.4439 0.7339 0.0000
2: Preop 5Y 0.0047 0.3840 0.0108 0.7905 0.0937 0.2017
3: Preop 6W 0.0000 0.0005 0.0000 0.5176 0.8452 0.0000
     6W 2Y 0.0054 0.1312 0.0042 0.8543 0.8598 0.0058
5:
     6W 5Y 0.0099 0.0003 0.0012 0.8646 0.1194 0.0000
     2Y 5Y 0.3330 0.0101 0.3920 0.7710 0.1776 0.0072
6:
```

[1] "RPV"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean 4.sd 5.mean
RPV
                   9.15 -14.74 6.97 -7.96 8.96 -13.87 6.63 -1.57 6.85 -1.83
6W. RPV
           -5.03
                   7.61 -8.22 7.53 -5.20 6.84 -8.20 8.06 -0.07 6.58 -2.42
6M. RPV
           -6.49
                   7.91 -10.14 6.96 -6.99 7.31 -10.99 7.54 -0.31 6.70 -2.31
1Y. RPV
                   7.94 -11.03 6.15 -6.36 7.79 -10.10 6.42 -0.67 6.45
           -6.39
2Y. RPV
           -6.14
                   7.76 -10.37 6.82 -6.38 6.87 -10.10 7.03 -0.96 7.08
5Y. RPV
                   8.24 -11.95 6.44 -9.77 7.40 -12.01 7.16 -0.09 7.46 -4.21
           -8.42
        5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5 p.val_2.3 p.val_2.4
RPV
                0.0000
                          0.4698
                                              0.0000
                                                        0.0000
        6.97
                                         0
                0.0092
                                              0.0001
                                                                        0
6W. RPV 6.36
                          0.9893
                                         0
                                                        0.0181
6M. RPV 5.31
                0.0059
                          0.5370
                                              0.0000
                                                        0.0015
                                                                        0
                                         0
1Y. RPV 7.79
                0.0000
                          0.4460
                                              0.0000
                                                         0.0011
                                                                        0
                                         0
2Y. RPV 6.41
                0.0014
                          0.8446
                                         0
                                              0.0000
                                                         0.0020
5Y. RPV 7.07
                0.2078
                          0.9771
                                              0.0014
                                                                        0
                                         0
                                                         0.1833
        p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5 p.val_all
RPV
           0.0000
                               0.0000
                                         0.8557
                          0
                               0.0003
6W. RPV
           0.0279
                          0
                                         0.0917
                                                        0
6M. RPV
           0.0000
                          0
                               0.0000
                                         0.1111
                                                        0
1Y. RPV
           0.0099
                          0
                               0.0000
                                         0.2834
2Y. RPV
           0.0002
                               0.0000
                                         0.8523
                          0
5Y. RPV
           0.0088
                          0
                               0.0011
                                         0.0861
      t0 t1
                1
                        2
                               3
1: Preop 2Y 0.0013 0.1251 0.0037 0.6396 0.7079 0.0006
2: Preop 5Y 0.1003 0.1420 0.2486 0.4168 0.2569 0.9929
3: Preop 6W 0.0000 0.0047 0.0001 0.2178 0.7096 0.0000
      6W 2Y 0.1260 0.1914 0.1961 0.4969 0.4438 0.0718
      6W 5Y 0.0350 0.0001 0.0328 0.9930 0.3825 0.0000
5:
      2Y 5Y 0.3632 0.0049 0.2538 0.6433 0.1541 0.0059
```

Quality of Life

[1] "ODI - Score (%)"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
ODI - Score (%)
                      37.26 19.78 33.95 14.05 43.16 13.09 61.84 11.20
6M. ODI - Score (%)
                      28.30 17.97 23.15 13.54 30.65 16.54 45.19 18.30
1Y. ODI - Score (%)
                      25.72 18.07 23.92 15.29 27.71 16.69 44.66 15.57
2Y. ODI - Score (%)
                      27.53 21.27 25.20 21.02 29.41 18.47 50.35 19.33
5Y. ODI - Score (%)
                      28.33 21.38 26.84 20.73 30.48 19.72 49.02 19.14
                   4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4
ODI - Score (%)
                    21.19 10.65
                                 8.00 6.55
                                                0.0000
                                                              0
                                                                   0.0000
6M. ODI - Score (%)
                   20.50 13.75 13.29 10.51
                                                0.0012
                                                              0
                                                                   0.2968
1Y. ODI - Score (%)
                    15.88 12.12
                                 8.22 6.73
                                                0.1231
                                                              0
                                                                   0.0019
2Y. ODI - Score (%)
                    15.22 12.42
                                  8.72 7.75
                                                0.1861
                                                              0
                                                                   0.0021
5Y. ODI - Score (%)
                   15.42 12.59
                                8.36 6.49
                                                0.3215
                                                              0
                                                                   0.0035
                   p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
```

