

Descriptive Stats

Filters

```
discarded_patients <- readLines('code/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 1' %>% 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 with 'st1. Date of Stage 1' < '2015-3-15': 361
- Number of patients with visit in 2 years: 316
- Number of patients with visit in 5 years: 258

Demographics

Age

```
[1] "mean"
[1] 52.09972
[1] "sd"
[1] 19.17785
```

Gender

```
[1] "table"
variable
Female  Male
   281    80
[1] "proportion"
variable
  Female    Male
```

0.7783934 0.2216066

Prior Spine Surgery

[1] "table"

variable

No Yes

241 120

[1] "proportion"

variable

No Yes

0.66759 0.33241

Height (cm)_First Visit

[1] "mean"

[1] 163

[1] "sd"

[1] 9.408998

Weight (kgs)_First Visit

[1] "mean"

[1] 65.51806

[1] "sd"

[1] 12.65887

BMI_First Visit

[1] "mean"

[1] 24.69531

[1] "sd"

[1] 4.575644

ASA classification

[1] "table"

variable

1 2 3 4

119 190 52 0

[1] "proportion"

variable

1 2 3 4

0.3296399 0.5263158 0.1440443 0.0000000

Tobacco use_First Visit

[1] "table"

variable

Current User: 1 pack per day	Current User: 2 packs per day
21	2
Current User: 3 packs or more per day	Current User: Less than 1pk per day
2	52
Ex-User: 0-6 months	Ex-User: 1 year or greater

	11		3
Ex-User: 2 yrs or greater		Ex-User: 6-12 months	
48		4	
Non-User			
218			

[1] "proportion"

variable

Current User: 1 pack per day	Current User: 2 packs per day
0.058171745	0.005540166
Current User: 3 packs or more per day	Current User: Less than 1pk per day
0.005540166	0.144044321
Ex-User: 0-6 months	Ex-User: 1 year or greater
0.030470914	0.008310249
Ex-User: 2 yrs or greater	Ex-User: 6-12 months
0.132963989	0.011080332
Non-User	
0.603878116	

ESSG Diagnosis

[1] "table"

variable

Congenital	Degenerative
10	126
Failed-back	Idiopathic
19	164
Neuromuscular	Other: Ankylosing Spondylitis
5	1
Other: hyperkyphosis	Other: radiotherapy induced
1	1
Other: Spondylolisthesis	Post-traumatic
2	15
Scheuermann	Syndromic
13	4

[1] "proportion"

variable

Congenital	Degenerative
0.027700831	0.349030471
Failed-back	Idiopathic
0.052631579	0.454293629
Neuromuscular	Other: Ankylosing Spondylitis
0.013850416	0.002770083
Other: hyperkyphosis	Other: radiotherapy induced
0.002770083	0.002770083
Other: Spondylolisthesis	Post-traumatic
0.005540166	0.041551247
Scheuermann	Syndromic
0.036011080	0.011080332

Radiology

Major curve Cobb angle

[1] "mean"

```
[1] 40.53608
[1] "sd"
[1] 23.10832
```

6W. Major curve Cobb angle

```
[1] "mean"
[1] 22.95982
[1] "sd"
[1] 16.70623
```

2Y. Major curve Cobb angle

```
[1] "mean"
[1] 24.03862
[1] "sd"
[1] 17.78801
```

5Y. Major curve Cobb angle

```
[1] "mean"
[1] 30.98226
[1] "sd"
[1] 23.36879
```

Major curve Cobb angle tests

6w vs 2y p-value

0.4543923

2y vs 5y p-value

0.002685573

Coronal Balance (C7PL to CSVL)

```
[1] "mean"
[1] 22.46559
[1] "sd"
[1] 19.84168
```

6W. Coronal Balance (C7PL to CSVL)

```
[1] "mean"
[1] 19.66293
[1] "sd"
[1] 14.52478
```

2Y. Coronal Balance (C7PL to CSVL)

```
[1] "mean"
[1] 18.58303
[1] "sd"
[1] 15.91054
```

5Y. Coronal Balance (C7PL to CSVL)

