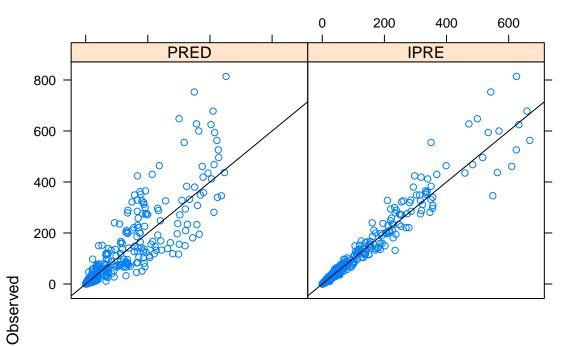
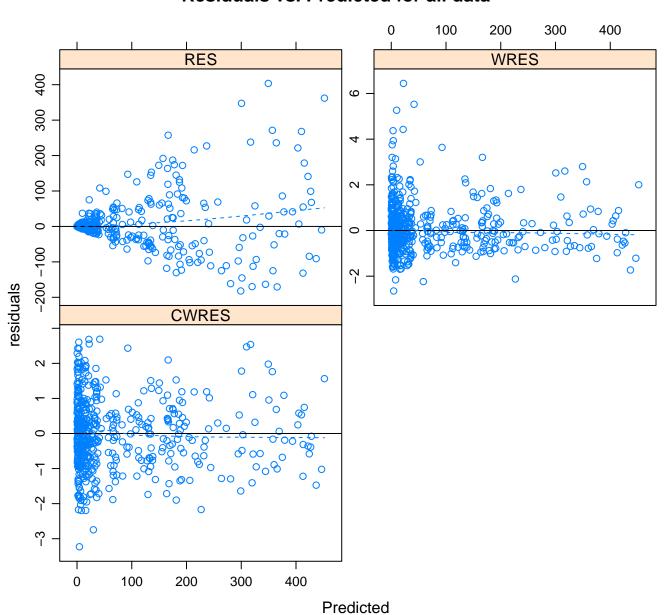
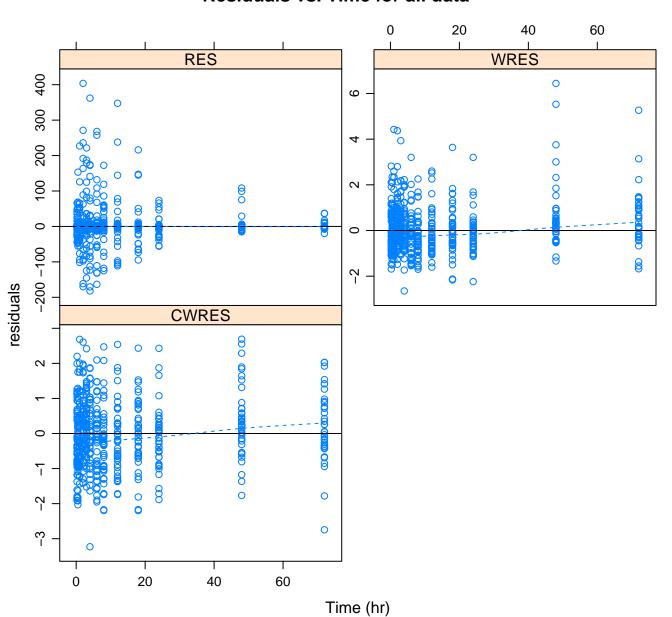
# Model 1005 Observed vs. Predicted for all data



