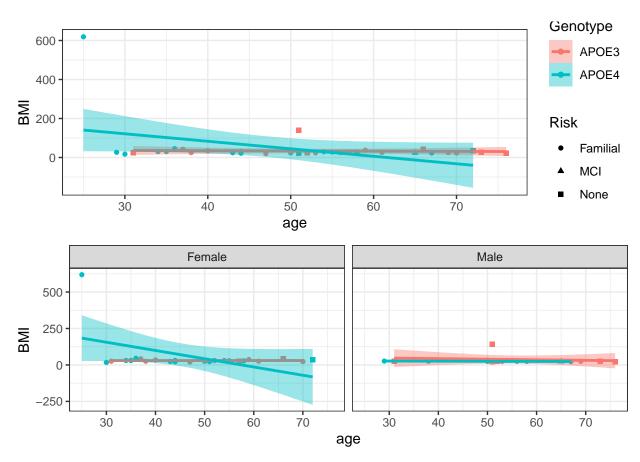
#### Physiological Visualizatiions

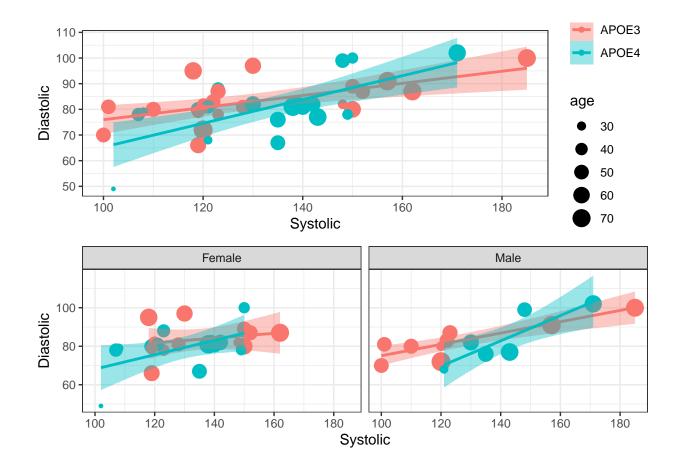
```
##
## Call:
## lm(formula = BMI ~ age * Genotype * sex, data = geno_combined)
## Residuals:
      Min
               1Q Median
                               3Q
                                      Max
## -138.61 -13.96
                   -4.34
                             0.64 434.90
##
## Coefficients:
##
                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                              29.23769 109.76479
                                                   0.266
                                                            0.7915
                                                    0.009
                               0.01938
                                          2.10937
                                                            0.9927
                                        141.08549
## GenotypeAPOE4
                             296.30727
                                                   2.100
                                                            0.0428 *
## sexMale
                              29.55222
                                        164.94239
                                                    0.179
                                                            0.8588
                              -5.67847
                                                   -2.008
## age:GenotypeAPOE4
                                          2.82796
                                                            0.0522 .
## age:sexMale
                              -0.40937
                                          3.01544
                                                   -0.136
                                                            0.8928
                            -326.13845
                                                   -1.412
                                                            0.1665
## GenotypeAPOE4:sexMale
                                        230.94211
## age:GenotypeAPOE4:sexMale
                               5.98621
                                          4.36305
                                                    1.372
                                                            0.1785
## Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
## Residual standard error: 86.68 on 36 degrees of freedom
     (1 observation deleted due to missingness)
## Multiple R-squared: 0.2326, Adjusted R-squared: 0.08338
## F-statistic: 1.559 on 7 and 36 DF, p-value: 0.1794
##
## Call:
## lm(formula = BMI ~ age * Genotype, data = combo_f)
##
## Residuals:
               1Q Median
                               3Q
                                      Max
## -138.61 -31.82 -4.31
                             8.27
                                   434.90
##
## Coefficients:
                     Estimate Std. Error t value Pr(>|t|)
                     29.23769
                              134.30964
## (Intercept)
                                           0.218
                                                   0.8296
                      0.01938
                                           0.008
                                                   0.9941
                                 2.58105
## GenotypeAPOE4
                    296.30727
                               172.63405
                                            1.716
                                                   0.0995
## age:GenotypeAPOE4 -5.67847
                                 3.46033 -1.641
                                                   0.1144
## ---
## Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
## Residual standard error: 106.1 on 23 degrees of freedom
## Multiple R-squared: 0.23, Adjusted R-squared: 0.1295
## F-statistic: 2.29 on 3 and 23 DF, p-value: 0.1052
```

```
##
## Call:
## lm(formula = BMI ~ age * Genotype, data = combo_m)
## Residuals:
##
       Min
                1Q Median
                                3Q
                                       Max
## -22.320 -10.271 -4.369
                             0.015 101.720
##
## Coefficients:
##
                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                      58.7899
                                 42.6998
                                          1.377
                                                    0.192
                      -0.3900
                                  0.7474 -0.522
                                                    0.611
## age
## GenotypeAPOE4
                     -29.8312
                                 63.4121 -0.470
                                                    0.646
                                  1.1523
## age:GenotypeAPOE4
                       0.3077
                                           0.267
                                                    0.794
## Residual standard error: 30.06 on 13 degrees of freedom
     (1 observation deleted due to missingness)
## Multiple R-squared: 0.07001, Adjusted R-squared: -0.1446
## F-statistic: 0.3262 on 3 and 13 DF, p-value: 0.8064
```

