

Diffograms and Control Plots

You can use diffograms to visually assess whether pairs of group means are statistically different. [Review the diffogram.](#)

The red (or green) and blue diagonal lines represent the confidence intervals on the differences of the means for each pairwise comparison. The gray 45-degree reference line represents equality of the means, that is, a zero difference. If the confidence interval for the difference between two groups includes zero (the gray reference line), then there's no significant difference between the groups. In that case, the diagonal line for the pair will be colored red. If the confidence interval does not cross the reference line, then there is a significant difference between the two groups, and the diagonal line for the pair will be colored blue.

A control plot displays the least squares mean and decision limits. [Review the control plot.](#)

They compare each treatment group to the control group using Dunnett's method. In this scenario, the control group is average/typical and the middle horizontal line represents its least squares mean value. You can see the arithmetic mean value in the lower right corner of the graph. SAS bounds the shaded area with the LDL, or lower decision limit, and the UDL, upper decision limit. Notice that there's a vertical line for each treatment that you're comparing to the control group. The height of the vertical lines represents the mean for that treatment. If a vertical line extends past the decision limits (the shaded area), then the group represented by the line is significantly different from the control group.

Statistics 1: Introduction to ANOVA, Regression, and Logistic Regression

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