

# Appendix A

## Glossary of Statistical Terms

**Biostatistics** – statistics applied to the analysis of biological data

**Central tendency** – the degree of clustering of a statistical distribution (e.g. mean, mode or median)

**Coefficient of determination** – the proportion of the variation of one variable determined by the variation of another variable

**Degrees of freedom** – number of unrestricted and independent variables determining the value of a statistic. In general, the degrees of freedom of an estimate (i.e., a statistic and not a parameter) is equal to the number of independent scores that go into the estimate minus the number of parameters estimated as intermediate steps in the estimation of the parameter itself. A common way to think of degrees of freedom is as the number of independent pieces of information available to estimate another piece of information.

**Descriptive statistics** – statistical methods that summarize a set of variables

**Dispersion** – the scattering of the values of a frequency distribution from the mean

**Error variance** – variance within groups in an analysis of variance

**Factor variance** – variance between groups being compared in an analysis of variance

**Frequency distribution** – an arrangement of statistical data that exhibits the frequency of the occurrence of the values of a variable

**Gaussian distribution** – a frequency distribution that fits a bell curve, typical of parametric data; normal distribution

**Inferential statistics** – statistical methods that allow for the testing of hypotheses

**Mean** – measure of central tendency computed by dividing the sum of a set of values by the number of values

**Mean squares** – variances used in analysis of variance that are based on the sums of squares divided by the degrees of freedom

**Normal deviate** – the deviation from the mean measured in standard deviation units

**Normal distribution** – a frequency distribution that fits a bell curve, typical of parametric data

**Null hypothesis** – statement of no difference that is tested by inferential statistical analysis

***Parameter*** – a quantity that describes a statistical population

***Population*** – a group of individuals from which samples are taken for statistical measurement

***Sample*** – a finite portion of a statistical population whose properties are studied to gain information about the whole

***Standard deviation*** – a measure of the dispersion of a frequency distribution

***Standard deviation of the mean*** – standard error

***Standard error*** – the range within which the mean is found 68.26% of the time (also called the standard deviation of the mean)

***Standardized normal curve*** – a normal curve with a  $\mu = 0$  and  $\sigma = 1$

***Statistic*** – a quantity that is computed from a sample and estimates the same value for the population (i.e. a statistic is an estimate of a parameter)

***Statistics*** – mathematical analysis, interpretation, and presentation of numerical data

***Sum of squares*** – sum of squared deviations from the mean

***Variance*** – a measure of the change in numerical data