

The **cg** package for comparison of groups

Bill Pikounis^{1,*}, John Oleynick¹

1. Johnson & Johnson Pharmaceutical Research & Development
* Contact author: bpikouni@its.jnj.com

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In research of medicines, the comparison of treatments, test articles, conditions, administrations, etc. is very common. Studies are done, and the data are then most often analyzed with a default mixture of equal variance t-tests, analysis of variance, and multiple comparison procedures. But even for a presumed one-factor linear model to compare groups, more often than not there is the need to accommodate data which is better suited for expression of multiplicative effects, potential outliers, and limits of detection. Base *R* and contributed packages provide all the pieces to develop a much more comprehensive strategy. Such an approach includes exploration of the data, fitting models, formal analysis to gauge the magnitude of effects, and checking of assumptions. The *cg* package is developed with those goals in mind, using a flow of wrapper functions to guide the full analysis and interpretation of the data. Examples from our non-clinical world of research will be used to illustrate the package and strategy.