

Table 1ESM. Parameters of the linear model assessing the factors involved in the difference between the data logger and the ventilator SD card to measure tidal volume in three home ventilators set in AVAPS mode

parameters		A40	PrismaST30	Vivo40
1	Intercept of the reference (Non-intentional leak absent, MODEL 1, PEEP 5)	-9.2 [-10.8;-7.6]*	-3.3 [-8.4;+1.7]	-25.2 [-29.3;-21.2]*
2	Effect of Non-intentional leak present vs. absent under MODEL 1 and PEEP5	-23.8 [-26.0;-21.5]**	3.8 [-3.3;-10.9]	-12.1 [-17.9;-6.3]**
3	Effect of MODEL 2 vs. MODEL 1 under Non-intentional leak absent and PEEP5	-4.0 [-6.2;-1.7]**	0.3 [-6.9;7.4]	-2.9 [-8.7;2.9]
4	Effect of PEEP 10 vs. PEEP5 under Non-intentional leak absent and MODEL 1	-8.2 [-10.5;-6.0]**	13.0 [5.8;20.1]**	-4.4 [-10.2;1.4]
5	Non-intentional leak in interaction with MODEL 2	7.4 [4.2;10.7]**	1.1 [-8.9;11.2]	4.4 [-3.8;12.6]
6	Non-intentional leak in interaction with PEEP10	10.3 [7.1;13.5]**	-11.3 [-21.3;-1.2]**	9.9 [1.7;3.18.1]**
7	MODEL 2 in interaction with PEEP10	11.5 [8.3;14.7]**	-7.7 [-17.8;2.4]	4.6 [-3.6;12.8]
8	Non-intentional leak in interaction with MODEL 2 in interaction with PEEP10	-10.6 [-15.2;-6.1]**	10.9 [-3.3;25.2]	-10.2 [-21.8;1.4]

PEEP, positive end-expiratory pressure

*P<0.05 vs 0 **P<0.05 vs reference

Values are percentages [95% confidence intervals] and correspond to the absolute difference of the relative variation between the ventilator SD card and the data logger (data logger – ventilator SD card). A positive value of parameter 1 means that the data logger overestimates V_T more than the ventilator SD card does. The opposite is true if the difference is negative. The parameters 2 to 8 quantify the difference to parameter 1.

Help to interpret the results. Let's assess the role of the non-intentional leak on the difference of the relative variation between ventilator SD card and data logger for the A40 ventilator. The parameter 2 indicates that the non-intentional leak has a statistical significant negative effect on the intercept of the reference in the amount of -23.8%. However, this effect is not the same across the conditions due to the statistically significant interaction between the other factors (parameters 5 to 8). Therefore, a global effect of non-intentional leak cannot be computed. What can be done, however, is to assess the effect of non-intentional leak in specific conditions. To obtain the effect of non-intentional leak for MODEL 2 and PEEP5 the parameters 2 and 5 are added, which leads to a -16.4% effect relative to the reference. In this way, we are testing whether the effect of non-intentional leak varies between OSH and MODEL 1 at PEEP5. To obtain the effect of non-intentional leak under MODEL 1 and PEEP10

conditions, the parameters 2 and 6 are added, which leads a -13.5% effect. The parameter 6 compares PEEP5 and PEEP10 for MODEL 1 with or without non-intentional leak. To obtain the effect of leak under MODEL 1 and PEEP10 conditions the parameters 2, 5, 6 and 8 are added, leading to -16.7%.