```
ODI - Score (%)
                        0e+00
6M. ODI - Score (%)
                        2e-04
                                       0
                                                 0
                                                           0
                                                                      0
                                                                                0
                                                 0
1Y. ODI - Score (%)
                        0e+00
                                       0
                                                           0
                                                                      0
                                                                                0
2Y. ODI - Score (%)
                                                 0
                                                           0
                                                                      0
                                                                                0
                        0e+00
                                       Λ
5Y. ODI - Score (%)
                        0e+00
                                       0
                                                 0
                                                           0
                                                                      0
                                                                                0
                    p.val_4.5 p.val_all
ODI - Score (%)
                       0.0000
6M. ODI - Score (%)
                       0.0063
                                       0
1Y. ODI - Score (%)
                       0.0002
                                       0
2Y. ODI - Score (%)
                                       Λ
                       0.0023
5Y. ODI - Score (%)
                       0.0070
      t0 t1
                1
                        2
                               3
                                       4
1: Preop 2Y 0.0081 0.0000 0.0002 0.0060 0.6690 0.0000
2: Preop 5Y 0.0497 0.0000 0.0003 0.0302 0.8275 0.0000
3: Preop 6M 0.0000 0.0000 0.0000 0.7661 0.0146 0.0000
4:
      6M 2Y 0.5253 0.5710 0.1463 0.0331 0.0435 0.6108
5:
      6M 5Y 0.3003 0.9433 0.3259 0.0802 0.0274 0.9874
6:
      2Y 5Y 0.6901 0.6724 0.7388 0.9406 0.8383 0.6538
[1] "SRS22 - Function / Activity"
                                 All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean
SRS22 - Function / Activity
                                     3.09
                                            0.87
                                                   3.14 0.57
                                                               2.84 0.51
                                                                            2.11
6M. SRS22 - Function / Activity
                                     3.26
                                            0.82
                                                   3.34 0.57
                                                               3.12 0.69
                                                                            2.59
1Y. SRS22 - Function / Activity
                                     3.40
                                                               3.26 0.77
                                            0.89
                                                   3.39 0.63
                                                                            2.59
2Y. SRS22 - Function / Activity
                                     3.48
                                            0.93
                                                   3.53 0.76
                                                               3.23 0.73
                                                                            2.63
5Y. SRS22 - Function / Activity
                                     3.50
                                            0.91
                                                   3.49 0.77
                                                               3.43 0.76
                                                                            2.67
                                 3.sd 4.mean 4.sd 5.mean 5.sd p.val_1.2
SRS22 - Function / Activity
                                0.52
                                        3.68 0.66
                                                    4.54 0.36
                                                                 0.0006
6M. SRS22 - Function / Activity 0.73
                                        3.58 0.78
                                                    4.17 0.67
                                                                  0.0224
                                                                  0.2225
1Y. SRS22 - Function / Activity 0.77
                                        3.85 0.74
                                                    4.48 0.51
2Y. SRS22 - Function / Activity 0.85
                                        4.14 0.73
                                                    4.46 0.46
                                                                  0.0126
                                                    4.49 0.50
5Y. SRS22 - Function / Activity 0.88
                                        3.89 0.87
                                                                  0.7049
                                p.val_1.3 p.val_1.4 p.val_1.5 p.val_2.3
SRS22 - Function / Activity
                                         0
                                              0.0000
                                                             0
                                                                        0
6M. SRS22 - Function / Activity
                                         0
                                              0.0596
                                                             0
                                                                        0
                                                                        0
1Y. SRS22 - Function / Activity
                                         0
                                              0.0004
                                                             0
2Y. SRS22 - Function / Activity
                                         0
                                              0.0000
5Y. SRS22 - Function / Activity
                                         0
                                              0.0333
                                                             0
                                                                        0
                                p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
                                                   0
SRS22 - Function / Activity
                                   0.0000
                                                             0
                                                                        0
                                                   0
                                                             0
6M. SRS22 - Function / Activity
                                    0.0002
                                                                        0
1Y. SRS22 - Function / Activity
                                    0.0000
                                                   0
                                                             0
                                                                        0
2Y. SRS22 - Function / Activity
                                    0.0000
                                                   0
                                                             0
                                                                        0
5Y. SRS22 - Function / Activity
                                                   0
                                                             0
                                                                        0
                                    0.0079
                                p.val_4.5 p.val_all
SRS22 - Function / Activity
                                   0.0000
```

0

0

0

0.0002

0.0000

0.0095

0.0012

6M. SRS22 - Function / Activity

1Y. SRS22 - Function / Activity

2Y. SRS22 - Function / Activity

5Y. SRS22 - Function / Activity

```
t.0 t.1
                               3
                                      4
                                                  A11
                 1
                        2
1: Preop 2Y 0.0016 0.0000 0.0001 0.0005 0.4175 0.0000
2: Preop 5Y 0.0122 0.0000 0.0005 0.2288 0.6538 0.0000
3: Preop 6M 0.0561 0.0004 0.0001 0.4333 0.0040 0.0082
      6M 2Y 0.1176 0.1885 0.8295 0.0001 0.0293 0.0013
5:
      6M 5Y 0.2786 0.0012 0.6438 0.0885 0.0283 0.0009
     2Y 5Y 0.7699 0.0435 0.7954 0.1623 0.8179 0.7342
6:
[1] "SRS22 - Pain"
                 All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean
SRS22 - Pain
                     2.62
                            0.97
                                   2.87 0.68
                                               2.30 0.63
                                                           1.52 0.47
                                                                        3.18
6M. SRS22 - Pain
                     3.42
                            0.90
                                   3.79 0.69
                                               3.30 0.85
                                                           2.79 0.90
                                                                        3.56
1Y. SRS22 - Pain
                     3.57
                            0.98 3.85 0.77
                                               3.43 0.95
                                                           2.68 0.99
                                                                        3.92
2Y. SRS22 - Pain
                     3.49
                            1.09
                                 3.85 0.91
                                               3.32 1.04
                                                           2.51 1.08
                                                                        3.93
5Y. SRS22 - Pain
                     3.38
                            1.13
                                  3.65 1.02
                                               3.22 1.06
                                                           2.50 1.09
                                                                        3.77
                 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
SRS22 - Pain
                 0.61
                        4.28 0.49
                                  0.0000
                                                    0
                                                         0.0084
                                                                    0.0000
6M. SRS22 - Pain 0.90
                        4.04 0.63
                                     0.0000
                                                    0
                                                         0.1183
                                                                    0.0793
1Y. SRS22 - Pain 0.77
                        4.33 0.46
                                     0.0015
                                                         0.5912
                                                                    0.0002
                                                    0
2Y. SRS22 - Pain 0.86
                        4.29 0.53
                                     0.0005
                                                         0.6195
                                                    0
                                                                    0.0031
5Y. SRS22 - Pain 1.06
                      4.32 0.51
                                     0.0217
                                                    0
                                                         0.6234
                                                                    0.0004
                 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
SRS22 - Pain
                     0e+00
                              0.0000
                                             0
                                                       0
                                                                 0
6M. SRS22 - Pain
                     4e-04
                              0.0679
                                             0
                                                       0
                                                                 0
                                                                       0.0033
                              0.0003
                                                       0
1Y. SRS22 - Pain
                     0e+00
                                             0
                                                                 0
                                                                      0.0020
2Y. SRS22 - Pain
                     0e+00
                              0.0001
                                             0
                                                       0
                                                                 0
                                                                       0.0126
5Y. SRS22 - Pain
                     6e-04
                              0.0114
                                             0
                                                       0
                                                                 0
                                                                       0.0103
                 p.val_all
SRS22 - Pain
                         0
6M. SRS22 - Pain
                         0
1Y. SRS22 - Pain
                         0
2Y. SRS22 - Pain
                         0
5Y. SRS22 - Pain
                        2
                               3
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000 0.9279 0.0000
2: Preop 5Y 0.0000 0.0000 0.0000 0.0046 0.7831 0.0000
3: Preop 6M 0.0000 0.0000 0.0000 0.0092 0.0661 0.0000
      6M 2Y 0.7036 0.8325 0.1421 0.0256 0.0623 0.3696
5:
      6M 5Y 0.4184 0.5528 0.1692 0.3416 0.0524 0.6041
      2Y 5Y 0.3013 0.4641 0.9400 0.4476 0.8536 0.2191
[1] "SRS22 - Self image / Appearance"
                                    All.mean All.sd 1.mean 1.sd 2.mean 2.sd
SRS22 - Self image / Appearance
                                               0.76 2.47 0.64 2.43 0.69
                                        2.42
6M. SRS22 - Self image / Appearance
                                        3.48
                                               0.83
                                                      3.72 0.64
                                                                  3.36 0.81
```

0.80

3.62 0.64

3.49 0.73

3.52

1Y. SRS22 - Self image / Appearance

