

## 5y followup analysis

```
xls_path <- '../..data/ESSG Extraction_DEC_OP_ NON DePuy v7.xlsx'
```

### Filters

```
# discarded_patients <- readLines('five_years/discarded_patients')  
#  
# data_set %<>%  
#   .['st1. Date of Stage' %>% as.Date() < as.Date('2016-6-1')]
```

### FU Stats

```
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`)]  
  
followup_2y <- data_set %>%  
  .[followup_2y==TRUE] %>%  
  .[, `Code of the patient` %>% uniqueN]  
  
followup_5y <- data_set %>%  
  .[followup_5y==TRUE] %>%  
  .[, `Code of the patient` %>% uniqueN]  
  
total <- data_set[, .N]  
total_with_followup_2y <- data_set[followup_2y==TRUE, .N]  
perc_followup_2y <- round(followup_2y/total, 3)  
perc_followup_5y <- round(followup_5y/total, 3)  
perc_followup_5y_with_2y <- round(followup_5y/total_with_followup_2y, 3)
```

- Patients with at least 5 year from intervention (total variable): 708
- Patients with 2y number (followup\_2y variable): 465
- Patients with 2y % (perc\_followup\_2y variable): 65.7
- Patients with 5y number (followup\_5y variable): 220
- Patients with 5y % (perc\_followup\_5y variable): 31.1
- Patients (among 2y FU) with 5y % (perc\_followup\_5y\_with\_2y variable): 47.3

## 2Y FU follow per Site

|           | Site eligible | fu_2y     |
|-----------|---------------|-----------|
| 1: BCN Op | 106           | 0.5849057 |
| 2: BOR Op | 299           | 0.7023411 |
| 3: IST Op | 163           | 0.6441718 |
| 4: MAD Op | 131           | 0.6183206 |
| 5: ZUR Op | 9             | 0.7777778 |

## 5Y FU follow per Site

|           | Site eligible | fu_5y     |
|-----------|---------------|-----------|
| 1: BCN Op | 106           | 0.3018868 |
| 2: BOR Op | 299           | 0.3277592 |
| 3: IST Op | 163           | 0.2085890 |
| 4: MAD Op | 131           | 0.4198473 |
| 5: ZUR Op | 9             | 0.1111111 |

## Complications during 2y depending on followup 5y

|                 | followup_5y | complication_before_2y | low_ci     | up_ci     |
|-----------------|-------------|------------------------|------------|-----------|
| 1: has_followup |             | 0.1356784              | 0.09494937 | 0.1902066 |
| 2: no_followup  |             | 0.2406015              | 0.19315989 | 0.2954287 |

## HRQOL during 2y depending on followup 5y

### 2Y. ODI - Score (%)

|                 | followup_5y | mean_outcome | sd_outcome |
|-----------------|-------------|--------------|------------|
| 1: has_followup |             | 26.56345     | 1.447740   |
| 2: no_followup  |             | 26.66403     | 1.260784   |

t-test p-value: 0.95881227572448

### 2Y. SRS22 - SRS Subtotal score

|                 | followup_5y | mean_outcome | sd_outcome |
|-----------------|-------------|--------------|------------|
| 1: has_followup |             | 3.516332     | 0.06012132 |
| 2: no_followup  |             | 3.559724     | 0.04672967 |

t-test p-value: 0.572485182130932

### 2Y. SF36 - PCS

|                 | followup_5y | mean_outcome | sd_outcome |
|-----------------|-------------|--------------|------------|
| 1: has_followup |             | 42.20088     | 0.7264744  |
| 2: no_followup  |             | 43.14564     | 0.6557484  |

t-test p-value: 0.351515312048539

### 2Y. SF36 - MCS

|                 | followup_5y | mean_outcome | sd_outcome |
|-----------------|-------------|--------------|------------|
| 1: has_followup |             | 47.27762     | 0.8154212  |
| 2: no_followup  |             | 46.28941     | 0.6718520  |

