

χ^2 test, 2x2 table

	osteoarthritis	controls	sum
C's	141	797	938
G's	47	433	580
sum	188	1230	1418

$$\chi^2 = \sum \frac{(O_{\text{cell}} - E_{\text{cell}})^2}{E_{\text{cell}}}$$
$$= 7.58$$

$$E_{\text{C's, osteoarthritis}} = (938/1418) * 188$$

$$E_{\text{C's, control}} = (938/1418) * 1230$$

$$E_{\text{G's, osteoarthritis}} = (580/1418) * 188$$

$$E_{\text{G's, control}} = (580/1418) * 1230$$

χ^2 test, 2x2 table

```
rbrem@strybing:~ — ssh — 80x24

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> mytable <- rbind(c(141,797),c(47,433))
> mytable
      [,1] [,2]
[1,] 141 797
[2,]  47 433
> chisq.test(mytable, correct=F)

      Pearson's Chi-squared test

data:  mytable
X-squared = 7.5818, df = 1, p-value = 0.005896

> 
```