```
2Y. SRS22 - Self image / Appearance
                                        3.43
                                               0.93
                                                      3.57 0.81
                                                                   3.34 0.83
                                        3.37
                                               0.93
                                                      3.48 0.78
                                                                   3.30 0.91
5Y. SRS22 - Self image / Appearance
                                    3.mean 3.sd 4.mean 4.sd 5.mean 5.sd
SRS22 - Self image / Appearance
                                      1.65 0.50
                                                  2.51 0.61
                                                              3.38 0.45
6M. SRS22 - Self image / Appearance
                                      2.93 0.92
                                                  3.70 0.79
                                                              4.01 0.52
1Y. SRS22 - Self image / Appearance
                                                  3.84 0.74
                                      2.82 0.87
                                                              4.04 0.52
2Y. SRS22 - Self image / Appearance
                                                  3.78 0.82
                                      2.60 0.93
                                                              4.21 0.56
5Y. SRS22 - Self image / Appearance
                                                  3.74 0.85
                                      2.60 0.87
                                                              4.10 0.53
                                    p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
SRS22 - Self image / Appearance
                                       0.7397
                                                      0
                                                           0.7372
                                                                      0.0000
6M. SRS22 - Self image / Appearance
                                       0.0010
                                                      0
                                                           0.8302
                                                                      0.0169
1Y. SRS22 - Self image / Appearance
                                                           0.0970
                                       0.2142
                                                      0
                                                                      0.0007
2Y. SRS22 - Self image / Appearance
                                       0.0735
                                                      0
                                                           0.1547
                                                                      0.0000
5Y. SRS22 - Self image / Appearance
                                                           0.1795
                                       0.2121
                                                      0
                                                                      0.0001
                                    p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4
SRS22 - Self image / Appearance
                                       0.0000
                                                 0.4719
                                                                0
6M. SRS22 - Self image / Appearance
                                                 0.0085
                                                                0
                                       0.0029
                                                                           0
1Y. SRS22 - Self image / Appearance
                                       0.0000
                                                 0.0045
                                                                0
                                                                           0
2Y. SRS22 - Self image / Appearance
                                       0.0000
                                                 0.0009
                                                                0
                                                                           0
5Y. SRS22 - Self image / Appearance
                                       0.0001
                                                 0.0131
                                                                0
                                                                           0
                                    p.val_3.5 p.val_4.5 p.val_all
SRS22 - Self image / Appearance
                                                 0.0000
                                            0
6M. SRS22 - Self image / Appearance
                                                 0.0204
                                                                0
                                            0
1Y. SRS22 - Self image / Appearance
                                                 0.1246
                                                                0
                                            0
2Y. SRS22 - Self image / Appearance
                                                                0
                                            0
                                                 0.0037
5Y. SRS22 - Self image / Appearance
                                            0
                                                 0.0439
                                                                0
      t0 t1
                 1
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000 0.0000
2: Preop 5Y 0.0000 0.0000 0.0000 0.0000 0.0000
3: Preop 6M 0.0000 0.0000 0.0000 0.0000 0.0000
      6M 2Y 0.2486 0.8800 0.0573 0.5555 0.1320 0.4681
      6M 5Y 0.0942 0.6216 0.0722 0.8249 0.5160 0.1429
5:
6:
      2Y 5Y 0.5764 0.7228 0.9936 0.7884 0.4447 0.4427
```

[1] "SRS22 - Mental health"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd
SRS22 - Mental health
                                      0.86
                                             3.82 0.66
                                                         3.03 0.73
                              3.17
6M. SRS22 - Mental health
                              3.55
                                      0.85
                                             4.07 0.65
                                                         3.40 0.87
                                                                      2.95 0.88
1Y. SRS22 - Mental health
                                             4.04 0.66
                              3.61
                                      0.83
                                                         3.50 0.78
                                                                      2.93 0.96
                                      0.94
                                                         3.42 0.96
2Y. SRS22 - Mental health
                              3.51
                                             3.99 0.76
                                                                      2.68 0.97
                                      0.89
                                             4.01 0.75
                                                         3.49 0.81
5Y. SRS22 - Mental health
                              3.55
                                                                      2.66 0.85
                          4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4
                                         4.16 0.49
SRS22 - Mental health
                            3.14 0.53
                                                       0e+00
                                                                      0
                                                                           0.0000
                                         4.03 0.49
