

# Ch 9 - Surgical Unit Example

*Adam McQuistan*

*Sunday, May 01, 2016*

## The dataset

Variable	Description
X1	blood clotting score
X2	prognostic index
X3	enzyme function score
X4	liver function test score
X5	age in years
X6	gender, 0 for male and 1 for female
X7, X8	alcohol use. see table below
Y	Survival time

Alcohol Use	X7	X8
None	0	0
Moderate	1	0
Severe	0	1

```
df <- read.table(file="CH09TA01.txt", sep="\t", header=F)
names(df) = c("X1", "X2", "X3", "X4", "X5", "X6", "X7", "X8", "Y", "lnY")
str(df)
```

```
## 'data.frame':   54 obs. of  10 variables:
## $ X1 : num  6.7 5.1 7.4 6.5 7.8 5.8 5.7 3.7 6 3.7 ...
## $ X2 : int  62 59 57 73 65 38 46 68 67 76 ...
## $ X3 : int  81 66 83 41 115 72 63 81 93 94 ...
## $ X4 : num  2.59 1.7 2.16 2.01 4.3 1.42 1.91 2.57 2.5 2.4 ...
## $ X5 : int  50 39 55 48 45 65 49 69 58 48 ...
## $ X6 : int  0 0 0 0 0 1 1 1 0 0 ...
## $ X7 : int  1 0 0 0 0 1 0 1 1 1 ...
## $ X8 : int  0 0 0 0 1 0 1 0 0 0 ...
## $ Y : int  695 403 710 349 2343 348 518 749 1056 968 ...
## $ lnY: num  6.54 6 6.57 5.85 7.76 ...
```

## Subsetting the Data into First 54 Cases and First 4 Variables

```
df54 <- df[1:54,c("X1","X2","X3","X4","Y","lnY")]  
resultY <- lm(Y ~ X1 + X2 + X3 + X4, data=df)  
resultlnY <- lm(lnY ~ X1 + X2 + X3 + X4, data=df)
```

## Residual Plots of Y and lnY