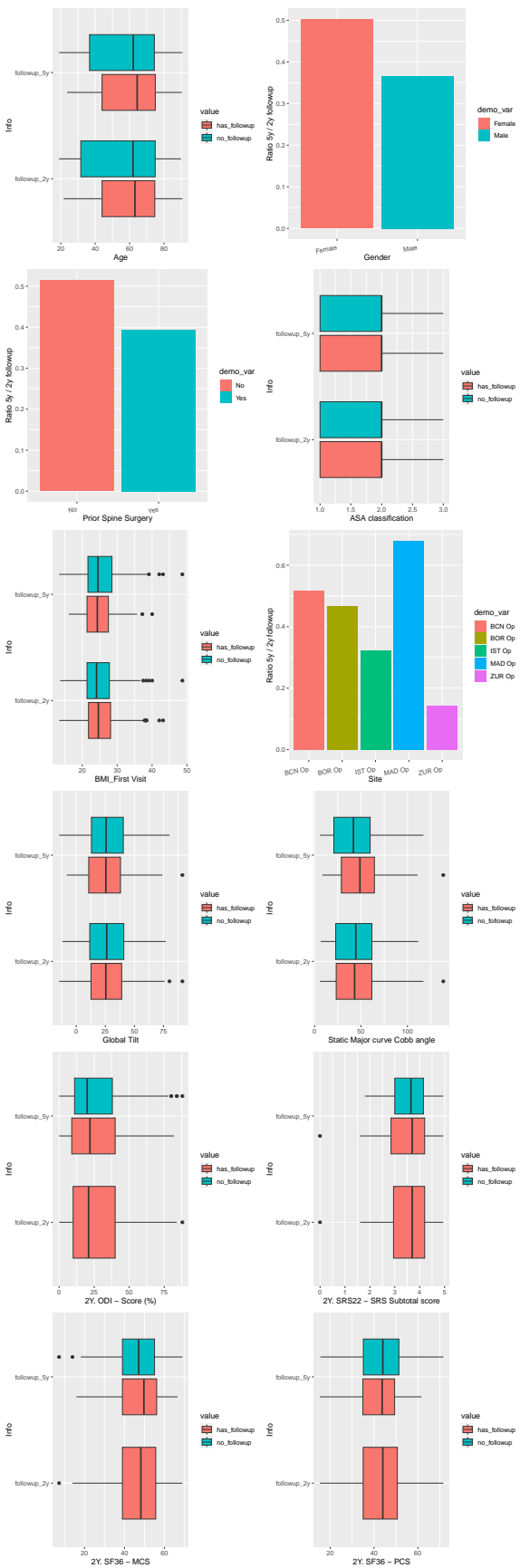
t-test p-value: 0.366409710952608

### 2Y. SRS22 - Satisfaction with management

|                 | followup_5y | mean_outcome | sd_outcome |
|-----------------|-------------|--------------|------------|
| 1: has_followup |             | 4.116751     | 0.06864921 |
| 2: no_followup  |             | 4.152778     | 0.05725501 |

t-test p-value: 0.691319977071891

# Follow up



|  | Estimate | Std. Error | t value | Pr(> t ) |
|--|----------|------------|---------|----------|
| (Intercept)                              | 0.424    | 0.113      | 3.766   | 0.000    |
| Age                                      | 0.003    | 0.001      | 2.009   | 0.045    |
| GenderMale                               | -0.006   | 0.043      | -0.146  | 0.884    |
| Prior_Spine_SurgeryYes                   | -0.100   | 0.041      | -2.427  | 0.015    |
| ASA_classification                       | -0.003   | 0.033      | -0.103  | 0.918    |
| BMI_First_Visit                          | 0.002    | 0.004      | 0.553   | 0.580    |
| SiteBOR Op                               | 0.097    | 0.056      | 1.737   | 0.083    |
| SiteIST Op                               | 0.098    | 0.062      | 1.577   | 0.115    |
| SiteMAD Op                               | 0.030    | 0.063      | 0.474   | 0.636    |
| SiteZUR Op                               | 0.289    | 0.183      | 1.580   | 0.114    |
| '5y_vs_2y_effect'                        | -0.061   | 0.159      | -0.386  | 0.699    |
| Age:'5y_vs_2y_effect'                    | 0.001    | 0.002      | 0.446   | 0.656    |
| GenderMale:'5y_vs_2y_effect'             | -0.065   | 0.061      | -1.055  | 0.292    |
| Prior_Spine_SurgeryYes:'5y_vs_2y_effect' | 0.001    | 0.058      | 0.012   | 0.990    |
| ASA_classification:'5y_vs_2y_effect'     | -0.033   | 0.047      | -0.691  | 0.490    |
| BMI_First_Visit:'5y_vs_2y_effect'        | -0.007   | 0.006      | -1.193  | 0.233    |
| SiteBOR Op:'5y_vs_2y_effect'             | -0.116   | 0.079      | -1.471  | 0.142    |
| SiteIST Op:'5y_vs_2y_effect'             | -0.169   | 0.088      | -1.934  | 0.053    |
| SiteMAD Op:'5y_vs_2y_effect'             | 0.076    | 0.089      | 0.862   | 0.389    |
| SiteZUR Op:'5y_vs_2y_effect'             | -0.424   | 0.259      | -1.639  | 0.102    |