## 'geom\_smooth()' using formula 'y ~ x'

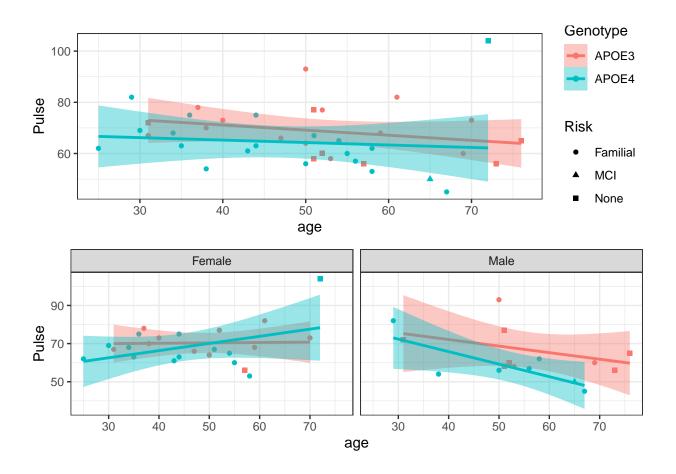


## 'geom\_smooth()' using formula 'y ~ x'

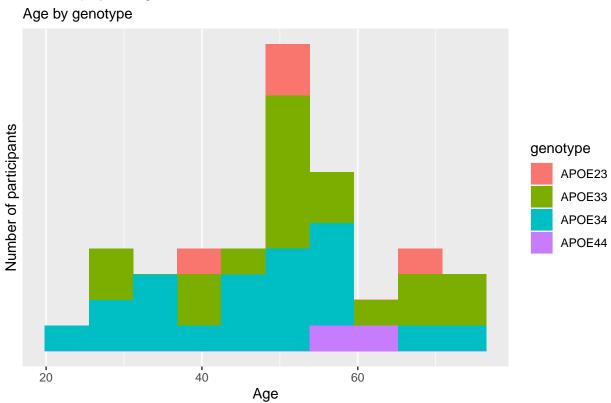


```
##
## Call:
## lm(formula = Pulse ~ age * Genotype * sex, data = geno_combined)
## Residuals:
##
       Min
                1Q Median
                                3Q
                                       Max
## -20.072 -5.207 -1.800
                             6.474
                                    25.672
## Coefficients:
##
                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                                         13.79651
                                                     5.031 1.82e-05 ***
                              69.40345
                                                     0.071
                                                              0.943
## age
                               0.01949
                                          0.27278
## GenotypeAPOE4
                             -18.10294
                                         17.39371
                                                   -1.041
                                                              0.306
## sexMale
                              16.49001
                                         20.33654
                                                    0.811
                                                              0.423
## age:GenotypeAPOE4
                               0.35589
                                          0.35564
                                                     1.001
                                                              0.324
## age:sexMale
                              -0.36344
                                          0.37588
                                                   -0.967
                                                              0.341
## GenotypeAPOE4:sexMale
                              24.24073
                                         28.01658
                                                              0.393
                                                     0.865
## age:GenotypeAPOE4:sexMale
                              -0.66818
                                          0.53298
                                                   -1.254
                                                              0.219
## ---
## Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
##
## Residual standard error: 10.32 on 32 degrees of freedom
     (5 observations deleted due to missingness)
## Multiple R-squared: 0.3307, Adjusted R-squared: 0.1843
## F-statistic: 2.259 on 7 and 32 DF, p-value: 0.05486
```

