

5y complications analysis

```
# xls_path <- '../..data/ESSG Extraction_DEC_OP_NON DePuy v7.xlsx'
xls_path <- '../..data/Dataset 4th report 5Y - ONLY DPS.xlsx'
```

Filters

We need those with and without 2 FU for the 'Do complications before 2y affect 2y followup?' analysis.

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

```
data_set %<>%
  .[, 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`)]
```

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

Total Patients for the analysis: 260

Stats

	complication_before_2y	has_followup_2y
1:	No	1
2:	Yes	1

	complication_before_2y	has_followup_5y
1:	No	0.746
2:	Yes	0.724

Major Complications Stats

- Total patients: 260
- Complications before 2 years: 222
- Patients with complications before 2 years: 87
- Proportion of patients with complications before 2 years: 0.3346154

- Complications between 2y and 5y: 69
- Patients with complications before 5 years: 36
- Proportion of patients with complications between 2y and 5y: 0.1384615
- p-value testing equality between proportions of complications: 2.4735504×10^{-7}

Minor Complications Stats

- Complications before 2 years: 216
- Proportion of patients with complications before 2 years: 0.4846154
- Complications between 2y and 5y: 29
- Proportion of patients with complications between 2y and 5y: 0.0884615
- p-value testing equality between proportions of complications: $4.4708059 \times 10^{-23}$

Major Complications before 2y

Category of the complication	
Central neurologic complications	
	10
Iatrogenic	
	16
Mechanical complications: Implant related	
	56
Mechanical complications: Radiographic	
	48
Medical: Cardiopulmonary	
	13
Medical: Gastrointestinal	
	2
Medical: Hepatobiliary	
	1
Medical: Infectious complications	
	7
Medical: Non-spine Neurologic	
	1
Medical: Renal complications	
	2
Medical: Thrombotic	
	2
Pain	
	9
Peripheral neurologic complications	
	17
Wound infections	
	26
Wound problems	
	12

Category of the complication

- Central neurologic complications
 - 0.045045045
 - Iatrogenic
 - 0.072072072
- Mechanical complications: Implant related
 - 0.252252252
- Mechanical complications: Radiographic
 - 0.216216216
- Medical: Cardiopulmonary
 - 0.058558559
- Medical: Gastrointestinal
 - 0.009009009
- Medical: Hepatobiliary
 - 0.004504505
- Medical: Infectious complications
 - 0.031531532
- Medical: Non-spine Neurologic
 - 0.004504505
- Medical: Renal complications
 - 0.009009009
- Medical: Thrombotic
 - 0.009009009
- Pain
 - 0.040540541
- Peripheral neurologic complications
 - 0.076576577
- Wound infections
 - 0.117117117
- Wound problems
 - 0.054054054

Major Complications between 2y and 5y

Category of the complication

- Central neurologic complications
 - 2
 - Iatrogenic
 - 1
- Mechanical complications: Implant related
 - 44
- Mechanical complications: Radiographic
 - 9
- Medical: Death
 - 1
- Pain
 - 7
- Peripheral neurologic complications
 - 4
- Wound problems
 - 1

Category of the complication

Central neurologic complications	0.02898551
Iatrogenic	0.01449275
Mechanical complications: Implant related	0.63768116
Mechanical complications: Radiographic	0.13043478
Medical: Death	0.01449275
Pain	0.10144928
Peripheral neurologic complications	0.05797101
Wound problems	0.01449275

Minor Complications before 2y

Category of the complication	Iatrogenic	47
Mechanical complications: Implant related		26
Mechanical complications: Radiographic		16
Medical: Cardiopulmonary		14
Medical: Gastrointestinal		4
Medical: Genitourinary		3
Medical: Hematopoietic		7
Medical: Hepatobiliary		2
Medical: Infectious complications		31
Medical: Non-spine Neurologic		1
Medical: Other		6
Medical: Psychiatric		6
Medical: Renal complications		1
Medical: Thrombotic		1
Pain		7
Peripheral neurologic complications		28
Wound infections		

6
Wound problems
10

Category of the complication

Iatrogenic
0.217592593
Mechanical complications: Implant related
0.120370370
Mechanical complications: Radiographic
0.074074074
Medical: Cardiopulmonary
0.064814815
Medical: Gastrointestinal
0.018518519
Medical: Genitourinary
0.013888889
Medical: Hematopoietic
0.032407407
Medical: Hepatobiliary
0.009259259
Medical: Infectious complications
0.143518519
Medical: Non-spine Neurologic
0.004629630
Medical: Other
0.027777778
Medical: Psychiatric
0.027777778
Medical: Renal complications
0.004629630
Medical: Thrombotic
0.004629630
Pain
0.032407407
Peripheral neurologic complications
0.129629630
Wound infections
0.027777778
Wound problems
0.046296296

Minor Complications between 2y and 5y

Category of the complication

Mechanical complications: Implant related
15
Mechanical complications: Radiographic
11
Pain
2
Peripheral neurologic complications
1

Category of the complication	
Mechanical complications: Implant related	0.51724138
Mechanical complications: Radiographic	0.37931034
Pain	0.06896552
Peripheral neurologic complications	0.03448276

Reinterventions before 2 years

- Total patients: 260.
- Reinterventions before 2 years: 95
- Patients with reintervention before 2 years: 66
- Proportion of patients with reintervention before 2 years: 0.2538462
- Reinterventions between 2y and 5y: 46
- Patients with reintervention before 5 years: 38
- Proportion of patients with reintervention between 2y and 5y: 0.1461538
- p-value testing equality between proportions of reinterventions: 0.0030757

Do complications before 2y affect 2y followup?

	Estimate	Pr(> t)
(Intercept)	1	0.000
Age	0	0.211
GenderMale	0	0.830
'Prior Spine Surgery'Yes	0	0.288
'ASA classification'	0	0.916
'BMI_First Visit'	0	0.302
SiteBOR Op	0	0.163
SiteIST Op	0	0.791
SiteMAD Op	0	0.174
SiteZUR Op	0	0.068
'Global Tilt'	0	0.587
'Static Major curve Cobb angle'	0	0.411
'ODI - Score (%)_First Visit'	0	0.346
'SRS22 - SRS Subtotal score_First Visit'	0	0.713
'SF36 - PCS_First Visit'	0	0.305
'SF36 - MCS_First Visit'	0	0.217
complication_before_2yYes	0	0.183

Do complications before 2y affect 5y followup?

	Estimate	Pr(> t)
(Intercept)	0.666	0.121
Age	0.002	0.427

GenderMale	-0.058	0.457
'Prior Spine Surgery'Yes	-0.018	0.799
'ASA classification'	-0.101	0.089
'BMI_First Visit'	0.009	0.282
SiteBOR Op	0.028	0.762
SiteIST Op	0.354	0.434
SiteMAD Op	-0.017	0.862
SiteZUR Op	-0.003	0.972
'Global Tilt'	0.000	0.890
'Static Major curve Cobb angle'	0.001	0.432
'ODI - Score (%)_First Visit'	-0.002	0.586
'SRS22 - SRS Subtotal score_First Visit'	0.105	0.323
'SF36 - PCS_First Visit'	-0.009	0.126
'SF36 - MCS_First Visit'	0.000	0.934
complication_before_2yYes	-0.049	0.466