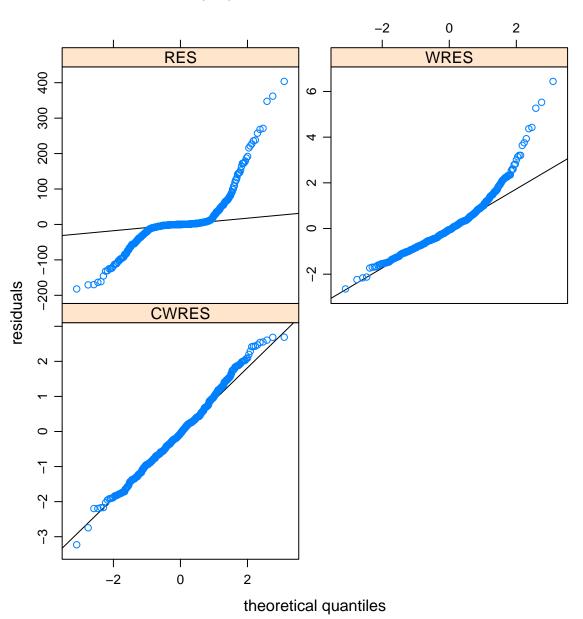
Model 1005
Residuals vs. Predicted for all data



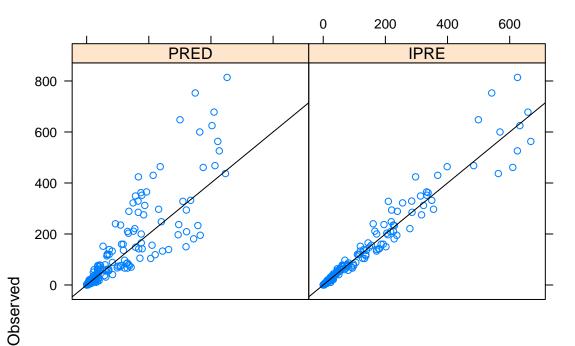
Model 1005
Residuals vs. Time for all data



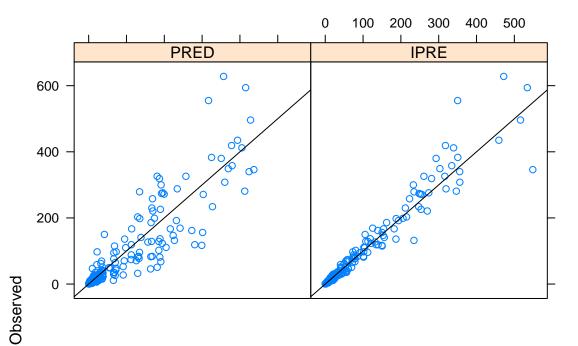
Model 1005
Normal Q-Q Plot Residuals for all data



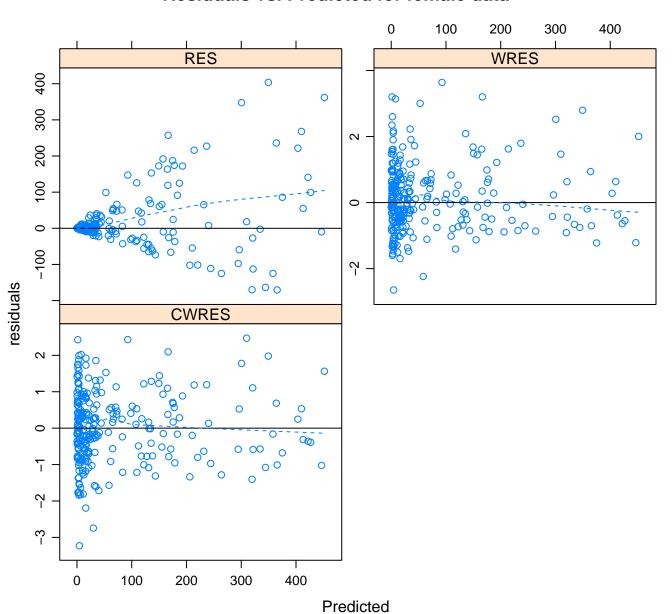
Model 1005
Observed vs. Predicted for female data