|   | Estimate | Std. Error | t value |
|---|----------|------------|---------|
| (Intercept)                                     | 0.456    | 0.105      | 4.339   |
| Age   | 0.004    | 0.001      | 3.970   |
| GenderMale                                      | -0.036   | 0.032      | -1.121  |
| Prior_Spine_SurgeryYes                          | -0.063   | 0.032      | -1.955  |
| ASA_classification                              | -0.016   | 0.024      | -0.651  |
| BMI_First_Visit                                 | 0.000    | 0.003      | 0.127   |
| SiteBOR Op                                      | 0.066    | 0.040      | 1.640   |
| SiteIST Op                                      | 0.059    | 0.047      | 1.250   |
| SiteMAD Op                                      | 0.074    | 0.045      | 1.628   |
| SiteZUR Op                                      | 0.152    | 0.152      | 0.997   |
| Global_Tilt                                     | -0.002   | 0.001      | -1.766  |
| Static_Major_curve_Cobb_angle                   | 0.000    | 0.001      | 0.457   |
| '5y_vs_2y_effect'                               | -0.405   | 0.075      | -5.381  |
| Global_Tilt:'5y_vs_2y_effect'                   | 0.000    | 0.001      | -0.253  |
| Static_Major_curve_Cobb_angle:'5y_vs_2y_effect' | 0.002    | 0.001      | 1.536   |

|   | Pr(> t ) |
|---|----------|
| (Intercept)                                     | 0.000    |
| Age   | 0.000    |
| GenderMale                                      | 0.263    |
| Prior_Spine_SurgeryYes                          | 0.051    |
| ASA_classification                              | 0.515    |
| BMI_First_Visit                                 | 0.899    |
| SiteBOR Op                                      | 0.101    |
| SiteIST Op                                      | 0.212    |
| SiteMAD Op                                      | 0.104    |
| SiteZUR Op                                      | 0.319    |
| Global_Tilt                                     | 0.078    |
| Static_Major_curve_Cobb_angle                   | 0.647    |
| '5y_vs_2y_effect'                               | 0.000    |
| Global_Tilt:'5y_vs_2y_effect'                   | 0.801    |
| Static_Major_curve_Cobb_angle:'5y_vs_2y_effect' | 0.125    |

## 5y selection bias

### Demographics

|                          | Estimate | Std. Error | t value | Pr(> t ) |
|--------------------------|----------|------------|---------|----------|
| (Intercept)              | 0.711    | 0.151      | 4.700   | 0.000    |
| Age                      | 0.002    | 0.002      | 0.965   | 0.335    |
| GenderMale               | -0.111   | 0.056      | -1.962  | 0.050    |
| 'Prior Spine Surgery'Yes | -0.093   | 0.054      | -1.725  | 0.085    |
| 'ASA classification'     | -0.048   | 0.043      | -1.113  | 0.266    |
| 'BMI_First Visit'        | -0.007   | 0.006      | -1.340  | 0.181    |
| SiteBOR Op               | -0.066   | 0.075      | -0.873  | 0.383    |
| SiteIST Op               | -0.157   | 0.082      | -1.906  | 0.057    |
| SiteMAD Op               | 0.141    | 0.084      | 1.673   | 0.095    |
| SiteZUR Op               | -0.238   | 0.209      | -1.140  | 0.255    |

