

5y complications analysis

```
xls_path <- '../..data/ESSG extraction June 2022_2nd 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')]
```

Only Major Complications

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

Complications stats

- Complications before 2 years: 222
- Proportion of patients with complications before 2 years: 0.3346154
- Complications between 2y and 5y: 69
- Proportion of patients with complications between 2y and 5y: 0.1384615
- p-value testing equality between proportions of complications: 2.4735504×10^{-7}

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

- Reinterventions before 2 years: 95
- Proportion of patients with reintervention before 2 years: 0.2538462
- Reinterventions between 2y and 5y: 46
- 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