Descriptive Stats

```
xls_path <- '../../data/ESSG extraction June 2022_1st report 5Y - ONLY DPS.xlsx'
```

Filters

```
discarded_patients <- readLines('five_years/discarded_patients')

clinical_data %<>%
  .[, followup_2y :=
      !is.na(`2 YEAR VISIT - Date of visit`) |
      !is.na(`3 YEAR VISIT - Date of visit`)] %>%
  .[, followup_5y :=
      !is.na(`5 YEAR VISIT - Date of visit`) |
      !is.na(`6 YEAR VISIT - Date of visit`)]

# clinical_data %<>%
#   .[Site != 'ANK Op'] %>%
#   .[`Vital status` == 'Alive'] %>%
#   .[!(`Code of the patient` %in% discarded_patients)] %>%
#   .[`st1. Date of Stage` %>% as.Date() < as.Date('2015-3-15')]

total <- clinical_data[, `Code of the patient` %>% uniqueN]
patients_2y <- clinical_data[followup_2y==TRUE, `Code of the patient` %>% uniqueN]
patients_5y <- clinical_data[followup_5y==TRUE, `Code of the patient` %>% uniqueN]
```

- Number of Patients: 575
- Number of patients with visit in 2 years: 434
- Number of patients with visit in 5 years: 224

```
clinical_data %<>%
  .[followup_2y==TRUE] %>%
  .[`st1. Date of Stage` %>% as.Date() < as.Date('2016-6-1')]
```

Total Patients for the analysis: 260

Demographics

```
Age
[1] "mean"
[1] 56.01154
[1] "sd"
[1] 18.35146
```

```
Gender
[1] "table"
variable
Female   Male
   204     56
[1] "proportion"
variable
    Female       Male
0.7846154 0.2153846


Prior Spine Surgery
[1] "table"
variable
 No Yes
169  91
[1] "proportion"
variable
  No  Yes
0.65 0.35


Height (cm)_First Visit
[1] "mean"
[1] 162.8301
[1] "sd"
[1] 9.095643


Weight (kgs)_First Visit
[1] "mean"
[1] 66.53462
[1] "sd"
[1] 12.69948


BMI_First Visit
[1] "mean"
[1] 25.09981
[1] "sd"
[1] 4.563928


ASA classification
[1] "table"
variable
  1   2   3   4
 59 142  59   0
[1] "proportion"
variable
        1         2         3         4
0.2269231 0.5461538 0.2269231 0.0000000
```

```
Tobacco use_First Visit
[1] "table"
variable
        Current User: 1 pack per day          Current User: 2 packs per day
                                  16                                      1
Current User: 3 packs or more per day  Current User: Less than 1pk per day
                                   3                                     40
               Ex-User: 0-6 months               Ex-User: 1 year or greater
                                   5                                      2
           Ex-User: 2 yrs or greater                  Ex-User: 6-12 months
                                  28                                      2
                             Non-User
                                 163
[1] "proportion"
variable
        Current User: 1 pack per day          Current User: 2 packs per day
                         0.061538462                            0.003846154
Current User: 3 packs or more per day  Current User: Less than 1pk per day
                         0.011538462                            0.153846154
               Ex-User: 0-6 months               Ex-User: 1 year or greater
                         0.019230769                            0.007692308
           Ex-User: 2 yrs or greater                  Ex-User: 6-12 months
                         0.107692308                            0.007692308
                             Non-User
                         0.626923077


ESSG Diagnosis
[1] "table"
variable
                  Congenital                       Degenerative
                           7                                114
                 Failed-back                         Idiopathic
                          18                                 95
               Neuromuscular  Other: radiotherapy induced
                           5                                  1
              Post-traumatic                        Scheuermann
                           7                                  9
                   Syndromic
                           4
[1] "proportion"
variable
                  Congenital                       Degenerative
                 0.026923077                        0.438461538
                 Failed-back                         Idiopathic
                 0.069230769                        0.365384615
               Neuromuscular  Other: radiotherapy induced
                 0.019230769                        0.003846154
              Post-traumatic                        Scheuermann
                 0.026923077                        0.034615385
                   Syndromic
                 0.015384615
```

```
Surgical Approach
[1] "table"
variable
Anterior-Posterior            Posterior Posterior-Anterior
             5                    250                  5
[1] "proportion"
variable
Anterior-Posterior            Posterior Posterior-Anterior
      0.01923077           0.96153846         0.01923077
```

