

2-Group Comparison?

Yes 🗸

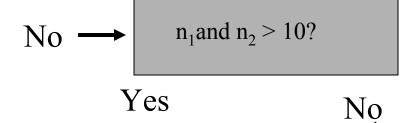
No (go to Slide 3)

Paired Data?

Yes !

Paired t-test

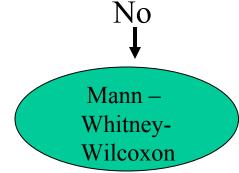
- -If n > 60, create confidence interval and compute p-value using normal distribution.
- If n < 60 create confidence interval and compute p-value using "t" distribution with appropriate degrees freedom



2 sample t-test

- -If n_1 , $n_2 > 60$, create confidence interval and compute p-value using normal distribution.
- If n_1 and/or n_2 < 60 create confidence interval and compute p-value using "t" distribution with appropriate degrees freedom

Data in both groups
Normally Distributed?



2- Group Comparison?

 $ight\right$

No (more than 2 Groups)



NOTE: the p-value will only allow you to ascertain that at least on group means is statistically significantly different than the other group means. Further work is required to determine which groups are different (two sample t-tests) and the magnitude and direction of the difference (sample mean differences, 95% confidence intervals)

Slide 4, Binary Data

2- Group Comparison?



No (more than 2 Groups)

Do your samples meet size criteria for large sample methods?

Chi-Squared Test



No

Normal Approximation, Chi-Square, Fisher's Exact

Fisher's Exact
Test

Create confidence interval for difference in proportions using normal distribution.

No simple straightforward method for computing exact confidence interval on difference in proportions —consult a statistician!

2- group or more than 2 groups comparison but only one categorical grouping variable – ex: age groups, ethnicity, hair color etc..)?

↓

To estimate survival curves and percentiles of survival times, use Kaplan-Meier method

To test for statistical differences in survival curves, use log-rank test or Breslow-Gehan test

Copyright 2005, The Johns Hopkins University and John McGready. All rights reserved. Use of these materials permitted only in accordance with license rights granted. Materials provided "AS IS"; no representations or warranties provided. User assumes all responsibility for use, and all liability related thereto, and must independently review all materials for accuracy and efficacy. May contain materials owned by others. User is responsible for obtaining permissions for use from third parties as needed.