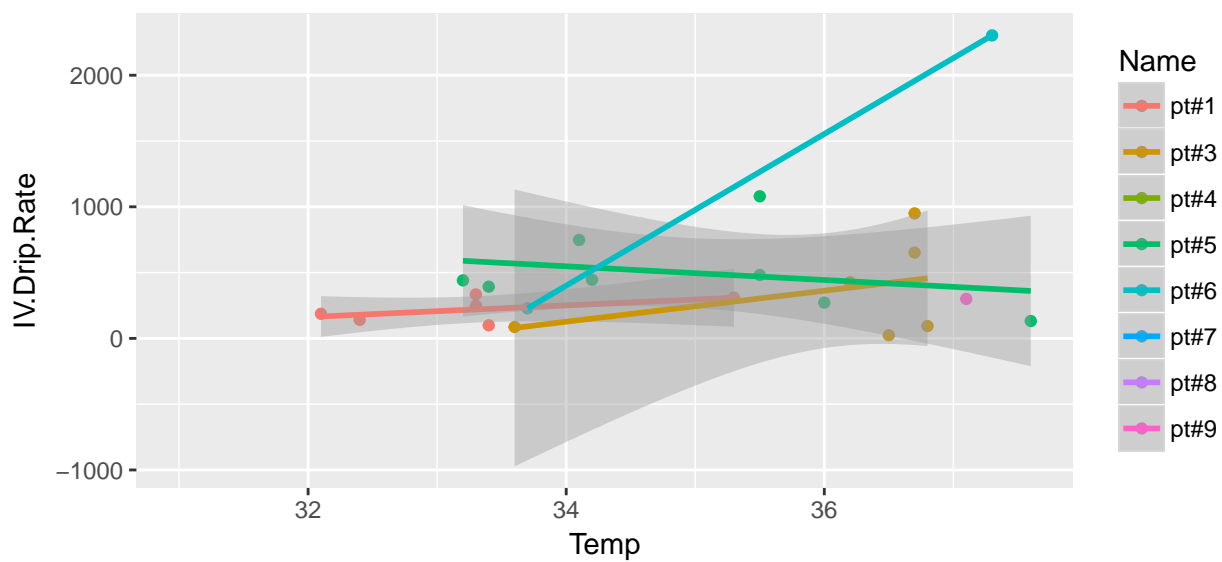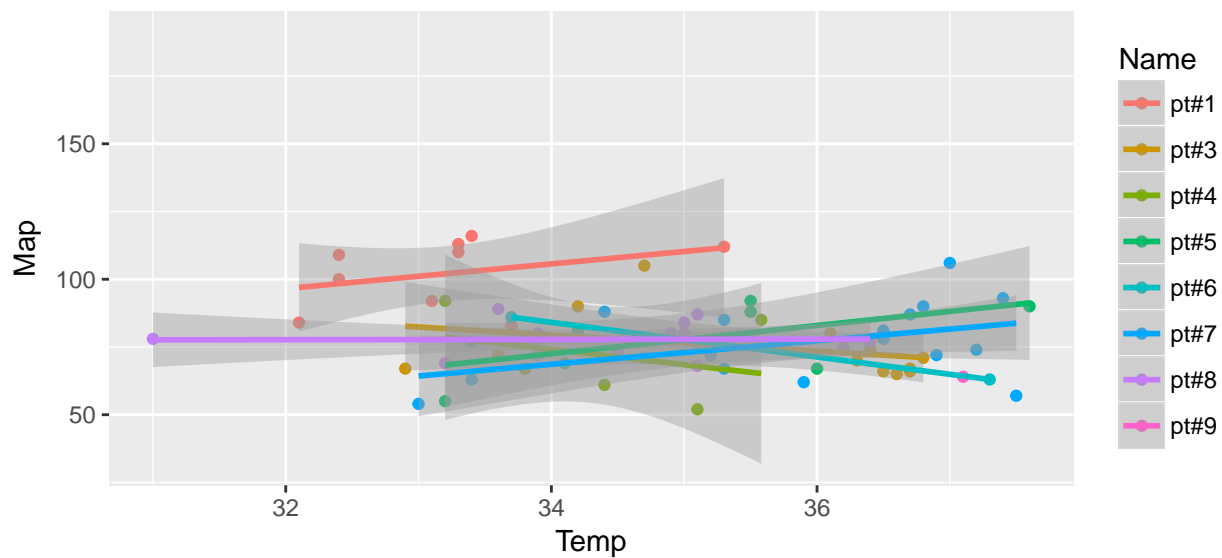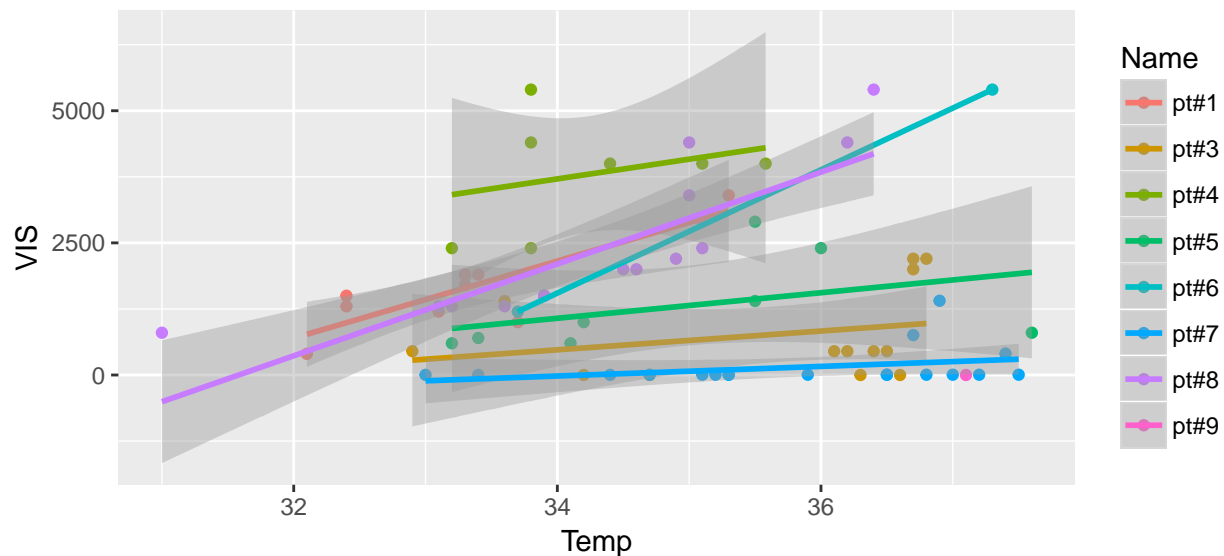# Is Hypothermia Protective?

