

Stone Complexity Index - R Statistics

This is the R notebook to update the statistics for the SCI project. ## Housekeeping:

Load the Data:

Convert to a tibble

Data Preperation:

Dealing with empty values, nulls, nas:

- Replace 999s with na
- use na instead of null as it keeps a spot - not just empty - says there is no value here

Factors

Look at possible levels in character variables:

Convert Chr to Factors when appropriate using tidyverse 'forcats'

Create new variables:

any_prior_stone any_prior_tx on the same kidney tubeless if pcn_type == none Note, need to use

Check these new variables

I later realized that stone length and stone width were charaters, because they had several entries that included multiple ints separated by a comma. The largest number was always first, so I want to capture the chars prior to the firts comma:

Dates

Convert DOS to date:

reorder the variables to better match our purposes:

Refresh the dataframes by type now that we have cleaned and converted:

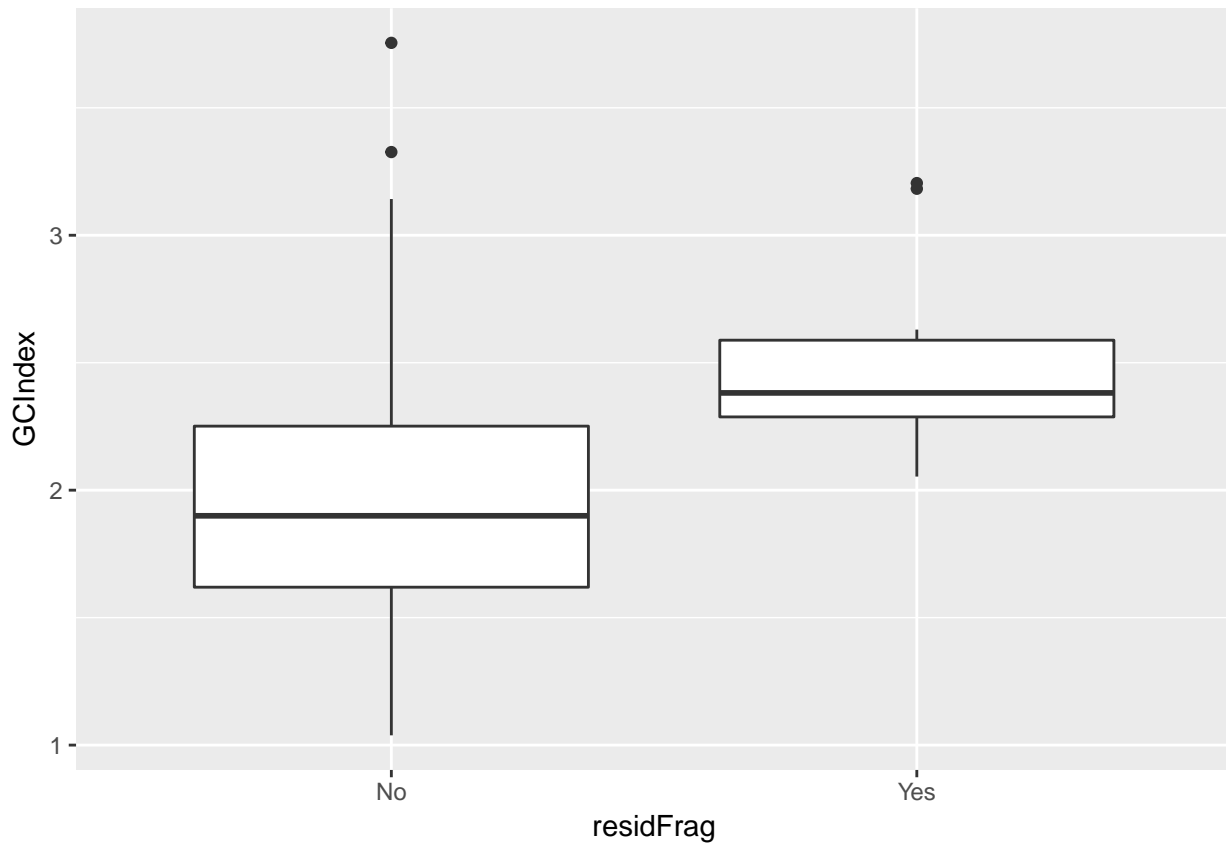
Statistics

Summary Stats:

Realized there was a bmi of 175, checked the patient's file and found it was really 25.7 so changed below:

Frequency tables

```
##
## Welch Two Sample t-test
##
## data: GCIndex by residFrag
## t = -3.3223, df = 19.691, p-value = 0.003452
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -0.8448346 -0.1927278
## sample estimates:
## mean in group No mean in group Yes
##      1.982524      2.501306
```



```
## [1] 58.5
## [1] 19.5
## [1] "58.50 (47.25, 66.75)"
create table 1:
```

Table 1: Baseline Characteristics

		Results After PCNL	
	All Patients (N = 50)	Stone Free	Residual Fragments
Patient Related			
Age, median (IQR), y	58.5 (47.2, 66.8)	59.0 (48.0, 66.2)	54.0 (42.0, 65.2)
Male, No. (%)	18 (36)	15 (38)	3 (30)
Weight, mean (SD), kg	94.5 (35.3)	94.4 (33.0)	95.1 (45.4)
BMI, mean (SD)	32.4 (9.6)	32.4 (9.0)	32.3 (12.0)
ASA, median (IQR)	3 (2.0, 3.0)	3 (2.0, 3.0)	2.0 (2.0, 3.0)
Prior Stones, No.(%)	14 (35)	12 (36)	2 (29)
Stone Related			
Side Of Treated Stone, No. (%)			
Left	26 (52)	21 (52)	5 (50)
Right	24 (48)	19 (48)	5 (50)
Stone Location (any portion of stone), No. (%)			
Upper Pole	15 (30)	9 (22)	6 (60)
Lower Pole	34 (68)	26 (65)	8 (80)
Renal Pelvis	36 (72)	29 (72)	7 (70)
Ureter	6 (12)	6 (15)	0 (0)
Stone Composition, No. (%)			
Calcium Oxalate	28 (60)	24 (63)	4 (44)
Uric Acid	7 (15)	7 (18)	0 (0)