Radiology

```
Static Major curve Cobb angle
[1] "mean"
[1] 42.39179
[1] "sd"
[1] 20.56321
```

```
6W. Static Major curve Cobb angle
[1] "mean"
[1] 22.12236
[1] "sd"
[1] 14.49691
```

```
2Y. Static Major curve Cobb angle
[1] "mean"
[1] 23.92011
[1] "sd"
[1] 17.18999
```

```
5Y. Static Major curve Cobb angle
[1] "mean"
[1] 22.61644
[1] "sd"
[1] 17.98226
```

```
Static Major curve Cobb angle tests
preop vs 6w p-value
1.775593e-30
6w vs 2y p-value
0.2604328
```

```
6w vs 5y p-value
0.8171321
2y vs 5y p-value
0.5676023
```

```
Coronal Balance (C7PL to CSVL)
```

```
[1] "mean"
[1] 22.33362
[1] "sd"
[1] 20.32074



6W. Coronal Balance (C7PL to CSVL)
[1] "mean"
[1] 21.00852
[1] "sd"
[1] 17.20664



2Y. Coronal Balance (C7PL to CSVL)
[1] "mean"
[1] 18.85208
[1] "sd"
[1] 15.48205



5Y. Coronal Balance (C7PL to CSVL)
[1] "mean"
[1] 19.59847
[1] "sd"
[1] 16.26871



Coronal Balance (C7PL to CSVL) tests
preop vs 6w p-value
0.4654842
6w vs 2y p-value
0.2059004

6w vs 5y p-value
0.5129082
2y vs 5y p-value
0.7253921

Sagittal Balance
[1] "mean"
[1] 49.05664
[1] "sd"
[1] 61.89167



6W. Sagittal Balance
[1] "mean"
[1] 25.85922
[1] "sd"
[1] 41.20393



2Y. Sagittal Balance
[1] "mean"
```

```
[1] 31.81892
[1] "sd"
[1] 48.21584


5Y. Sagittal Balance
[1] "mean"
[1] 34.69048
[1] "sd"
[1] 47.65116


Sagittal Balance tests
preop vs 6w p-value
2.510545e-06
6w vs 2y p-value
0.199871

6w vs 5y p-value
0.1397754
2y vs 5y p-value
0.6513763

Sagittal T2-T5
[1] "mean"
[1] 12.73878
[1] "sd"
[1] 10.34602


6W. Sagittal T2-T5
[1] "mean"
[1] 14.31248
[1] "sd"
[1] 9.250246


2Y. Sagittal T2-T5
[1] "mean"
[1] 14.7418
[1] "sd"
[1] 10.1651


5Y. Sagittal T2-T5
[1] "mean"
[1] 15.02824
[1] "sd"
[1] 11.25594


Sagittal T2-T5 tests
preop vs 6w p-value
0.08313513
```

```
6w vs 2y p-value
0.6622497

6w vs 5y p-value
0.6035325
2y vs 5y p-value
0.8419077

Sagittal T5-T12
[1] "mean"
[1] 32.96492
[1] "sd"
[1] 18.1127


6W. Sagittal T5-T12
[1] "mean"
[1] 35.69605
[1] "sd"
[1] 13.91589


2Y. Sagittal T5-T12
[1] "mean"
[1] 38.54772
[1] "sd"
[1] 17.48335


5Y. Sagittal T5-T12
[1] "mean"
[1] 42.16682
[1] "sd"
[1] 16.39336


Sagittal T5-T12 tests
preop vs 6w p-value
0.06511992
6w vs 2y p-value
0.07568404

6w vs 5y p-value
0.001657973
2y vs 5y p-value
0.1011708

Sagittal T2-T12
[1] "mean"
[1] 40.48218
[1] "sd"
[1] 18.77018
```