                                                                      0
                                                                           0.0003
6M. SRS22 - Mental health
                            3.63 0.62
                                                       0e+00
1Y. SRS22 - Mental health
                            3.72 0.62
                                         4.11 0.50
                                                       0e+00
                                                                      0
                                                                           0.0065
2Y. SRS22 - Mental health
                            3.68 0.61
                                         4.03 0.57
                                                       0e+00
                                                                      0
                                                                           0.0142
                            3.66 0.65
                                         4.20 0.57
                                                       2e-04
                                                                      0
5Y. SRS22 - Mental health
                                                                           0.0302
                          p.val_1.5 p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4
SRS22 - Mental health
                             0.0041
                                        0.0000
                                                  0.2293
                                                                  0
                                                                            0
6M. SRS22 - Mental health
                             0.7554
                                        0.0016
                                                  0.0417
                                                                  0
                                                                            0
```

```
0.5738
1Y. SRS22 - Mental health
                                    0.0002
                                             0.0442
                                           0.0282
2Y. SRS22 - Mental health 0.7613
                                   0.0000
                                                          0
                                                                    0
5Y. SRS22 - Mental health 0.2330
                                    0.0000
                                             0.1946
                                                           0
                       p.val_3.5 p.val_4.5 p.val_all
SRS22 - Mental health
                             0
                                   0.0000
6M. SRS22 - Mental health
                              0
                                   0.0009
                                                 0
1Y. SRS22 - Mental health
                                   0.0012
                              0
2Y. SRS22 - Mental health
                              0
                                    0.0051
                                                 0
5Y. SRS22 - Mental health
                              Ω
                                    0.0010
     t0 t1
               1
                      2
                            3
1: Preop 2Y 0.1725 0.0003 0.0071 0.0000 0.3258 0.0000
2: Preop 5Y 0.1562 0.0000 0.0149 0.0002 0.7321 0.0000
3: Preop 6M 0.0333 0.0002 0.0000 0.0000 0.2851 0.0000
     6M 2Y 0.5474 0.8777 0.1214 0.7096 1.0000 0.5454
5:
     6M 5Y 0.6989 0.4411 0.0969 0.8221 0.2144 0.9850
6:
     2Y 5Y 0.8752 0.5603 0.8832 0.9331 0.2424 0.5706
[1] "SRS22 - SRS Subtotal score"
                            All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean
SRS22 - SRS Subtotal score
                               2.83 0.70 3.08 0.42
                                                        2.66 0.42
6M. SRS22 - SRS Subtotal score
                              3.43 0.69 3.74 0.47
                                                        3.29 0.63
                                                                   2.82
1Y. SRS22 - SRS Subtotal score
                              3.53 0.74 3.73 0.54
                                                        3.42 0.64
                                                                   2.76
2Y. SRS22 - SRS Subtotal score
                              3.48 0.85
                                             3.73 0.68
                                                        3.33 0.75
                                                                   2.61
5Y. SRS22 - SRS Subtotal score
                                3.44 0.87
                                             3.58 0.87
                                                        3.36 0.74
                                                                   2.61
                            3.sd 4.mean 4.sd 5.mean 5.sd p.val_1.2 p.val_1.3
SRS22 - SRS Subtotal score
                            0.36 3.12 0.33 4.09 0.25 0.0000
6M. SRS22 - SRS Subtotal score 0.69 3.62 0.62 4.06 0.37
                                                          0.0000
1Y. SRS22 - SRS Subtotal score 0.76 3.83 0.57 4.24 0.35
                                                          0.0007
                                                                       0
2Y. SRS22 - SRS Subtotal score 0.81 3.88 0.61 4.25 0.40
                                                          0.0004
5Y. SRS22 - SRS Subtotal score 0.79 3.76 0.74 4.28 0.43
                                                                       0
                                                          0.1406
                            p.val_1.4 p.val_1.5 p.val_2.3 p.val_2.4
SRS22 - SRS Subtotal score
                             0.5341 0e+00 0 0.0000
6M. SRS22 - SRS Subtotal score
                             0.2536
                                         3e-04
                                                     0
                                                           0.0014
1Y. SRS22 - SRS Subtotal score
                             0.3300
                                         0e+00
                                                     0
                                                           0.0000
2Y. SRS22 - SRS Subtotal score
                              0.2020
                                         0e+00
                                                     0
                                                           0.0000
                                               0
5Y. SRS22 - SRS Subtotal score 0.3143
                                      0e+00
                                                           0.0080
                            p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
SRS22 - SRS Subtotal score
                                 0 0 0
                                                           0.0000
6M. SRS22 - SRS Subtotal score
                                   0
                                            0
                                                     0
                                                           0.0000
                                          0
1Y. SRS22 - SRS Subtotal score
                                  0
                                                     0
                                                           0.0000
2Y. SRS22 - SRS Subtotal score
                                                           0.0006
                                   0
                                           0
                                                  0
5Y. SRS22 - SRS Subtotal score
                                           0
                                    0
                                                           0.0013
                            p.val_all
SRS22 - SRS Subtotal score
6M. SRS22 - SRS Subtotal score
1Y. SRS22 - SRS Subtotal score
2Y. SRS22 - SRS Subtotal score
                                    0
5Y. SRS22 - SRS Subtotal score
```

