|  |
| --- |
| **parametric** = continuous variable, bell curve distribution [MEANS] |
| **non-parametric** = distribution is not normal, categorical variables [MEDIANS] |

A diagram of a positive result

Description automatically generated

**A sensitive test has few false negatives**

*Good for screening  
 (e.g., PSA)*

**A specific test has few false positives**

*Good for confirmation   
 (e.g., cytology)*

Sensitivity=[a/(a+c)]×100Specificity=[d/(b+d)]×100Positive predictive value(PPV)=[a/(a+b)]×100Negative predictive value(NPV)=[d/(c+d)]×100.

[b/(b+d)]x100

[a/(a+c)]x100

**Multivariable Modeling**

**-- Multivariable linear regression**

*(parametric)*

*\* = paired test – use when comparing change in same subject (e.g., comparing weight before and after a diet intervention)*

**>2 groups**

**X2 test**

**(Chi-squared)**



*If <5 in a subgroup…*

**Fisher’s Exact test**

(Chi-squared)

**Multivariable Modeling**

**-- Logistic regression**

**-- Cox proportional hazards *(survival analysis)***

Binary

*(non parametric)*

**NOT normal distribution**

*\*paired t-test*

*\*Wilcoxon rank sum*

**Spearman’s**

**Kruskal-Wallis**

**Mann-Whitney U**

**Pearson’s *or linear regression***

Continuous

**Comparisons**

**>2 groups**

**ANOVA**

**Correlation**

**Normal distribution**

*Dependent Variable*

**(D**

**Comparisons**

**OUTCOME**

**(D**

**t-test**

**2 groups**