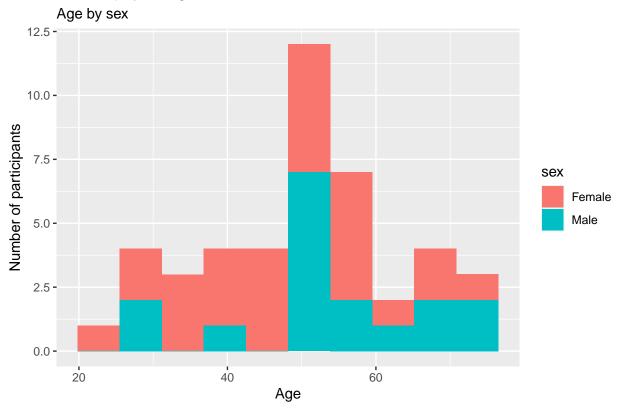
```
##
## Call:
## lm(formula = Pulse ~ age * Genotype, data = combo_f)
## Residuals:
##
                     Median
                                   3Q
       Min
                 1Q
                                            Max
## -20.0723 -5.2072 -0.7913
                               6.4745 25.6724
##
## Coefficients:
##
                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                     69.40345
                                13.61116
                                           5.099 5.48e-05 ***
                                           0.072
                      0.01949
                                 0.26912
                                                    0.943
## GenotypeAPOE4
                    -18.10294
                                17.16003 -1.055
                                                    0.304
                                 0.35086
## age:GenotypeAPOE4
                                          1.014
                                                    0.323
                      0.35589
## Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.18 on 20 degrees of freedom
     (3 observations deleted due to missingness)
## Multiple R-squared: 0.1337, Adjusted R-squared: 0.003728
## F-statistic: 1.029 on 3 and 20 DF, p-value: 0.4011
##
## Call:
## lm(formula = Pulse ~ age * Genotype, data = combo_m)
##
## Residuals:
      Min
               1Q Median
                               3Q
                                      Max
## -13.094 -5.590 -2.611
                            5.943 24.304
##
## Coefficients:
##
                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                     85.8935
                                15.2696
                                         5.625 0.000112 ***
## age
                     -0.3440
                                 0.2643 -1.301 0.217547
## GenotypeAPOE4
                      6.1378
                                 22.4465
                                          0.273 0.789164
## age:GenotypeAPOE4 -0.3123
                                 0.4057 -0.770 0.456326
## ---
## Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
## Residual standard error: 10.55 on 12 degrees of freedom
     (2 observations deleted due to missingness)
## Multiple R-squared: 0.4239, Adjusted R-squared: 0.2798
## F-statistic: 2.943 on 3 and 12 DF, p-value: 0.07613
## 'geom_smooth()' using formula 'y ~ x'
```



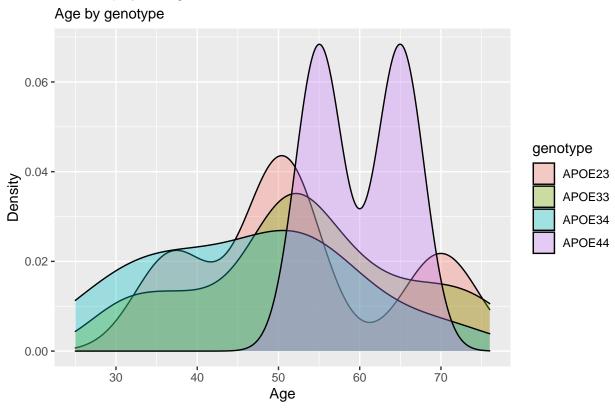
# Cohort physiological distribution



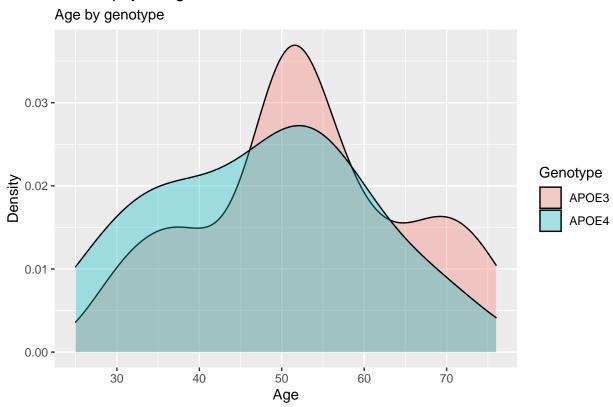
### Cohort physiological distribution



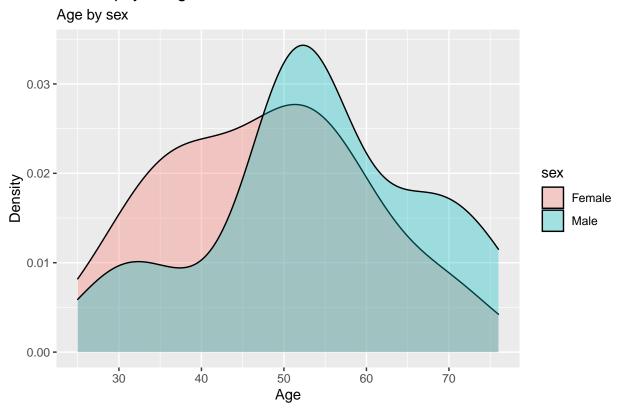
# Cohort physiological densities



### Cohort physiological densities



## Cohort physiological densities



#### Risk for AD in cohort