5

All

2 3 4

t0 t1

1

```
1: Preop 2Y 0.0000 0.0000 0.0000 0.0000 0.0418 0.0000 2: Preop 5Y 0.0007 0.0000 0.0000 0.0000 0.0458 0.0000 3: Preop 6M 0.0000 0.0000 0.0000 0.0000 0.7189 0.0000 4: 6M 2Y 0.9725 0.6634 0.1317 0.0217 0.0409 0.4272 5: 6M 5Y 0.2824 0.4468 0.1710 0.3376 0.0403 0.8979 6: 2Y 5Y 0.3354 0.7484 1.0000 0.4322 0.7832 0.5885
```

[1] "SF36 - PCS"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean
SF36 - PCS
                 36.45
                         9.47 35.27
                                      7.86 33.56
                                                   7.02 29.12 6.40 43.95
                         9.17 40.20 8.27 39.63 8.53
6M. SF36 - PCS
                 40.54
                                                         34.18 7.72 44.04
1Y. SF36 - PCS
                 41.94 10.01 41.23 8.84 41.19 9.20
                                                         33.24 8.43 46.72
2Y. SF36 - PCS
                 42.06 10.41 42.27 8.73
                                            40.71 9.42
                                                         33.37 9.69
                                                                      47.38
                 41.64 11.22 40.94 10.60 40.29 10.39 33.58 9.64 47.62
5Y. SF36 - PCS
                4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
                                   0.1384
                                              0.0000
                                                       0.0000
SF36 - PCS
               7.11 49.63 7.30
                                                                       0
6M. SF36 - PCS 8.55 49.45 6.99
                                   0.6639
                                              0.0001
                                                        0.0173
                                                                       0
1Y. SF36 - PCS 8.54 51.67 5.89
                                   0.9751
                                              0.0000
                                                        0.0008
                                                                       0
2Y. SF36 - PCS 8.72 51.94 6.76
                                   0.2716
                                              0.0000
                                                        0.0020
                                                                       0
5Y. SF36 - PCS 10.59 51.81 6.71
                                   0.7324
                                              0.0013
                                                        0.0075
                                                                       0
              p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
SF36 - PCS
                  0e+00
                            0.0000
                                           0
                                                     0
                                                              0
                                                                    0.0004
6M. SF36 - PCS
                  0e+00
                            0.0022
                                           0
                                                     0
                                                               0
                                                                    0.0017
1Y. SF36 - PCS
                  0e+00
                            0.0002
                                           0
                                                     0
                                                                    0.0014
                                                               0
2Y. SF36 - PCS
                            0.0000
                                                     0
                                                                    0.0060
                   0e+00
                                           0
                                                               0
5Y. SF36 - PCS
                   5e-04
                            0.0010
                                           0
                                                     0
                                                               0
                                                                    0.0668
              p.val_all
SF36 - PCS
6M. SF36 - PCS
                       0
1Y. SF36 - PCS
                       0
2Y. SF36 - PCS
                       0
5Y. SF36 - PCS
      t0 t1
                        2
                               3
                                                  All
1: Preop 2Y 0.0000 0.0000 0.0068 0.0242 0.1683 0.0000
2: Preop 5Y 0.0032 0.0000 0.0139 0.0837 0.2171 0.0000
3: Preop 6M 0.0009 0.0000 0.0002 0.9535 0.9130 0.0000
      6M 2Y 0.1876 0.3383 0.6246 0.0444 0.1341 0.0460
5:
      6M 5Y 0.6999 0.6053 0.7485 0.1065 0.1780 0.2103
      2Y 5Y 0.4966 0.7514 0.9172 0.9097 0.9393 0.6449
6:
```

[1] "SF36 - MCS"

```
All.mean All.sd 1.mean 1.sd 2.mean 2.sd 3.mean 3.sd 4.mean SF36 - MCS 42.99 11.84 49.86 10.56 42.58 11.52 33.08 10.00 41.66 6M. SF36 - MCS 47.14 11.82 53.62 9.12 45.46 12.86 41.17 11.84 46.68 1Y. SF36 - MCS 47.55 11.57 53.25 9.25 46.46 11.63 40.03 13.37 47.93 2Y. SF36 - MCS 46.96 12.12 51.53 9.99 45.85 12.82 38.38 13.01 49.25 5Y. SF36 - MCS 47.66 11.33 52.01 9.42 47.30 11.21 38.90 12.41 48.22
```