6W. Sagittal T2-T12
[1] "mean"
[1] 45.33738
[1] "sd"
[1] 14.807

2Y. Sagittal T2-T12
[1] "mean"
[1] 48.005
[1] "sd"
[1] 15.9886

5Y. Sagittal T2-T12
[1] "mean"
[1] 51.35529
[1] "sd"
[1] 16.49139

Sagittal T2-T12 tests
preop vs 6w p-value
0.001814424
6w vs 2y p-value
0.08680246

6w vs 5y p-value
0.003979729
2y vs 5y p-value
0.1198131

Lordosis (top of L1-S1)
[1] "mean"
[1] -43.91152
[1] "sd"
[1] 20.46163

6W. Lordosis (top of L1-S1)
[1] "mean"
[1] -51.20455
[1] "sd"
[1] 15.15762

2Y. Lordosis (top of L1-S1)
[1] "mean"
[1] -51.05429
[1] "sd"
[1] 16.55966

5Y. Lordosis (top of L1-S1)

```
[1] "mean"
[1] -52.3891
[1] "sd"
[1] 15.73434


Lordosis (top of L1-S1) tests
preop vs 6w p-value
6.875235e-06
6w vs 2y p-value
0.9215772

6w vs 5y p-value
0.5402094
2y vs 5y p-value
0.5140072

Pelvic Incidence
[1] "mean"
[1] 55.6207
[1] "sd"
[1] 13.62823


6W. Pelvic Incidence
[1] "mean"
[1] 54.99855
[1] "sd"
[1] 13.07877


2Y. Pelvic Incidence
[1] "mean"
[1] 54.91515
[1] "sd"
[1] 14.1555


5Y. Pelvic Incidence
[1] "mean"
[1] 55.82067
[1] "sd"
[1] 12.55407


Pelvic Incidence tests
preop vs 6w p-value
0.603049
6w vs 2y p-value
0.9496152

6w vs 5y p-value
0.602177
2y vs 5y p-value
```

