R version 3.4.4 (2018-03-15) -- "Someone to Lean On"

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Platform: x86\_64-apple-darwin15.6.0 (64-bit)

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Natural language support but running in an English locale

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> knitr::opts\_chunk$set(echo = TRUE)

> if(!require(gee)){install.packages("gee")}

Loading required package: gee

> require(gee)

> lrpprc.data <- read.csv("lrpprcdata.csv")

> lrpprc.data$Genotype<- relevel(lrpprc.data$Genotype, ref = "W")

> my.mdl <- gee(LogTG~Genotype + CRE + Genotype\*CRE, id = ExpID, data=lrpprc.data,

+ corstr="exchangeable")

Beginning Cgee S-function, @(#) geeformula.q 4.13 98/01/27

running glm to get initial regression estimate

(Intercept) GenotypeH GenotypeM CRE GenotypeH:CRE GenotypeM:CRE

2.64906724 -0.22759390 0.33732466 -0.43380332 0.39115217 0.04718073

Warning message:

In gee(LogTG ~ Genotype + CRE + Genotype \* CRE, id = ExpID, data = lrpprc.data, :

Working correlation estimate not positive definite

> summary(my.mdl)$coefficients

Estimate Naive S.E. Naive z Robust S.E. Robust z

(Intercept) 1.55838340 0.9321202 1.67187 0.6817903 2.2857223

GenotypeH 0.14801804 NaN NaN 0.2328612 0.6356492

GenotypeM 0.71293659 NaN NaN 0.3050740 2.3369300

CRE -0.05819138 NaN NaN 0.1983339 -0.2934010

GenotypeH:CRE 0.01554024 NaN NaN 0.1508394 0.1030251

GenotypeM:CRE -0.61281030 NaN NaN 0.2137285 -2.8672372