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```
dt = subset(dt, dt$Name != "dos")
```

```r
dt$VIS = dt$Dobutamine + (100 * dt$EPI.Dose) + (10000 * dt$VASO.Dose) + (100 * dt$LEVO.Dose)
```

```r
summary(lm(VIS~Temp, dt))
```

```
## 
## Call:
## lm(formula = VIS ~ Temp, data = dt)
## 
## Residuals:
##     Min      1Q  Median      3Q     Max 
## -1515.5 -1409.2  -266.8   760.9  3986.4 
## 
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  2319.51    4008.10   0.579    0.565
## Temp          -24.29     114.67  -0.212    0.833
## 
## Residual standard error: 1508 on 72 degrees of freedom
##   (94 observations deleted due to missingness)
## Multiple R-squared:  0.0006227,  Adjusted R-squared:  -0.01326 
## F-statistic: 0.04486 on 1 and 72 DF,  p-value: 0.8329
```

```r
summary(lm(VIS~Temp+Name, dt))
```

```
## 
## Call:
## lm(formula = VIS ~ Temp + Name, data = dt)
## 
## Residuals:
##     Min      1Q  Median      3Q     Max 
## -1620.0  -568.0  -145.8   423.6  2138.7 
## 
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)    
## (Intercept) -12385.99    2653.07  -4.669 1.57e-05 ***
## Temp           420.65      79.42   5.297 1.50e-06 ***
```

```
## Namept#3      -1845.14      411.63  -4.483 3.07e-05 ***
## Namept#4       1782.98      429.40   4.152 9.78e-05 ***
## Namept#5      -1010.42      428.83  -2.356   0.0215 *
## Namept#6        752.97      678.72   1.109   0.2714
## Namept#7      -2536.32      399.18  -6.354 2.36e-08 ***
## Namept#8        335.72      359.75   0.933   0.3542
## Namept#9      -3220.07      934.30  -3.446   0.0010 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 836.8 on 65 degrees of freedom
##   (94 observations deleted due to missingness)
## Multiple R-squared:  0.7223, Adjusted R-squared:  0.6881
## F-statistic: 21.13 on 8 and 65 DF,  p-value: 2.207e-15
```