0.5892807

Pelvic Tilt
[1] "mean"
[1] 22.75004
[1] "sd"
[1] 10.30519

6W. Pelvic Tilt
[1] "mean"
[1] 19.34814
[1] "sd"
[1] 9.409235

2Y. Pelvic Tilt
[1] "mean"
[1] 20.53083
[1] "sd"
[1] 9.429965

5Y. Pelvic Tilt
[1] "mean"
[1] 22.54236
[1] "sd"
[1] 9.603285

Pelvic Tilt tests
preop vs 6w p-value
0.0001424316
6w vs 2y p-value
0.1940398

6w vs 5y p-value
0.00776175
2y vs 5y p-value
0.1020266

Sacral Slope
[1] "mean"
[1] 33.33685
[1] "sd"
[1] 10.83705

6W. Sacral Slope
[1] "mean"
[1] 35.51189
[1] "sd"
[1] 10.26095

```
2Y. Sacral Slope
[1] "mean"
[1] 34.46995
[1] "sd"
[1] 11.74755


5Y. Sacral Slope
[1] "mean"
[1] 33.27876
[1] "sd"
[1] 10.51547


Sacral Slope tests
preop vs 6w p-value
0.02156465
6w vs 2y p-value
0.3307225

6w vs 5y p-value
0.08652345
2y vs 5y p-value
0.3951805

RLL
[1] "mean"
[1] -19.59184
[1] "sd"
[1] 19.7676


6W. RLL
[1] "mean"
[1] -11.87792
[1] "sd"
[1] 13.80319


2Y. RLL
[1] "mean"
[1] -11.92485
[1] "sd"
[1] 14.83654


5Y. RLL
[1] "mean"
[1] -11.21989
[1] "sd"
[1] 13.79993
```

```
RLL tests
preop vs 6w p-value
6.165043e-07
6w vs 2y p-value
0.9730591

6w vs 5y p-value
0.7013579
2y vs 5y p-value
0.697301

Global Tilt
[1] "mean"
[1] 27.58839
[1] "sd"
[1] 16.5439


6W. Global Tilt
[1] "mean"
[1] 21.00552
[1] "sd"
[1] 12.02162


2Y. Global Tilt
[1] "mean"
[1] 23.11808
[1] "sd"
[1] 13.31595


5Y. Global Tilt
[1] "mean"
[1] 25.35551
[1] "sd"
[1] 14.14173


Global Tilt tests
preop vs 6w p-value
1.144002e-06
6w vs 2y p-value
0.1043622

6w vs 5y p-value
0.01208549
2y vs 5y p-value
0.2162239

T1 Sagittal Tilt
[1] "mean"
[1] -1.332452
[1] "sd"
```

```
[1] 6.048663


6W. T1 Sagittal Tilt
[1] "mean"
[1] -3.024548
[1] "sd"
[1] 4.095851


2Y. T1 Sagittal Tilt
[1] "mean"
[1] -2.884757
[1] "sd"
[1] 4.619021


5Y. T1 Sagittal Tilt
[1] "mean"
[1] -2.864197
[1] "sd"
[1] 4.360016


T1 Sagittal Tilt tests
preop vs 6w p-value
0.0005670073
6w vs 2y p-value
0.7584285

6w vs 5y p-value
0.7685204
2y vs 5y p-value
0.9718129

Thoracolumbar L2-T10
[1] "mean"
[1] 9.153439
[1] "sd"
[1] 20.61571


6W. Thoracolumbar L2-T10
[1] "mean"
[1] 5.079585
[1] "sd"
[1] 11.01987


2Y. Thoracolumbar L2-T10
[1] "mean"
[1] 8.233279
[1] "sd"
[1] 12.98529
```

```
5Y. Thoracolumbar L2-T10
[1] "mean"
[1] 8.358837
[1] "sd"
[1] 13.76406


Thoracolumbar L2-T10 tests
preop vs 6w p-value
0.006769617
6w vs 2y p-value
0.009948346

6w vs 5y p-value
0.05061382
2y vs 5y p-value
0.9434601

RSA
[1] "mean"
[1] 15.84237
[1] "sd"
[1] 14.19187


6W. RSA
[1] "mean"
[1] 9.470991
[1] "sd"
[1] 9.727611


2Y. RSA
[1] "mean"
[1] 11.58124
[1] "sd"
[1] 11.70767


5Y. RSA
[1] "mean"
[1] 13.56146
[1] "sd"
[1] 12.26083


RSA tests
preop vs 6w p-value
2.362201e-08
6w vs 2y p-value
0.05697593
```

```
6w vs 5y p-value
0.005864927
2y vs 5y p-value
0.2088101


RPV
[1] "mean"
[1] -8.551211
[1] "sd"
[1] 8.454638



6W. RPV
[1] "mean"
[1] -5.947521
[1] "sd"
[1] 7.411339



2Y. RPV
[1] "mean"
[1] -6.930258
[1] "sd"
[1] 7.892888



5Y. RPV
[1] "mean"
[1] -8.655618
[1] "sd"
[1] 7.850771



RPV tests
preop vs 6w p-value
0.0002798806
6w vs 2y p-value
0.1851237

6w vs 5y p-value
0.005388476
2y vs 5y p-value
0.0883872
```