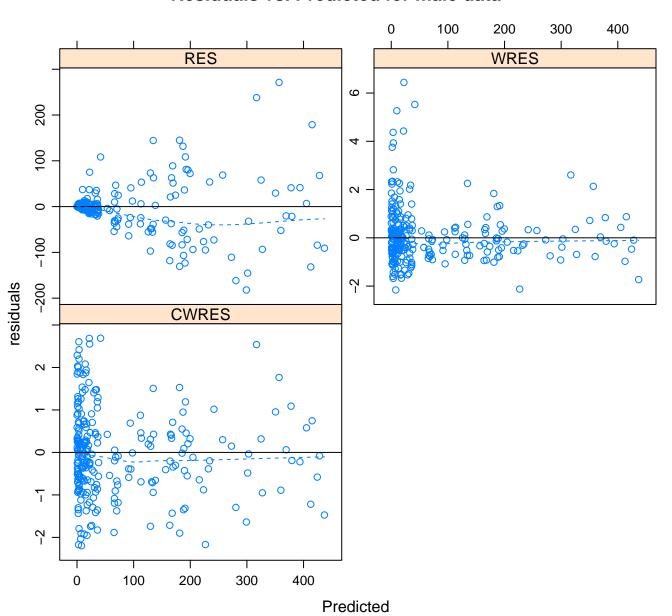
# Model 1005 Observed vs. Predicted for male data



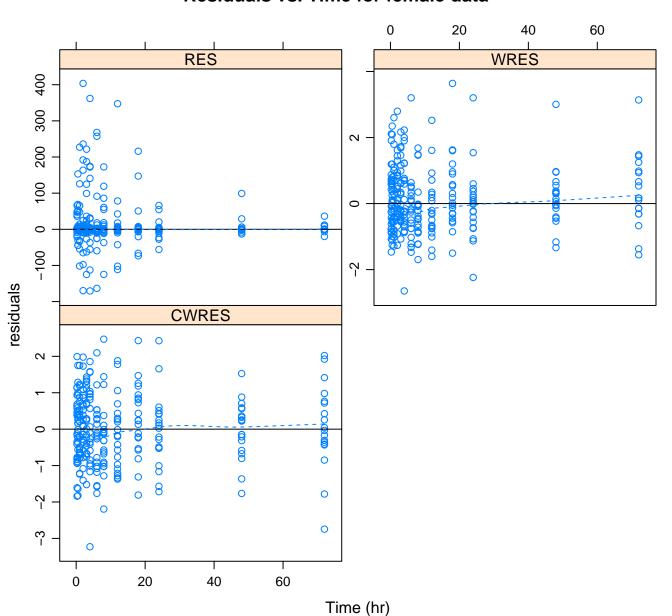
Model 1005
Residuals vs. Predicted for female data



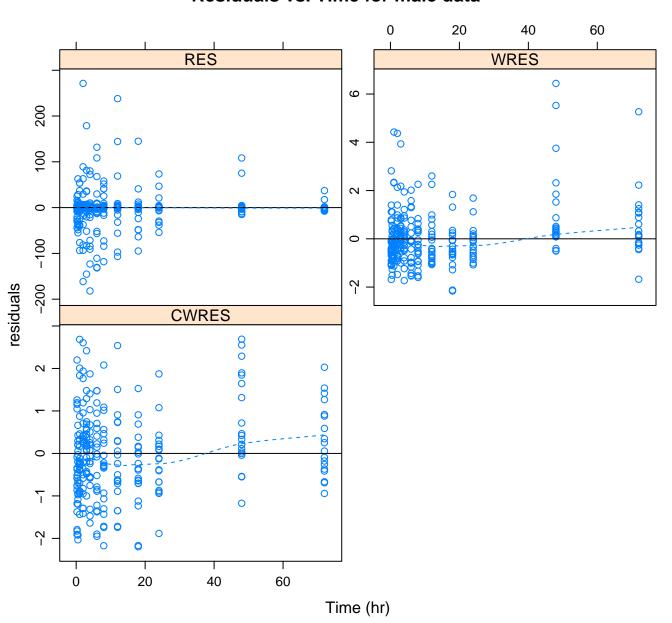
Model 1005
Residuals vs. Predicted for male data