```
head(dt)
```

```
##    Temp HR   B   P Map Net.IV.Fluids.hr LEVO.Dose VASO.Dose EPI.Dose
## 4    NA 62 148  86  NA            22443        50      0.04        0
## 5    NA 60 140  92  NA            24031        30      0.04        0
## 6  35.3 59 139  91 112            24689        30      0.04        0
## 7    NA 80 125  97 111            24999        25      0.04        0
## 8    NA 48 137 105 119            25604        20      0.04        0
## 9    NA 51 154 100 119            25925        15      0.04        0
##   IV.Drip.Rate Dobutamine Name  VIS
## 4         1588          0 pt#1 5400
## 5          658          0 pt#1 3400
## 6          310          0 pt#1 3400
## 7          605          0 pt#1 2900
## 8          321          0 pt#1 2400
## 9          321          0 pt#1 1900
```

```
str(dt)
```

```
## 'data.frame':    168 obs. of  13 variables:
##  $ Temp            : num  NA NA 35.3 NA NA NA NA NA NA NA ...
##  $ HR              : num  62 60 59 80 48 51 82 128 127 94 ...
##  $ B               : num  148 140 139 125 137 154 141 105 116 135 ...
##  $ P               : num  86 92 91 97 105 100 101 85 80 90 ...
##  $ Map             : num  NA NA 112 111 119 119 122 99 89 112 ...
##  $ Net.IV.Fluids.hr: num  22443 24031 24689 24999 25604 ...
##  $ LEVO.Dose       : num  50 30 30 25 20 15 15 15 15 15 ...
##  $ VASO.Dose       : num  0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 ...
##  $ EPI.Dose        : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ IV.Drip.Rate    : num  1588 658 310 605 321 ...
##  $ Dobutamine      : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ Name            : Factor w/ 8 levels "pt#1","pt#3",..: 1 1 1 1 1 1 1 1 1 1 ...
##  $ VIS             : num  5400 3400 3400 2900 2400 1900 1900 1900 1900 1900 ...
```

```
summary(dt)
```

```
##       Temp             HR               B               P
##  Min.   :31.00   Min.   : 48.00   Min.   : 77.0   Min.   : 29.00
##  1st Qu.:33.70   1st Qu.: 82.00   1st Qu.:106.5   1st Qu.: 57.00
##  Median :35.00   Median : 99.00   Median :120.5   Median : 67.00
##  Mean   :34.92   Mean   : 98.28   Mean   :123.0   Mean   : 69.61
```

```
##  3rd Qu.:36.38   3rd Qu.:114.00   3rd Qu.:136.8   3rd Qu.: 82.00
##  Max.   :37.60   Max.   :154.00   Max.   :227.0   Max.   :129.00
##  NA's   :94      NA's   :19       NA's   :18      NA's   :18
##       Map          Net.IV.Fluids.hr   LEVO.Dose        VASO.Dose
##  Min.   : 52.00   Min.   :   693.6   Min.   : 0.000   Min.   :0.00000
##  1st Qu.: 73.00   1st Qu.:  5877.5   1st Qu.: 0.000   1st Qu.:0.00000
##  Median : 82.50   Median : 17747.0   Median : 2.000   Median :0.00000
##  Mean   : 86.32   Mean   : 17717.0   Mean   : 7.878   Mean   :0.01798
##  3rd Qu.: 98.00   3rd Qu.: 22665.0   3rd Qu.:13.250   3rd Qu.:0.04000
##  Max.   :191.00   Max.   :221363.0   Max.   :50.000   Max.   :0.04000
##  NA's   :26       NA's   :61
##     EPI.Dose       IV.Drip.Rate      Dobutamine          Name
##  Min.   : 0.000   Min.   :  12.0   Min.   :0.0000   pt#3   :40
##  1st Qu.: 0.000   1st Qu.: 155.0   1st Qu.:0.0000   pt#8   :25
##  Median : 0.000   Median : 300.0   Median :0.0000   pt#9   :25
##  Mean   : 3.562   Mean   : 394.4   Mean   :0.4911   pt#5   :24
##  3rd Qu.: 4.500   3rd Qu.: 482.0   3rd Qu.:0.0000   pt#1   :23
##  Max.   :20.000   Max.   :2303.0   Max.   :5.0000   pt#7   :18
##                   NA's   :79                        (Other):13
##       VIS
##  Min.   :   0
##  1st Qu.: 450
##  Median :1000
##  Mean   :1324
##  3rd Qu.:1900
##  Max.   :6400
##

write.csv(dt,"./prot-hypothermia.csv")
```