```
4.sd 5.mean 5.sd p.val_1.2 p.val_1.3 p.val_1.4 p.val_1.5
              9.58 49.85 8.72
                                   0.0000
                                                  0
                                                       0.0000
                                                                 0.9948
SF36 - MCS
6M. SF36 - MCS 9.82 52.53 7.18
                                   0.0000
                                                       0.0002
                                                                 0.5224
                                                  0
1Y. SF36 - MCS 9.31 52.26 7.54
                                   0.0000
                                                  0
                                                       0.0024
                                                                 0.5606
2Y. SF36 - MCS 8.76 53.53 6.38
                                   0.0012
                                                  0
                                                       0.1933
                                                                 0.2389
                                   0.0099
5Y. SF36 - MCS 8.97 53.49 8.06
                                                  0
                                                       0.0752
                                                                 0.4781
              p.val_2.3 p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5 p.val_4.5
                                      0.0001
                  0.0000
                            0.5751
                                                0.0000
                                                               0
                                                                    0.0001
SF36 - MCS
6M. SF36 - MCS
                  0.0291
                            0.4924
                                      0.0001
                                                0.0089
                                                               0
                                                                    0.0018
1Y. SF36 - MCS
                  0.0025
                            0.3703
                                      0.0006
                                                0.0005
                                                               0
                                                                    0.0161
2Y. SF36 - MCS
                  0.0005
                            0.0377
                                      0.0000
                                                0.0000
                                                               0
                                                                    0.0082
5Y. SF36 - MCS
                                                                    0.0188
                  0.0005
                            0.6353
                                      0.0017
                                                0.0005
                                                               0
              p.val_all
SF36 - MCS
6M. SF36 - MCS
                       0
1Y. SF36 - MCS
                       0
2Y. SF36 - MCS
                       0
5Y. SF36 - MCS
                        2
                               3
                1
1: Preop 2Y 0.3701 0.0300 0.0163 0.0000 0.0440 0.0000
2: Preop 5Y 0.2686 0.0016 0.0172 0.0019 0.0873 0.0000
3: Preop 6M 0.0360 0.0571 0.0001 0.0087 0.1584 0.0000
     6M 2Y 0.2374 0.8101 0.2338 0.1519 0.5380 0.8411
     6M 5Y 0.3829 0.2482 0.3728 0.4592 0.6250 0.5974
5:
     2Y 5Y 0.8038 0.3588 0.8434 0.5968 0.9796 0.4752
```

Surgery

	All.mean All.sd 1.mean 1.sd
Total Operative Blood Loss st1+st2+st3	1447.62 1262.72 1756.49 1681.13
Total surgical time st1+st2+st3	308.97 165.59 309.27 157.28
Number of Posterior Instrumented Levels	9.06 4.58 8.53 4.66
Number of Interbody Fusions	0.80 1.16 1.12 1.21
	2.mean 2.sd 3.mean 3.sd 4.mean
Total Operative Blood Loss st1+st2+st3	1268.06 1090.18 1875.30 1275.17 1284.07
Total surgical time st1+st2+st3	272.04 147.89 336.46 169.16 363.53
Number of Posterior Instrumented Levels	8.28 4.70 9.26 4.48 10.28
Number of Interbody Fusions	1.01 1.17 0.98 1.08 0.29
	4.sd 5.mean 5.sd p.val_1.2
Total Operative Blood Loss st1+st2+st3	953.40 936.07 966.38 0.0382
Total surgical time st1+st2+st3	192.77 302.26 157.49 0.1095
Number of Posterior Instrumented Levels	4.29 10.18 4.18 0.7292
Number of Interbody Fusions	1.17 0.00 0.00 0.5512
	p.val_1.3 p.val_1.4 p.val_1.5 p.val_2.3
Total Operative Blood Loss st1+st2+st3	0.6577 0.0660 0.0043 0.0017
Total surgical time st1+st2+st3	0.3469 0.0789 0.8275 0.0106
Number of Posterior Instrumented Levels	0.3775 0.0304 0.0700 0.1681
Number of Interbody Fusions	0.4988 0.0001 0.0000 0.8580
	p.val_2.4 p.val_2.5 p.val_3.4 p.val_3.5
Total Operative Blood Loss st1+st2+st3	0.9250 0.1141 0.0071 0.0003
Total surgical time st1+st2+st3	0.0009 0.2931 0.3976 0.3070
Number of Posterior Instrumented Levels	0.0037 0.0194 0.1970 0.3019

0.0001 0.0000 0.0006 0.0000 Number of Interbody Fusions p.val_4.5 p.val_all Total Operative Blood Loss st1+st2+st3 0.1366 0.0007 Total surgical time st1+st2+st3 0.0823 0.0030 Number of Posterior Instrumented Levels 0.9146 0.0204 Number of Interbody Fusions 0.0505 0.0000 \$'Pelvic fixation' \$'Pelvic fixation'\$All \$'Pelvic fixation'\$All\$table variable NA No Yes 24 214 134 \$'Pelvic fixation'\$All\$proportion variable No 0.06451613 0.57526882 0.36021505 \$'Pelvic fixation'\$'1' \$'Pelvic fixation'\$'1'\$table variable NA No Yes 5 20 41 \$'Pelvic fixation'\$'1'\$proportion variable No 0.07575758 0.30303030 0.62121212 \$'Pelvic fixation'\$'2' \$'Pelvic fixation'\$'2'\$table variable NA No Yes 8 82 49 \$'Pelvic fixation'\$'2'\$proportion variable Yes No 0.05755396 0.58992806 0.35251799 \$'Pelvic fixation'\$'3' \$'Pelvic fixation'\$'3'\$table variable NA No Yes 3 22 38 \$'Pelvic fixation'\$'3'\$proportion variable

Yes

0.04761905 0.34920635 0.60317460