Quality of Life

```
ODI - Score (%)_First Visit
[1] "mean"
[1] 40.46341
[1] "sd"
[1] 19.57082
```

```
6M. ODI - Score (%)
[1] "mean"
[1] 30.025
[1] "sd"
[1] 17.82573


2Y. ODI - Score (%)
[1] "mean"
[1] 29.39024
[1] "sd"
[1] 21.06477


5Y. ODI - Score (%)
[1] "mean"
[1] 28.55056
[1] "sd"
[1] 20.51567


ODI - Score (%)_First Visit tests
preop vs 6m p-value
1.630238e-09
6m vs 2y p-value
0.7198185

6m vs 5y p-value
0.4431764
2y vs 5y p-value
0.6810972

SRS22 - Function / Activity_First Visit
[1] "mean"
[1] 2.989073
[1] "sd"
[1] 0.8069337


6M. SRS22 - Function / Activity
[1] "mean"
[1] 3.178347
[1] "sd"
[1] 0.7885638


2Y. SRS22 - Function / Activity
[1] "mean"
[1] 3.396382
[1] "sd"
[1] 0.9253881


5Y. SRS22 - Function / Activity
```

```
[1] "mean"
[1] 3.457303
[1] "sd"
[1] 0.8734091


SRS22 - Function / Activity_First Visit tests
preop vs 6m p-value
0.008910995
6m vs 2y p-value
0.005269181

6m vs 5y p-value
0.0008358806
2y vs 5y p-value
0.4898006

SRS22 - Pain_First Visit
[1] "mean"
[1] 2.500484
[1] "sd"
[1] 0.9443429


6M. SRS22 - Pain
[1] "mean"
[1] 3.351446
[1] "sd"
[1] 0.9539992


2Y. SRS22 - Pain
[1] "mean"
[1] 3.410976
[1] "sd"
[1] 1.095548


5Y. SRS22 - Pain
[1] "mean"
[1] 3.352528
[1] "sd"
[1] 1.118858


SRS22 - Pain_First Visit tests
preop vs 6m p-value
2.965615e-21
6m vs 2y p-value
0.5221915

6m vs 5y p-value
0.991698
2y vs 5y p-value
```

0.5926048

SRS22 - Self image / Appearance_First Visit
[1] "mean"
[1] 2.411008
[1] "sd"
[1] 0.7305919

6M. SRS22 - Self image / Appearance
[1] "mean"
[1] 3.436322
[1] "sd"
[1] 0.8471922

2Y. SRS22 - Self image / Appearance
[1] "mean"
[1] 3.343496
[1] "sd"
[1] 0.9283068

5Y. SRS22 - Self image / Appearance
[1] "mean"
[1] 3.315449
[1] "sd"
[1] 0.9462833

SRS22 - Self image / Appearance_First Visit tests
preop vs 6m p-value
5.832012e-39
6m vs 2y p-value
0.249016

6m vs 5y p-value
0.1773296
2y vs 5y p-value
0.7615956

SRS22 - Mental health_First Visit
[1] "mean"
[1] 3.145081
[1] "sd"
[1] 0.8475528

6M. SRS22 - Mental health
[1] "mean"
[1] 3.500868
[1] "sd"
[1] 0.8786191

```
2Y. SRS22 - Mental health
[1] "mean"
[1] 3.497764
[1] "sd"
[1] 1.004167


5Y. SRS22 - Mental health
[1] "mean"
[1] 3.460955
[1] "sd"
[1] 0.9133694


SRS22 - Mental health_First Visit tests
preop vs 6m p-value
6.469058e-06
6m vs 2y p-value
0.9710171

6m vs 5y p-value
0.6531764
2y vs 5y p-value
0.6947462

SRS22 - SRS Subtotal score_First Visit
[1] "mean"
[1] 2.766613
[1] "sd"
[1] 0.6706537


6M. SRS22 - SRS Subtotal score
[1] "mean"
[1] 3.368264
[1] "sd"
[1] 0.7197875


2Y. SRS22 - SRS Subtotal score
[1] "mean"
[1] 3.411504
[1] "sd"
[1] 0.8714823


5Y. SRS22 - SRS Subtotal score
[1] "mean"
[1] 3.37838
[1] "sd"
[1] 0.8831456
```

SRS22 - SRS Subtotal score_First Visit tests
preop vs 6m p-value
5.621727e-20
6m vs 2y p-value
0.550123