### Radiology

|                                 | Estimate | Std. Error | t value | Pr(> t ) |
|---------------------------------|----------|------------|---------|----------|
| (Intercept)                     | 0.541    | 0.183      | 2.961   | 0.003    |
| Age                             | 0.004    | 0.002      | 1.798   | 0.073    |
| GenderMale                      | -0.094   | 0.059      | -1.597  | 0.111    |
| 'Prior Spine Surgery'Yes        | -0.073   | 0.058      | -1.263  | 0.207    |
| 'ASA classification'            | -0.049   | 0.044      | -1.116  | 0.265    |
| 'BMI_First Visit'               | -0.007   | 0.006      | -1.263  | 0.207    |
| SiteBOR Op                      | -0.046   | 0.077      | -0.595  | 0.552    |
| SiteIST Op                      | -0.108   | 0.087      | -1.240  | 0.216    |
| SiteMAD Op                      | 0.144    | 0.086      | 1.673   | 0.095    |
| SiteZUR Op                      | -0.244   | 0.228      | -1.071  | 0.285    |
| 'Global Tilt'                   | -0.002   | 0.002      | -1.076  | 0.283    |
| 'Static Major curve Cobb angle' | 0.002    | 0.001      | 1.380   | 0.168    |

### Increment of quality of life

|                                      | Estimate | Std. Error | t value | Pr(> t ) |
|--------------------------------------|----------|------------|---------|----------|
| (Intercept)                          | 0.663    | 0.204      | 3.250   | 0.001    |
| Age                                  | 0.004    | 0.002      | 1.881   | 0.061    |
| GenderMale                           | -0.120   | 0.066      | -1.826  | 0.069    |
| 'Prior Spine Surgery'Yes             | -0.108   | 0.064      | -1.696  | 0.091    |
| 'ASA classification'                 | -0.039   | 0.048      | -0.814  | 0.416    |
| 'BMI_First Visit'                    | -0.008   | 0.006      | -1.323  | 0.187    |
| SiteBOR Op                           | -0.110   | 0.090      | -1.225  | 0.222    |
| SiteIST Op                           | -0.122   | 0.105      | -1.154  | 0.249    |
| SiteMAD Op                           | 0.050    | 0.100      | 0.501   | 0.617    |
| SiteZUR Op                           | -0.176   | 0.296      | -0.595  | 0.552    |
| 'Global Tilt'                        | -0.002   | 0.002      | -1.123  | 0.262    |
| 'Static Major curve Cobb angle'      | 0.001    | 0.001      | 0.821   | 0.412    |
| '2Y. ODI - Score (%)_inc'            | 0.000    | 0.002      | -0.202  | 0.840    |
| '2Y. SRS22 - SRS Subtotal score_inc' | -0.001   | 0.063      | -0.009  | 0.993    |
| '2Y. SF36 - MCS_inc'                 | 0.001    | 0.003      | 0.334   | 0.739    |
| '2Y. SF36 - PCS_inc'                 | -0.006   | 0.004      | -1.632  | 0.104    |

## MCIDS

```
$'5Y. ODI - Score (%)'  
[1] 12.8
```

```
$'5Y. SRS22 - SRS Subtotal score'  
[1] 0.43
```

```
$'5Y. SF36 - PCS'  
[1] 4.9
```

|   | variable                   | inc_2y_percent | inc_5y_percent | p_val_two_previous |
|---|----------------------------|----------------|----------------|--------------------|
| 1 | ODI - Score (%)            | 46.2           | 38.5           | 0.079              |
| 2 | SRS22 - SRS Subtotal score | 65.3           | 60.2           | 0.240              |
| 3 | SF36 - PCS                 | 52.4           | 47.5           | 0.340              |

|   | inc_5y_2y_percent |
|---|-------------------|
| 1 | 12.4              |
| 2 | 17.2              |
| 3 | 27.6              |

## PASS

```
$'5Y. ODI - Score (%)'  
[1] 18
```

```
$'5Y. SRS22 - SRS Subtotal score'  
[1] 3.5
```

|   | variable                   | prop_2y | prop_5y | p_val |
|---|----------------------------|---------|---------|-------|
| 1 | ODI - Score (%)            | 41.1    | 39.3    | 0.710 |
| 2 | SRS22 - SRS Subtotal score | 42.8    | 47.7    | 0.268 |