for a given sample size, because each measurement is matched with its own control. Elaboration of mathematical equations for determining the sample size involves two statistical assumptions: selection of individuals is random and unbiased; and data are normally distributed in the trial where the mean is calculated from measurements of individuals. On the other hand, different methods for determining sample size are required in nonparametric statistics (e.g. Wilcoxon rank sum test). Accuracy of sample size calculations obviously depends on the accuracy of the parameters used in the algorithm. Therefore, these calculations should always be considered the estimate of an absolute minimum.

In conclusion, the surgeon should be careful to plan to include more than the minimum number of individuals in a study to compensate for loss during follow-up or other causes of attrition. In addition, the sample size calculation is best considered early in the planning of a study, when some modifications in the design of the trial can be made. Furthermore, the attention to sample size calculation results in a more significant study with a high priority for publication.

References