```
$'Pelvic fixation'$'4'
$'Pelvic fixation'$'4'$table
variable
NA No Yes
 4 56 6
$'Pelvic fixation'$'4'$proportion
variable
                   No
                             Yes
0.06060606 0.84848485 0.09090909
$'Pelvic fixation'$'5'
$'Pelvic fixation'$'5'$table
variable
NA No
 4 34
$'Pelvic fixation'$'5'$proportion
variable
       NA
                 No
0.1052632 0.8947368
$'Surgical Approach'
$'Surgical Approach'$All
$'Surgical Approach'$All$table
variable
                    Anterior
                                       Anterior-Posterior
                   Posterior
                                       Posterior-Anterior
                         352
         Posterior-Posterior Posterior-Posterior-Anterior
                           3
$'Surgical Approach'$All$proportion
variable
                                      Anterior-Posterior
                    Anterior
                 0.002688172
                                              0.010752688
                   Posterior
                                       Posterior-Anterior
                 0.946236559
                                              0.029569892
         Posterior-Posterior Posterior-Posterior-Anterior
                 0.008064516
                                              0.002688172
$'Surgical Approach'$'1'
$'Surgical Approach'$'1'$table
variable
          Posterior Posterior-Anterior Posterior-Posterior
                 61
```

\$'Surgical Approach'\$'1'\$proportion variable Posterior Posterior-Anterior Posterior-Posterior 0.92424242 0.06060606 0.01515152 \$'Surgical Approach'\$'2' \$'Surgical Approach'\$'2'\$table variable Anterior Anterior-Posterior Posterior Posterior-Posterior \$'Surgical Approach'\$'2'\$proportion variable Anterior Anterior-Posterior Posterior Posterior-Posterior 0.007194245 0.014388489 0.971223022 0.007194245 \$'Surgical Approach'\$'3' \$'Surgical Approach'\$'3'\$table variable Posterior Posterior-Anterior 56 7 \$'Surgical Approach'\$'3'\$proportion variable Posterior Posterior-Anterior 0.8888889 0.1111111 \$'Surgical Approach'\$'4' \$'Surgical Approach'\$'4'\$table variable Posterior Anterior-Posterior Posterior-Posterior Posterior-Posterior-Anterior \$'Surgical Approach'\$'4'\$proportion variable Anterior-Posterior Posterior 0.03030303 0.93939394 Posterior-Posterior Posterior-Posterior-Anterior 0.01515152 0.01515152 \$'Surgical Approach'\$'5' \$'Surgical Approach'\$'5'\$table variable Posterior 38 \$'Surgical Approach'\$'5'\$proportion

variable

1

\$Decompression
\$Decompression\$All
\$Decompression\$All\$table
variable
No Yes
274 98

\$Decompression\$All\$proportion
variable

No Yes 0.7365591 0.2634409

\$Decompression\$'1'
\$Decompression\$'1'\$table
variable
No Yes
37 29

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

No Yes 0.5606061 0.4393939

\$Decompression\$'2'
\$Decompression\$'2'\$table
variable
No Yes
98 41

 $\label{lem:compression} $$\operatorname{Decompression}'2'\$proportion$$ variable$

No Yes 0.705036 0.294964

\$Decompression\$'3'
\$Decompression\$'3'\$table
variable
No Yes
41 22

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

No Yes 0.6507937 0.3492063

```
$Decompression$'4'
$Decompression$'4'$table
variable
No Yes
63
$Decompression$'4'$proportion
variable
        No
                  Yes
0.95454545 0.04545455
$Decompression$'5'
$Decompression$'5'$table
variable
No Yes
$Decompression$'5'$proportion
variable
        No
                  Yes
0.92105263 0.07894737
$'Interbody Fusion'
$'Interbody Fusion'$All
$'Interbody Fusion'$All$table
variable
No Yes
216 156
$'Interbody Fusion'$All$proportion
variable
       No
                Yes
0.5806452 0.4193548
$'Interbody Fusion'$'1'
$'Interbody Fusion'$'1'$table
variable
No Yes
28 38
$'Interbody Fusion'$'1'$proportion
variable
       No
                Yes
0.4242424 0.5757576
$'Interbody Fusion'$'2'
$'Interbody Fusion'$'2'$table
variable
```

No Yes

```
62 77
$'Interbody Fusion'$'2'$proportion
variable
                Yes
       No
0.4460432 0.5539568
$'Interbody Fusion'$'3'
$'Interbody Fusion'$'3'$table
variable
No Yes
28 35
$'Interbody Fusion'$'3'$proportion
variable
       No
                Yes
0.4444444 0.5555556
$'Interbody Fusion'$'4'
$'Interbody Fusion'$'4'$table
variable
No Yes
60 6
$'Interbody Fusion'$'4'$proportion
variable
       No
                  Yes
0.90909091 0.09090909
$'Interbody Fusion'$'5'
$'Interbody Fusion'$'5'$table
variable
No
38
$'Interbody Fusion'$'5'$proportion
variable
No
1
$Osteotomy
$Osteotomy$All
```

\$Osteotomy\$All\$table
variable
No Yes
201 171

\$Osteotomy\$All\$proportion
variable

No Yes 0.5403226 0.4596774

\$Osteotomy\$'1'
\$Osteotomy\$'1'\$table
variable
No Yes
25 41

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

No Yes 0.3787879 0.6212121

\$Osteotomy\$'2'
\$Osteotomy\$'2'\$table
variable
No Yes
82 57

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

No Yes 0.5899281 0.4100719

\$Osteotomy\$'3'
\$Osteotomy\$'3'\$table
variable
No Yes
24 39

\$Osteotomy\$'3'\$proportion
variable

No Yes 0.3809524 0.6190476

\$Osteotomy\$'4'
\$Osteotomy\$'4'\$table
variable
No Yes
42 24

\$Osteotomy\$'4'\$proportion
variable

No Yes 0.6363636 0.3636364

\$Osteotomy\$'5'
\$Osteotomy\$'5'\$table

variable No Yes 28 10

\$Osteotomy\$'5'\$proportion
variable

No Yes 0.7368421 0.2631579

\$'3CO'
\$'3CO'\$A11
\$'3CO'\$A11\$table
variable
No Yes
318 54

\$'3CO'\$All\$proportion
variable

No Yes 0.8548387 0.1451613

\$'3CO'\$'1'
\$'3CO'\$'1'\$table
variable
No Yes
49 17

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

0.7424242 0.2575758

\$'3CO'\$'2'
\$'3CO'\$'2'\$table
variable
No Yes
125 14

\$'3CO'\$'2'\$proportion
variable
 No Yes

0.8992806 0.1007194

\$'3CO'\$'3'
\$'3CO'\$'3'\$table
variable
No Yes
45 18

```
$'3CO'$'3'$proportion
variable
              Yes
0.7142857 0.2857143
$'3CO'$'4'
$'3CO'$'4'$table
variable
No Yes
61 5
$'3CO'$'4'$proportion
variable
       No
                  Yes
0.92424242 0.07575758
$'3CO'$'5'
$'3CO'$'5'$table
variable
No
38
$'3CO'$'5'$proportion
variable
No
```

Reinterventions

group reigs patients total