```
[1] "mean"
[1] 20.09606
[1] "sd"
[1] 17.06808
```

Coronal Balance (C7PL to CSVL) tests

```
6w vs 2y p-value
0.4211987
2y vs 5y p-value
0.4048818
```

Sagittal Balance

```
[1] "mean"
[1] 40.61309
[1] "sd"
[1] 64.4741
```

6W. Sagittal Balance

```
[1] "mean"
[1] 20.93108
[1] "sd"
[1] 39.11721
```

2Y. Sagittal Balance

```
[1] "mean"
[1] 22.98173
[1] "sd"
[1] 49.28467
```

5Y. Sagittal Balance

```
[1] "mean"
[1] 34.85729
[1] "sd"
[1] 53.08699
```

Sagittal Balance tests

```
6w vs 2y p-value
0.6015557
2y vs 5y p-value
0.03513665
```

Sagittal T2-T5

```
[1] "mean"
[1] 11.28301
[1] "sd"
[1] 9.637697
```

6W. Sagittal T2-T5

```
[1] "mean"
[1] 13.91395
[1] "sd"
[1] 8.480163
```

```
2Y. Sagittal T2-T5
[1] "mean"
[1] 14.11831
[1] "sd"
[1] 10.07743
```

```
5Y. Sagittal T2-T5
[1] "mean"
[1] 16.36955
[1] "sd"
[1] 12.00112
```

```
Sagittal T2-T5 tests
6w vs 2y p-value
0.801261
2y vs 5y p-value
0.06663876
```

```
Sagittal T5-T12
[1] "mean"
[1] 32.89615
[1] "sd"
[1] 18.99811
```

```
6W. Sagittal T5-T12
[1] "mean"
[1] 33.51235
[1] "sd"
[1] 13.8616
```

```
2Y. Sagittal T5-T12
[1] "mean"
[1] 35.51926
[1] "sd"
[1] 14.33197
```

```
5Y. Sagittal T5-T12
[1] "mean"
[1] 40.92812
[1] "sd"
[1] 17.19402
```

Sagittal T5-T12 tests

6w vs 2y p-value

0.09821688

2y vs 5y p-value

0.002247366

Sagittal T2-T12

[1] "mean"

[1] 39.8792

[1] "sd"

[1] 19.90546

6W. Sagittal T2-T12

[1] "mean"

[1] 43.37831

[1] "sd"

[1] 15.18378

2Y. Sagittal T2-T12

[1] "mean"

[1] 45.38016

[1] "sd"

[1] 15.19754

5Y. Sagittal T2-T12

[1] "mean"

[1] 50.51321

[1] "sd"

[1] 17.61742

Sagittal T2-T12 tests

6w vs 2y p-value

0.1233279

2y vs 5y p-value

0.004774501

Lordosis (top of L1-S1)

[1] "mean"

[1] -44.16162

[1] "sd"

[1] 20.53399

6W. Lordosis (top of L1-S1)

[1] "mean"

[1] -51.35583

[1] "sd"

[1] 14.4797

2Y. Lordosis (top of L1-S1)
[1] "mean"
[1] -51.65055
[1] "sd"
[1] 15.4192

5Y. Lordosis (top of L1-S1)
[1] "mean"
[1] -50.77356
[1] "sd"
[1] 16.01391

Lordosis (top of L1-S1) tests
6w vs 2y p-value
0.8133398
2y vs 5y p-value
0.6027067

Pelvic Incidence
[1] "mean"
[1] 54.65401
[1] "sd"
[1] 13.45753

6W. Pelvic Incidence
[1] "mean"
[1] 54.32145
[1] "sd"
[1] 12.79005

2Y. Pelvic Incidence
[1] "mean"
[1] 54.0734
[1] "sd"
[1] 12.77767

5Y. Pelvic Incidence
[1] "mean"
[1] 55.14237
[1] "sd"
[1] 12.24271

Pelvic Incidence tests
6w vs 2y p-value
0.8163404
2y vs 5y p-value
0.4204681


