

5y complications analysis

```
xls_path <- '../..data/ESSG extraction DEC 2022_3rd report 5Y - ONLY DPS Mod.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: 594

Only Major Complications

Stats

	complication_before_2y	has_followup_2y
1:	No	0.676
2:	Yes	0.897

	complication_before_2y	has_followup_5y
1:	No	0.339
2:	Yes	0.493

Complications stats

- Complications before 2 years: 353
- Proportion of patients with complications before 2 years: 0.2457912
- Complications between 2y and 5y: 83
- Proportion of patients with complications between 2y and 5y: 0.0673401
- p-value testing equality between proportions of complications: $5.1530167 \times 10^{-17}$

Major Complications before 2y

Category of the complication	
Central neurologic complications	11
Iatrogenic	25
Mechanical complications: Implant related	81
Mechanical complications: Radiographic	76
Medical: Cardiopulmonary	24
Medical: Gastrointestinal	3
Medical: Genitourinary	2
Medical: Hepatobiliary	1
Medical: Infectious complications	12
Medical: Non-spine Neurologic	1
Medical: Other	1
Medical: Renal complications	3
Medical: Thrombotic	3
Pain	12
Peripheral neurologic complications	35
Wound infections	48
Wound problems	15

Category of the complication	
Central neurologic complications	0.031161473
Iatrogenic	0.070821530
Mechanical complications: Implant related	0.229461756
Mechanical complications: Radiographic	0.215297450
Medical: Cardiopulmonary	0.067988669
Medical: Gastrointestinal	0.008498584
Medical: Genitourinary	0.005665722
Medical: Hepatobiliary	

	0.002832861
Medical: Infectious complications	
	0.033994334
Medical: Non-spine Neurologic	
	0.002832861
Medical: Other	
	0.002832861
Medical: Renal complications	
	0.008498584
Medical: Thrombotic	
	0.008498584
Pain	
	0.033994334
Peripheral neurologic complications	
	0.099150142
Wound infections	
	0.135977337
Wound problems	
	0.042492918

Major Complications between 2y and 5y

Category of the complication	
Central neurologic complications	
	2
Iatrogenic	
	1
Mechanical complications: Implant related	
	49
Mechanical complications: Radiographic	
	12
Medical: Death	
	1
Medical: Genitourinary	
	1
Pain	
	7
Peripheral neurologic complications	
	5
Wound infections	
	3
Wound problems	
	2

Category of the complication	
Central neurologic complications	
	0.02409639
Iatrogenic	
	0.01204819
Mechanical complications: Implant related	
	0.59036145
Mechanical complications: Radiographic	
	0.14457831

Medical: Death	
	0.01204819
Medical: Genitourinary	
	0.01204819
Pain	
	0.08433735
Peripheral neurologic complications	
	0.06024096
Wound infections	
	0.03614458
Wound problems	
	0.02409639

Minor Complications before 2y

Category of the complication	
Central neurologic complications	
	2
Iatrogenic	
	66
Mechanical complications: Implant related	
	33
Mechanical complications: Radiographic	
	31
Medical: Allergic reactions	
	1
Medical: Cardiopulmonary	
	38
Medical: Gastrointestinal	
	17
Medical: Genitourinary	
	5
Medical: Hematopoietic	
	24
Medical: Hepatobiliary	
	2
Medical: Infectious complications	
	46
Medical: Non-spine Neurologic	
	2
Medical: Other	
	16
Medical: Psychiatric	
	12
Medical: Renal complications	
	1
Medical: Thrombotic	
	5
Pain	
	18
Peripheral neurologic complications	
	50
Wound infections	

12
Wound problems
20

Category of the complication

Central neurologic complications
0.004987531
Iatrogenic
0.164588529
Mechanical complications: Implant related
0.082294264
Mechanical complications: Radiographic
0.077306733
Medical: Allergic reactions
0.002493766
Medical: Cardiopulmonary
0.094763092
Medical: Gastrointestinal
0.042394015
Medical: Genitourinary
0.012468828
Medical: Hematopoietic
0.059850374
Medical: Hepatobiliary
0.004987531
Medical: Infectious complications
0.114713217
Medical: Non-spine Neurologic
0.004987531
Medical: Other
0.039900249
Medical: Psychiatric
0.029925187
Medical: Renal complications
0.002493766
Medical: Thrombotic
0.012468828
Pain
0.044887781
Peripheral neurologic complications
0.124688279
Wound infections
0.029925187
Wound problems
0.049875312

Minor Complications between 2y and 5y

Category of the complication

Mechanical complications: Implant related
19
Mechanical complications: Radiographic
13

	Pain
	2
Peripheral neurologic complications	
	1

Category of the complication	
Mechanical complications: Implant related	0.54285714
Mechanical complications: Radiographic	0.37142857
Pain	
	0.05714286
Peripheral neurologic complications	
	0.02857143

Reinterventions before 2 years

- Reinterventions before 2 years: 157
- Proportion of patients with reintervention before 2 years: 0.1868687
- Reinterventions between 2y and 5y: 60
- Proportion of patients with reintervention between 2y and 5y: 0.0791246
- p-value testing equality between proportions of reinterventions: 7.3369506×10^{-8}

Do complications before 2y affect 2y followup?

	Estimate	Pr(> t)
(Intercept)	1.129	0.000
Age	0.002	0.182
GenderMale	-0.022	0.669
'Prior Spine Surgery'Yes	0.014	0.759
'ASA classification'	-0.054	0.136
'BMI_First Visit'	0.003	0.595
SiteBOR Op	-0.118	0.034
SiteIST Op	-0.386	0.220
SiteMAD Op	0.164	0.021
SiteZUR Op	0.051	0.374
'Global Tilt'	0.001	0.718
'Static Major curve Cobb angle'	0.000	0.902
'ODI - Score (%)_First Visit'	-0.004	0.031
'SRS22 - SRS Subtotal score_First Visit'	-0.163	0.009
'SF36 - PCS_First Visit'	0.001	0.756
'SF36 - MCS_First Visit'	0.002	0.477
complication_before_2yYes	0.177	0.000

Do complications before 2y affect 5y followup?

	Estimate	Pr(> t)
(Intercept)	0.955	0.002
Age	0.005	0.003

GenderMale	0.053	0.356
'Prior Spine Surgery'Yes	0.021	0.683
'ASA classification'	-0.148	0.000
'BMI_First Visit'	0.001	0.881
SiteBOR Op	-0.060	0.335
SiteIST Op	0.135	0.697
SiteMAD Op	0.192	0.014
SiteZUR Op	0.068	0.282
'Global Tilt'	0.000	0.772
'Static Major curve Cobb angle'	0.001	0.641
'ODI - Score (%)_First Visit'	-0.005	0.008
'SRS22 - SRS Subtotal score_First Visit'	-0.111	0.107
'SF36 - PCS_First Visit'	-0.004	0.285
'SF36 - MCS_First Visit'	0.001	0.826
complication_before_2yYes	0.140	0.009