```
1:
    1 48
              22
     2
         76
                41 139
2:
               29 63
3:
     3 71
4:
     4
       16
               10
                     66
5:
     5
         3
                3
                     38
6: all 214
               105 372
  p_val_all_1 p_val_all_2 p_val_all_3 p_val_all_4 p_val_all_5 p_val_1_2
1: 0.4867 0.8627 0.0073 0.0382 0.0118 0.6933
  p_val_1_3 p_val_1_4 p_val_1_5 p_val_2_3 p_val_2_4 p_val_2_5 p_val_3_4
                  0.0072 0.0333 0.0407 0.0118 3e-04
1: 0.1955 0.0255
  p_val_3_5 p_val_4_5
1: 2e-04 0.4415
```

Impacts

```
3: Major Complication
                                                              24
                                                                                43
                             251
                                           113
                                                  59
                                                                    94
                                                  71
                                                                   102
4: Minor Complication
                             271
                                           175
                                                              43
                                                                                63
   3_num 3_patients 4_num 4_patients 5_num 5_patients all 1
                                                                   2 3 4 5
                   1
                         0
                                     0
                                           0
                                                       0 372 66 139 63 66 38
1:
                   0
                         2
                                     2
                                            2
2:
       0
                                                       1 372 66 139 63 66 38
3:
      77
                  31
                        18
                                    12
                                            3
                                                       3 372 66 139 63 66 38
                  41
                        25
                                    18
                                          10
                                                      10 372 66 139 63 66 38
   p_val_all_1 p_val_all_2 p_val_all_3 p_val_all_4 p_val_all_5 p_val_1_2
1:
        1.0000
                     1.0000
                                  0.6719
                                               1.0000
                                                            1.0000
                                                                          NaN
                     1.0000
2:
        0.7500
                                  0.7745
                                               0.6354
                                                            1.0000
                                                                       0.8268
3:
        0.4106
                     0.9887
                                  0.0052
                                               0.0610
                                                            0.0061
                                                                       0.5387
        0.0099
                     0.8049
                                  0.0120
                                               0.0044
                                                            0.0229
                                                                       0.0123
4:
   p_val_1_3 p_val_1_4 p_val_1_5 p_val_2_3 p_val_2_4 p_val_2_5 p_val_3_4
      0.9814
                                      0.6839
                                                                       0.9814
1:
                    NaN
                               {\tt NaN}
                                                    \mathtt{NaN}
                                                               \mathtt{NaN}
2:
         NaN
                 0.4761
                            0.7788
                                      0.8494
                                                 0.8186
                                                            1.0000
                                                                       0.4967
3:
      0.1949
                 0.0316
                           0.0031
                                      0.0193
                                                 0.0789
                                                            0.0078
                                                                       0.0004
4:
      1.0000
                 0.0000
                           0.0003
                                      0.0143
                                                 0.0205
                                                            0.0544
                                                                       0.0000
   p_val_3_5 p_val_4_5
1:
      1.0000
                    NaN
      0.7974
                 1.0000
2:
3:
      0.0001
                 0.2509
4:
      0.0004
                 1.0000
```

Categories

Category of the complication all_num all_patients 1_num 1_patients										
1:				lications	_	1		1	_ 0	0
2:			74		65	21	19			
3:		Infecti	ous comp	lications		36		30	4	4
4:		Mechani	cal comp	lications	:	224		135	46	30
5:		Ot	her comp	lications		124		80	37	20
6:				Pain		19		18	4	4
7:	Peripheral	neurolo	gic comp	lications		51		43	18	15
	2_num 2_pa	tients 3	3_num 3_p	atients 4	_num -	4_pa	tients	5_{num}	5_pati	ents all 1
1:	1	1	0	0	0		0	0		0 372 66
2:	23	19	17	14	10		10	3		3 372 66
3:	13	11	13	10	5		4	1		1 372 66
4:	84	49	76	41	12		9	6		6 372 66
5:	46	27	22	18	15		11	4		4 372 66
6:	11	10	2	2	1		1	1		1 372 66
7:	20	16	11	10	2		2	0		0 372 66
	2 3 4	5 p_val	_all_1 p	_val_all_:	2 p_v	al_a	11_3 p_	_val_al	L1_4 p_	val_all_5
1:	139 63 66	38	1.0000	1.000	0	1.	0000	1.0	0000	1.0000
2:	139 63 66	38	0.0475	0.369	0	0.	4669	0.7	7763	0.1994
3:	139 63 66	38	0.7557	1.000	0	0.	0805	0.7	7557	0.3764
4:	139 63 66	38	0.2012	0.909	2	0.	0000	0.0	0005	0.0185
5:	139 63 66	38	0.1585	0.694	8	0.	2808	0.4	1664	0.1657
6:	139 63 66	38	0.9100	0.410	6	0.	7964	0.3	3715	0.8326
7:	139 63 66	38	0.0232	1.000	0	0.	4474	0.0)597	0.0527
	p_val_1_2	p_val_1_	.3 p_val_	1_4 p_val	_1_5 j	p_va	1_2_3 r	_val_2	2_4 p_v	al_2_5
1:	1.0000	Na	ıN	NaN	NaN	1	.0000	1.00	000	1.0000
2:	0.0159	0.514	1 0.0	926 0.	0236	0	.1875	0.94	141	0.4973
3:	0.8501	0.131	.6 1.0	000 0.	7557	0	.1420	0.85	501	0.4332

4:	0.2117	0.0391	0.0001	0.0044	0.0001	0.0023	0.0358
5:	0.1203	0.9821	0.1005	0.0391	0.2059	0.7776	0.2992
6:	0.9965	0.7190	0.3618	0.7557	0.4247	0.1757	0.5136
7:	0.0593	0.4462	0.0018	0.0039	0.5281	0.0818	0.0610
	p_val_3_4	p_val_3_5	p_val_4_5				
1:	NaN	NaN	NaN				
2:	0.4207	0.1119	0.4415				
3:	0.1316	0.0819	0.7557				
4:	0.0000	0.0000	0.9911				
5:	0.1591	0.0602	0.5697				
6:	0.9675	1.0000	1.0000				
7:	0.0273	0.0249	0.7322				