```
Pelvic Tilt
[1] "mean"
[1] 22.20655
[1] "sd"
[1] 10.88024
```

```
6W. Pelvic Tilt
[1] "mean"
[1] 18.45239
[1] "sd"
[1] 9.638697
```

```
2Y. Pelvic Tilt
[1] "mean"
[1] 19.27337
[1] "sd"
[1] 9.651365
```

```
5Y. Pelvic Tilt
[1] "mean"
[1] 22.09474
[1] "sd"
[1] 10.5475
```

```
Pelvic Tilt tests
6w vs 2y p-value
0.3094253
2y vs 5y p-value
0.01037472
```

```
Sacral Slope
[1] "mean"
[1] 32.91949
[1] "sd"
[1] 11.57733
```

```
6W. Sacral Slope
[1] "mean"
[1] 35.84358
[1] "sd"
[1] 10.22362
```

```
2Y. Sacral Slope
[1] "mean"
[1] 34.89202
[1] "sd"
[1] 10.53763
```

5Y. Sacral Slope

```
[1] "mean"  
[1] 33.06252  
[1] "sd"  
[1] 10.21246
```

Sacral Slope tests

```
6w vs 2y p-value  
0.2735479  
2y vs 5y p-value  
0.09759013
```

LGap

```
[1] "mean"  
[1] 17.98827  
[1] "sd"  
[1] 20.04108
```

6W. LGap

```
[1] "mean"  
[1] 10.50145  
[1] "sd"  
[1] 12.83383
```

2Y. LGap

```
[1] "mean"  
[1] 10.26205  
[1] "sd"  
[1] 14.50628
```

5Y. LGap

```
[1] "mean"  
[1] 11.56332  
[1] "sd"  
[1] 14.61937
```

LGap tests

```
6w vs 2y p-value  
0.8357802  
2y vs 5y p-value  
0.4031171
```

Global Tilt

```
[1] "mean"  
[1] 26.61415  
[1] "sd"  
[1] 17.68587
```

6W. Global Tilt
[1] "mean"
[1] 19.03889
[1] "sd"
[1] 12.0929

2Y. Global Tilt
[1] "mean"
[1] 20.91765
[1] "sd"
[1] 14.17258

5Y. Global Tilt
[1] "mean"
[1] 25.1317
[1] "sd"
[1] 16.05818

Global Tilt tests
6w vs 2y p-value
0.1068843
2y vs 5y p-value
0.01192713

T1 Sagittal Tilt
[1] "mean"
[1] -1.846373
[1] "sd"
[1] 6.344334

6W. T1 Sagittal Tilt
[1] "mean"
[1] -3.322662
[1] "sd"
[1] 4.047339

2Y. T1 Sagittal Tilt
[1] "mean"
[1] -3.782595
[1] "sd"
[1] 4.360515

5Y. T1 Sagittal Tilt
[1] "mean"
[1] -3.098231
[1] "sd"
[1] 6.803217

T1 Sagittal Tilt tests
6w vs 2y p-value
0.2284261
2y vs 5y p-value
0.298499

Quality of Life

ODI - Score (%)_First Visit
[1] "mean"
[1] 38.42029
[1] "sd"
[1] 20.07675

2Y. ODI - Score (%)
[1] "mean"
[1] 27.1512
[1] "sd"
[1] 21.27678

5Y. ODI - Score (%)
[1] "mean"
[1] 28.85088
[1] "sd"
[1] 21.22576

SRS22 - Function / Activity_First Visit
[1] "mean"
[1] 3.042994
[1] "sd"
[1] 0.892536

2Y. SRS22 - Function / Activity
[1] "mean"
[1] 3.475876
[1] "sd"
[1] 0.9267519

5Y. SRS22 - Function / Activity
[1] "mean"
[1] 3.485152
[1] "sd"
[1] 0.9400809

SRS22 - Pain_First Visit