6m vs 5y p-value
0.900215
2y vs 5y p-value
0.7012621

SRS22 - Satisfaction with management_First Visit
[1] "mean"
[1] 3.161585
[1] "sd"
[1] 1.078137

6M. SRS22 - Satisfaction with management
[1] "mean"
[1] 4.225738
[1] "sd"
[1] 0.8905649

2Y. SRS22 - Satisfaction with management
[1] "mean"
[1] 4.07438
[1] "sd"
[1] 1.053863

5Y. SRS22 - Satisfaction with management
[1] "mean"
[1] 3.946328
[1] "sd"
[1] 1.038301

SRS22 - Satisfaction with management_First Visit tests
preop vs 6m p-value
5.941749e-22
6m vs 2y p-value
0.08997252

6m vs 5y p-value
0.004275074
2y vs 5y p-value
0.2160757

SF36 - PCS_First Visit
[1] "mean"
[1] 34.96494
[1] "sd"

```
[1] 9.329975


6M. SF36 - PCS
[1] "mean"
[1] 39.63639
[1] "sd"
[1] 9.127802


2Y. SF36 - PCS
[1] "mean"
[1] 41.34494
[1] "sd"
[1] 10.37093


5Y. SF36 - PCS
[1] "mean"
[1] 41.09875
[1] "sd"
[1] 11.2221


SF36 - PCS_First Visit tests
preop vs 6m p-value
3.772353e-08
6m vs 2y p-value
0.05463369

6m vs 5y p-value
0.1566918
2y vs 5y p-value
0.8190451

SF36 - MCS_First Visit
[1] "mean"
[1] 43.60664
[1] "sd"
[1] 12.08924


6M. SF36 - MCS
[1] "mean"
[1] 47.42515
[1] "sd"
[1] 12.48295


2Y. SF36 - MCS
[1] "mean"
[1] 47.17889
[1] "sd"
[1] 12.97837
```

```
5Y. SF36 - MCS
[1] "mean"
[1] 47.18932
[1] "sd"
[1] 11.31031


SF36 - MCS_First Visit tests
preop vs 6m p-value
0.000651602
6m vs 2y p-value
0.831431

6m vs 5y p-value
0.8403882
2y vs 5y p-value
0.9930002
```

Surgery

```
Total Operative Blood Loss st1+st2+st3
[1] "mean"
[1] 1528.104
[1] "sd"
[1] 1267.89


Total surgical time
[1] "mean"
[1] 340.7375
[1] "sd"
[1] 159.4847


Number of Posterior Instrumented Levels
[1] "mean"
[1] 8.334615
[1] "sd"
[1] 3.787751


Pelvic fixation
[1] "table"
variable
 No Yes
154 106
[1] "proportion"
variable
        No       Yes
0.5923077 0.4076923
```

```
Surgical Approach
[1] "table"
variable
Anterior-Posterior              Posterior Posterior-Anterior
               5                    250                   5
[1] "proportion"
variable
Anterior-Posterior              Posterior Posterior-Anterior
       0.01923077              0.96153846          0.01923077


Number of Interbody Fusions
[1] "mean"
[1] 1.084615
[1] "sd"
[1] 1.312457


Decompression
[1] "table"
variable
 No Yes
173  87
[1] "proportion"
variable
        No        Yes
0.6653846 0.3346154


Interbody Fusion
[1] "table"
variable
 No Yes
121 139
[1] "proportion"
variable
        No        Yes
0.4653846 0.5346154


Osteotomy
[1] "table"
variable
 No Yes
121 139
[1] "proportion"
variable
        No        Yes
0.4653846 0.5346154


3CO
[1] "table"
```

```
variable
FALSE  TRUE
  219    41
[1] "proportion"
variable
    FALSE      TRUE
0.8423077 0.1576923


uiv_t10_12_l1
[1] "table"
variable
 No Yes
233  27
[1] "proportion"
variable
       No       Yes
0.8961538 0.1038462
```