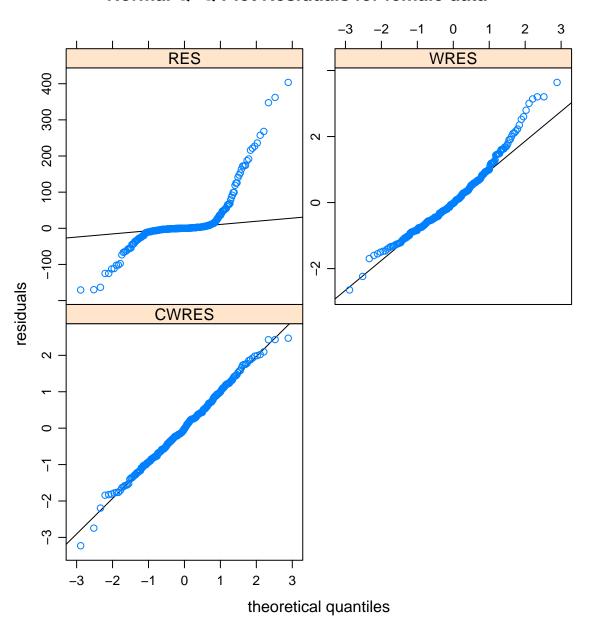
Model 1005 Residuals vs. Time for female data



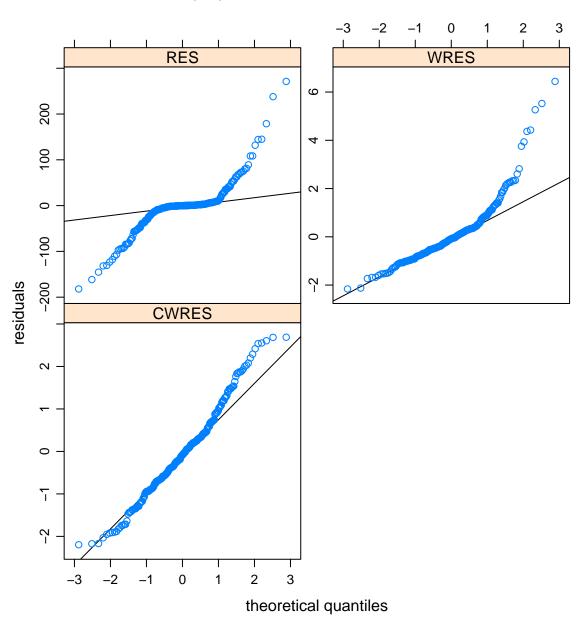
Model 1005 Residuals vs. Time for male data



