

**Table S5 The Distribution of Particle Number and Total Sum of Particle Volumes.**

<b>Activity or Therapy</b>	<b>Sum of all particle counts</b>	<b>Percent of particles &lt;5µm</b>	<b>Volume of all particles (µm<sup>3</sup>)</b>	<b>Percent of volume in particles &lt;5µm</b>
Quiet breathing	140	97.46	3,737	15.20
Talk	5,317	98.69	88,039	22.13
Exercise	5,591	94.76	336,888	5.94
Shout	29,970	98.86	393,108	21.69
FEV	68,447	98.15	826,651	14.53
Cough	140,370	99.50	653,972	34.89
HFNO BR 20	122	94.51	9,749	8.83
HFNO BR 40	259	96.22	12,089	7.13
HFNO BR 60	609	97.15	8,187	22.41
NIPPV-S BR 5/5	187	96.46	8,778	17.07
NIPPV-S BR 10/10	252	98.10	4,058	21.19
NIPPV-S BR 15/10	306	97.16	10,016	20.92
NIPPV-S BR 20/10	368	97.63	11,511	19.95
NIPPV-S BR 25/10	376	98.26	9,827	15.59
NIPPV-D BR 5/5	230	95.07	9,694	12.45
NIPPV-D BR 10/10	313	94.01	20,314	7.79
NIPPV-D BR 15/10	385	96.02	19,928	9.68
NIPPV-D BR 20/10	554	94.43	37,903	6.39
NIPPV-D BR 25/10	875	94.55	74,115	6.45
NIPPV-S EXE 20/10	2,115	95.42	134,194	5.72
NIPPV-D EXE 20/10	3,119	92.39	374,125	5.46
HFNO Talk 60	5,358	97.68	144,974	21.49
HFNO EXE 60	3,495	94.52	245,883	6.45
HFNO FEV 60 (n=10)	276,682	97.94	1,981,211	16.34
HFNO FEV 60 (n=9)	36,175	95.31	348,345	9.91
HFNO Cough 60	40,505	99.23	402,607	22.44
Breath, mask	120	96.98	5,955	15.46
Talk, mask	2,770	98.56	63,056	22.44
Exercise, mask	3,581	94.17	272,758	7.50
Shout, mask	10,202	98.62	180,760	18.31
FEV, mask	5,119	92.51	541,382	3.28
Cough, mask	13,174	97.04	313,536	5.59