

Appendix 1: Analysis of effect of tube obstruction/position

Contrasts from estimated marginal means of the “obstruction” variable, calculated from univariable mixed models, with participant as random effect.

- ❖ Confidence level used: 0.95;
- ❖ Degrees-of-freedom method: Kenward-Roger;
- ❖ P value adjustment: Tukey method for comparing a family of three estimates.

(I) For “FEV1”

Group 1	Group 2	Contrast estimate	P value
0 (no obstruction)	1 (partial obstruction)	-0.1644	0.8426
0 (no obstruction)	2 (complete obstruction)	-0.0137	0.9988
1 (partial obstruction)	2 (complete obstruction)	0.1507	0.8488

(II) For “PEF”

Group 1	Group 2	Contrast estimate	P value
0 (no obstruction)	1 (partial obstruction)	-55.28	0.2235
0 (no obstruction)	2 (complete obstruction)	-45.62	0.3531
1 (partial obstruction)	2 (complete obstruction)	9.66	0.9463

(III) For “MPT”

Group 1	Group 2	Contrast estimate	P value
0 (no obstruction)	1 (partial obstruction)	-1.283	0.9310
0 (no obstruction)	2 (complete obstruction)	-1.708	0.8924
1 (partial obstruction)	2 (complete obstruction)	-0.425	0.9921

Contrasts from estimated marginal means of the “obstruction” variable, calculated from multivariable mixed models (participant as random effect), with gender and fenestration as covariates in the model.

- ❖ Confidence level used: 0.95;
- ❖ Degrees-of-freedom method: Kenward-Roger;
- ❖ P value adjustment: Tukey method for comparing a family of three estimates.

(I) For “FEV1”

Group 1	Group 2	Contrast estimate	P value
0 (no obstruction)	1 (partial obstruction)	0.259	0.7367
0 (no obstruction)	2 (complete obstruction)	0.410	0.4725
1 (partial obstruction)	2 (complete obstruction)	0.151	0.8315

(II) For “PEF”

Group 1	Group 2	Contrast estimate	P value
0 (no obstruction)	1 (partial obstruction)	-7.46	0.9791
0 (no obstruction)	2 (complete obstruction)	2.20	0.9982
1 (partial obstruction)	2 (complete obstruction)	9.66	0.9393

(III) For “MPT”

Group 1	Group 2	Contrast estimate	P value
0 (no obstruction)	1 (partial obstruction)	5.297	0.3815
0 (no obstruction)	2 (complete obstruction)	4.618	0.4911
1 (partial obstruction)	2 (complete obstruction)	-0.679	0.9742