Model 1005
Normal Q-Q Plot Residuals for female data



Model 1005
Normal Q-Q Plot Residuals for male data



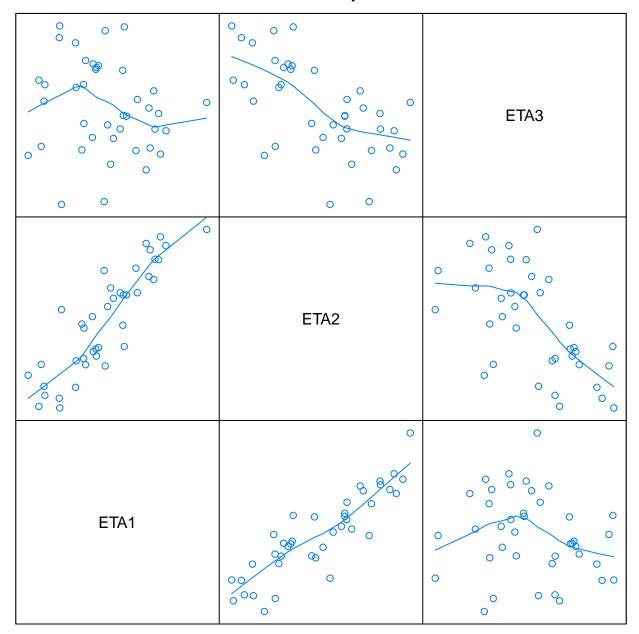
### **Covariate Scatterplots**



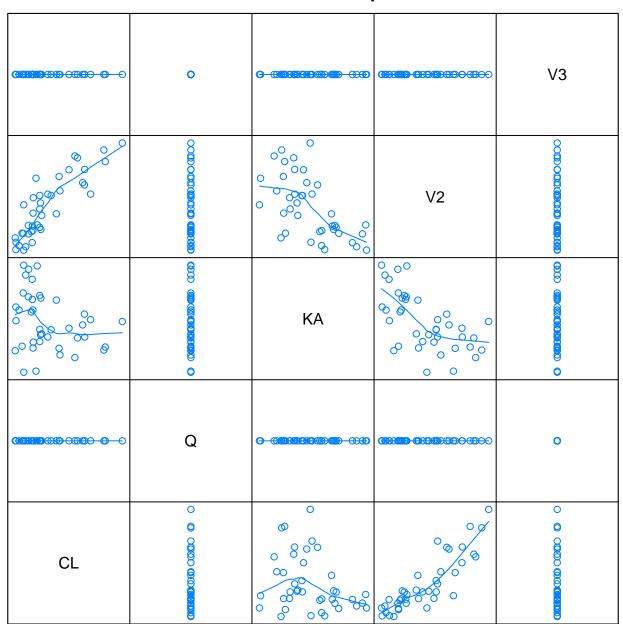
## **Continuous Covariates vs. Categorical Covariates**