```
[1] "mean"
[1] 2.584157
[1] "sd"
[1] 0.9684254
```

2Y. SRS22 - Pain

```
[1] "mean"
[1] 3.492955
[1] "sd"
[1] 1.09944
```

5Y. SRS22 - Pain

```
[1] "mean"
[1] 3.348052
[1] "sd"
[1] 1.141779
```

SRS22 - Self image / Appearance_First Visit

```
[1] "mean"
[1] 2.395785
[1] "sd"
[1] 0.7377754
```

2Y. SRS22 - Self image / Appearance

```
[1] "mean"
[1] 3.432646
[1] "sd"
[1] 0.9237291
```

5Y. SRS22 - Self image / Appearance

```
[1] "mean"
[1] 3.359091
[1] "sd"
[1] 0.9340908
```

SRS22 - Mental health_First Visit

```
[1] "mean"
[1] 3.140494
[1] "sd"
[1] 0.8759232
```

2Y. SRS22 - Mental health

```
[1] "mean"
[1] 3.517354
[1] "sd"
[1] 0.9470824
```

5Y. SRS22 - Mental health

```
[1] "mean"  
[1] 3.540693  
[1] "sd"  
[1] 0.9086839
```

SRS22 - SRS Subtotal score_First Visit

```
[1] "mean"  
[1] 2.796395  
[1] "sd"  
[1] 0.70581
```

2Y. SRS22 - SRS Subtotal score

```
[1] "mean"  
[1] 3.479278  
[1] "sd"  
[1] 0.8481069
```

5Y. SRS22 - SRS Subtotal score

```
[1] "mean"  
[1] 3.419483  
[1] "sd"  
[1] 0.8906191
```

SF36 - PCS_First Visit

```
[1] "mean"  
[1] 36.28855  
[1] "sd"  
[1] 9.418194
```

2Y. SF36 - PCS

```
[1] "mean"  
[1] 42.16451  
[1] "sd"  
[1] 10.3725
```

5Y. SF36 - PCS

```
[1] "mean"  
[1] 41.60562  
[1] "sd"  
[1] 11.03811
```

SF36 - MCS_First Visit

```
[1] "mean"  
[1] 42.24171  
[1] "sd"
```

[1] 12.07466

2Y. SF36 - MCS

[1] "mean"

[1] 46.7894

[1] "sd"

[1] 12.26477

5Y. SF36 - MCS

[1] "mean"

[1] 47.3185

[1] "sd"

[1] 11.59004

Surgery

Total Operative Blood Loss st1+st2+st3

[1] "mean"

[1] 1530.722

[1] "sd"

[1] 1294.386

Total surgical time st1+st2+st3

[1] "mean"

[1] 302.415

[1] "sd"

[1] 158.9283

Number of Posterior Instrumented Levels

[1] "mean"

[1] 8.98892

[1] "sd"

[1] 4.52461

Pelvic Fixation

[1] "table"

variable

No Yes

230 131

[1] "proportion"

variable

No Yes

0.6371191 0.3628809

Surgical Approach

[1] "table"

variable

	Anterior	Anterior-Posterior
	1	2
	Posterior	Posterior-Anterior
	342	12
	Posterior-Posterior	Posterior-Posterior-Anterior
	3	1

[1] "proportion"

variable

	Anterior	Anterior-Posterior
	0.002770083	0.005540166
	Posterior	Posterior-Anterior
	0.947368421	0.033240997
	Posterior-Posterior	Posterior-Posterior-Anterior
	0.008310249	0.002770083

Number of Interbody Fusions

[1] "mean"

[1] 0.7285319

[1] "sd"

[1] 1.122245

Decompression

[1] "table"

variable

No	Yes
254	107

[1] "proportion"

variable

No	Yes
0.7036011	0.2963989

Interbody Fusion

[1] "table"

variable

No	Yes
220	141

[1] "proportion"

variable

No	Yes
0.6094183	0.3905817

Osteotomy

[1] "table"

variable

No	Yes
197	164

[1] "proportion"

variable

No	Yes
0.5457064	0.4542936


```
3C0
[1] "table"
variable
  No Yes
301 60
[1] "proportion"
variable
  No      Yes
0.833795 0.166205
```