

Statistical analysis of cross-sectional survey	<ol style="list-style-type: none"> 1. Descriptive Statistics: <ul style="list-style-type: none"> • Demographics: Frequencies and percentages for categorical variables (e.g., surgeon specialty, years of experience) and measures of central tendency (mean, median) and dispersion (standard deviation, interquartile range) for continuous variables. • Survey Responses: Frequencies, percentages, and summary statistics for responses to closed-ended questions. 2. Reliability Analysis: <ul style="list-style-type: none"> • Internal Consistency: Cronbach's alpha will be calculated to assess the reliability of multi-item scales. • Test-Retest Reliability: If applicable, test-retest reliability will be evaluated using intraclass correlation coefficients (ICCs). 3. Inferential Statistics: <ul style="list-style-type: none"> • Comparative Analysis: <ul style="list-style-type: none"> ◦ Chi-Square Tests: To compare categorical variables between different groups (e.g., comparing responses between surgeons from low vs. high volume centers). ◦ t-Tests/ANOVA: To compare means of continuous variables between two or more groups • Regression Analysis: <ul style="list-style-type: none"> ◦ Linear Regression: To predict continuous outcomes based on independent variables ◦ Logistic Regression: To predict binary outcomes based on independent variables. 4. Multivariate Analysis: <ul style="list-style-type: none"> • Factor Analysis: To identify underlying factors from the survey items related to planning and technical aspects. • Cluster Analysis: To identify distinct groups of surgeons based on their responses. 5. Qualitative Analysis: <ul style="list-style-type: none"> • Thematic Analysis: For open-ended responses, thematic analysis will be conducted to identify common themes and patterns. • Content Analysis: To quantify the presence of certain themes or keywords in open-ended responses. 6. Handling Missing Data: <ul style="list-style-type: none"> • Imputation Methods: Multiple imputation or other appropriate methods will be used to handle missing data. • Sensitivity Analysis: To assess the impact of missing data on the results. 7. Statistical Software <ul style="list-style-type: none"> • The analysis will be conducted using SPSS and R. 8. Ethical Considerations <ul style="list-style-type: none"> • Informed Consent: Participants will provide informed consent before participating in the survey.
Statistical analysis of PMSG planning study	<ol style="list-style-type: none"> 1. Descriptive Statistics: <ul style="list-style-type: none"> • Means, standard deviations, and ranges for the coordinates of the central points of the fenestrations (angle degrees and

	<p>distance from the proximal margin of stent fabric) and for the diameters of the 4 fenestrations will be calculated.</p> <ul style="list-style-type: none"> Summary statistics for the percentage of surface overlap between corresponding fenestrations will be provided. <p>2. Paired t-tests or Wilcoxon Signed-Rank Tests:</p> <ul style="list-style-type: none"> Depending on the normality of the data (which will be checked using Shapiro-Wilk test), paired t-tests (for normally distributed data) or Wilcoxon signed-rank tests (for non-normally distributed data) to compare the central points' coordinates and diameters of the fenestrations between the study PMSG plannings and control PMSG. <p>3. Regression Analysis:</p> <ul style="list-style-type: none"> Linear regression analysis to examine the relationship between the participant-designed and template-designed measurements, identifying any systematic bias. <p>4. Graphical Methods:</p> <ul style="list-style-type: none"> Scatter plots to visually compare the coordinates and diameters of the fenestrations between the two methods. Box plots to visualize the distribution of differences in the measurements. <p>5. Statistical Software</p> <ul style="list-style-type: none"> The analysis will be conducted using SPSS and R.
Statistical analysis of Delphi Rounds	<p>1. Data Collection</p> <ul style="list-style-type: none"> Instrument: Structured questionnaires with rating Likert scale ranging from 1 to 5, where 1 indicates strong disagreement and 5 indicates strong agreement. <p>2. Data Coding:</p> <ul style="list-style-type: none"> Ratings are numerically coded for analysis. <p>3. Statistical Analysis</p> <ol style="list-style-type: none"> Descriptive Statistics: <ul style="list-style-type: none"> Summary Statistics: Mean, median, standard deviation, interquartile range, and frequency distribution of ratings for each item in each round. Visualization: Box plots and histograms to visualize the distribution of ratings. Consensus Measurement: <ul style="list-style-type: none"> Interquartile Range (IQR): IQR for each item to assess the degree of consensus. Median Ratings: Median ratings across rounds to observe convergence towards consensus. Stability of Ratings: <ul style="list-style-type: none"> Stability Index: Percentage of unchanged ratings between rounds for each item to measure stability and convergence. Agreement Analysis: <ul style="list-style-type: none"> Kendall's W (Coefficient of Concordance): To measure the overall agreement among panelists for each round. Values range from 0 (no agreement) to 1 (complete agreement).

- **Intraclass Correlation Coefficient (ICC):** To assess the reliability of ratings and the degree of agreement among panelists.

5. Comparison of Rounds:

- **Wilcoxon Signed-Rank Test:** To compare ratings between consecutive rounds and identify significant changes.
- **Friedman Test:** If there are more than two rounds, to detect differences in ratings across multiple rounds.

6. Handling Disagreement:

- **Analysis of Disagreement:** Analysis of reasons for discordance based on qualitative feedback from panelists.

7. Sensitivity Analysis:

- **Outlier Analysis:** Sensitivity analysis by excluding extreme ratings from outliers.

5. Statistical Software

- **Software Packages:** The analysis will be conducted using SPSS, R, and Stata.

6. Confidentiality Considerations

- **Confidentiality:** Ratings and open responses from panelists will be kept confidential to avoid risk of individual's influence and groupthink.