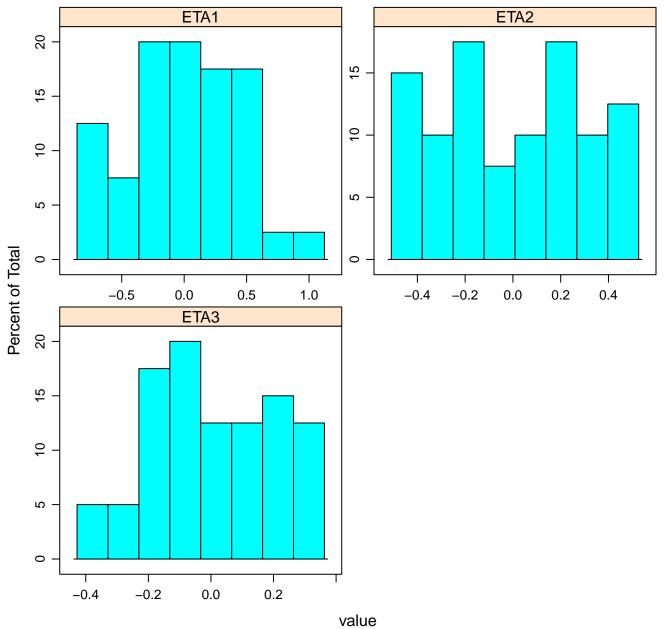
### **ETA Scatterplots**



### **Parameter Scatterplots**

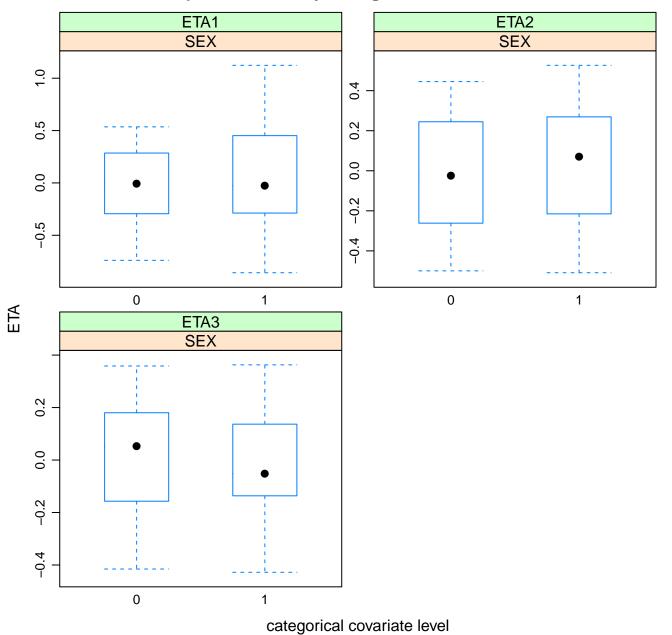


**Histograms of Etas** 

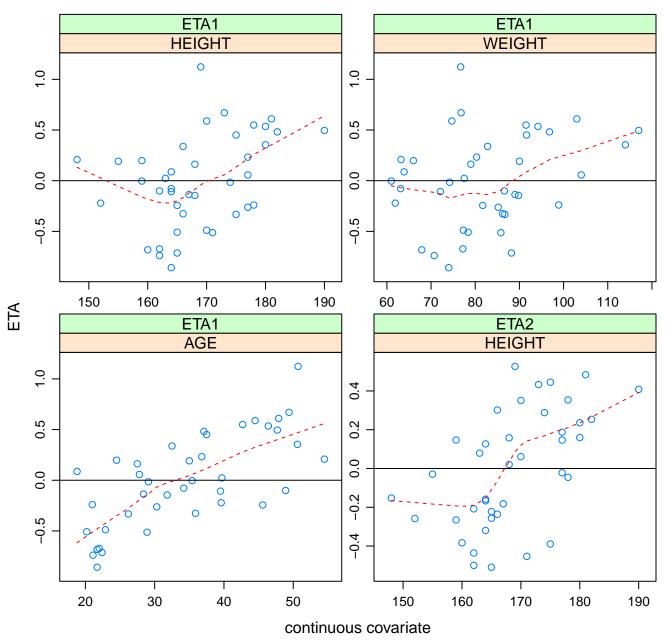


**Density of Etas** ETA1 ETA2 0.8 1.0 9.0 0.8 9.0 0.4 0.4 0.2 0.2 0.0 0.0 00000 0 @000@0000@000 Density -1 0 -0.5 0.0 0.5 1.0 ETA3 1.5 0.1 0.5 0.0 -0.5 0.5 0.0 value

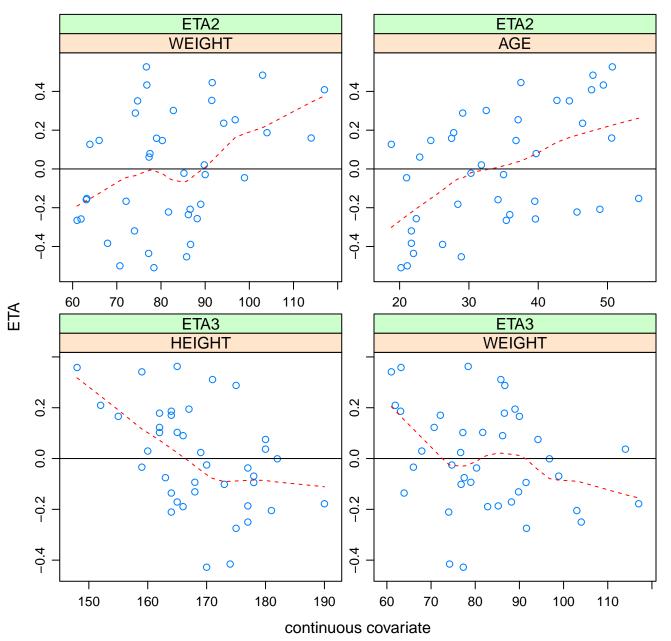
# **Boxplots of Etas by Categorical Covariate**



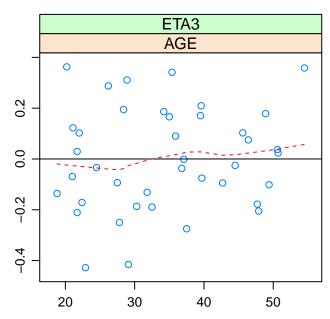
**Etas vs. Continuous Covariates** 



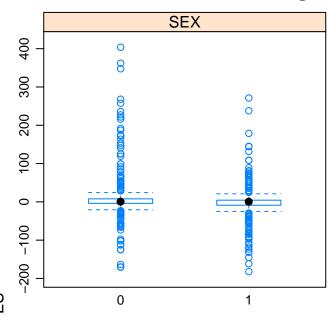
**Etas vs. Continuous Covariates** 



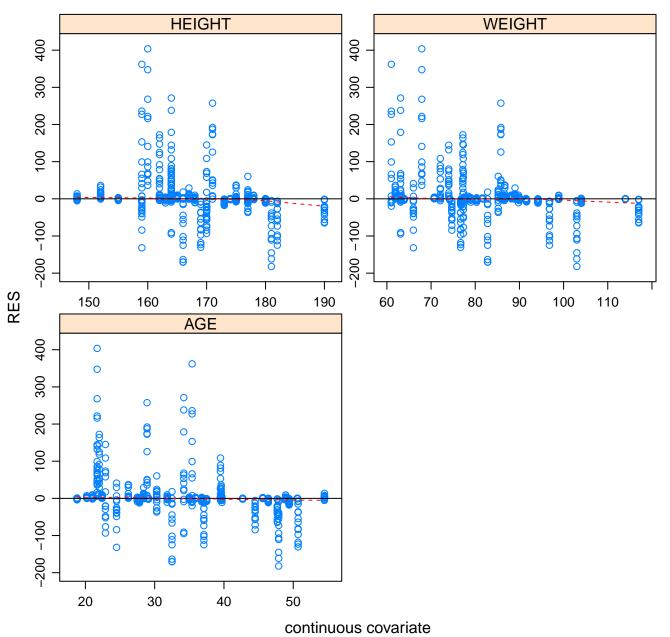
# **Etas vs. Continuous Covariates**



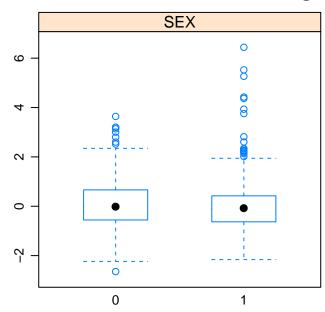
# **RES vs. Categorical Covariates**



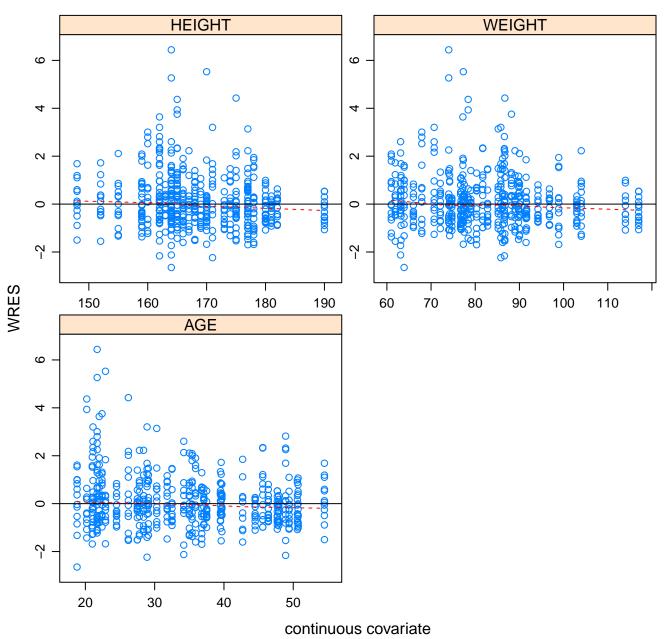
#### **RES vs. Continuous Covariates**



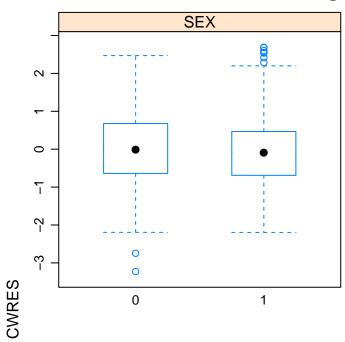
# **WRES vs. Categorical Covariates**



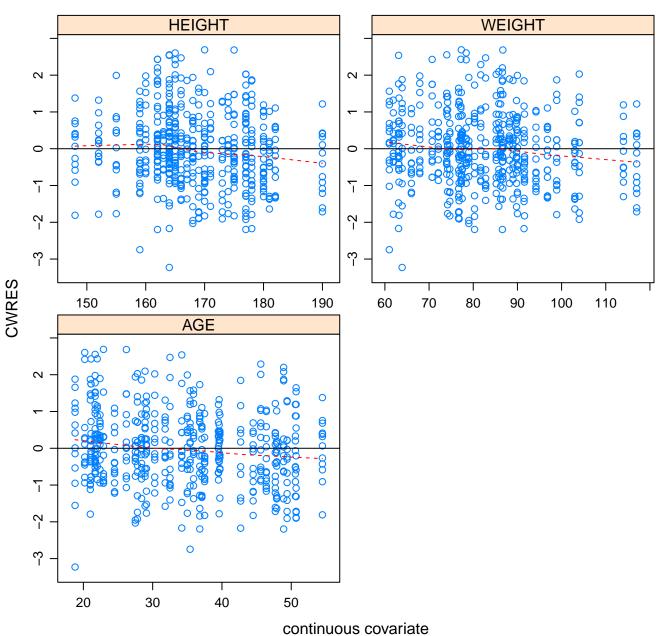
#### **WRES vs. Continuous Covariates**



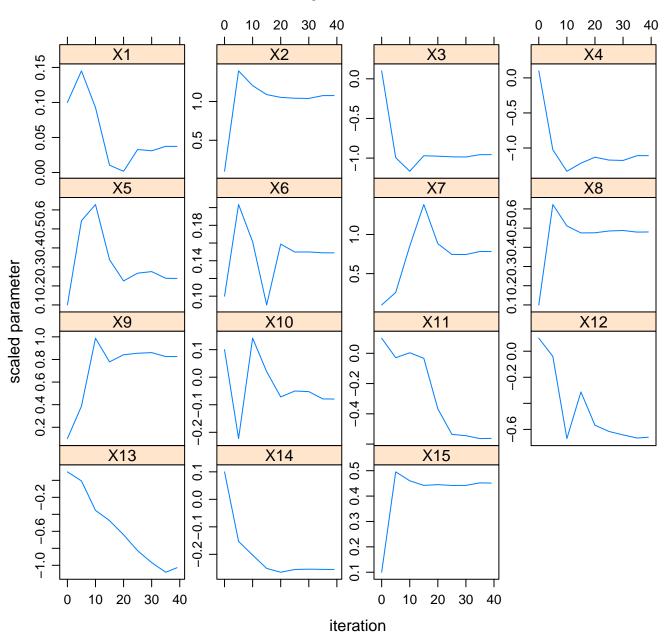
# **CWRES vs. Categorical Covariates**



#### **CWRES vs. Continuous Covariates**



## Model 1005 parameter search



## Model 1005 gradient search

