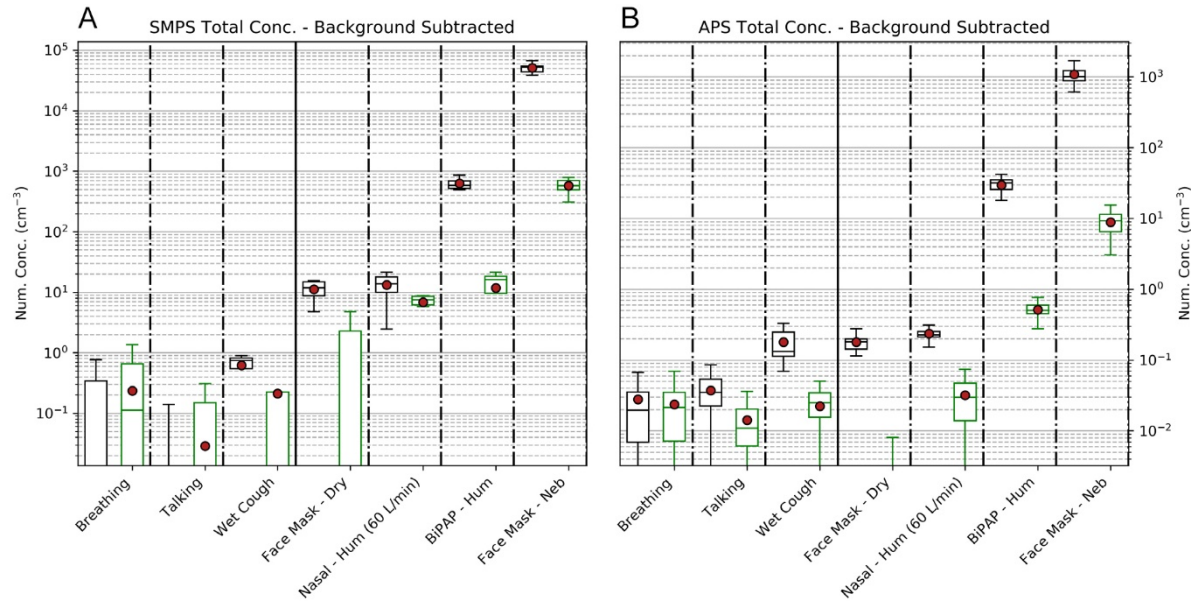


Figure 4. Hood effectiveness against aerosol generation*



APS = Aerodynamic Particle Sizer spectrometer; BiPAP = bilevel non-invasive positive-pressure; conc = concentrations; hum = humidified; neb = nebulised; SMPS = scanning mobility particle sizer spectrometer. * Background concentrations have been subtracted from results. Hood open, fan off. For the logarithmic y-axis, number concentrations $\times 10^{-3}$ = aerosol number per cm^3 . SMPS (TSI SMPS 3080) and APS (TSI APS 3220) aerosol data with box-and-whisker plots (means as red dots) with the backgrounds subtracted. Size distributions represent the mean of the experiment period, with the mean of the immediately preceding background period subtracted in each size bin. Panel A: Aerosols with diameters 80–660 nm measured using the SMPS. Panel B: Aerosols with diameters 0.5–5 μm measured using the APS. The upper limit was restricted to aerosol sizes where a measurable change above background count was observed (5 μm). For each of the seven respiratory interventions, there are two box-and-whisker plots (black and green). The black, left handed sided box is for hood open/fan off. The green right hand sided box is for hood closed/fan on. Because of the logarithmic y-axis, the ranges (box sizes) appear greater for respiratory interventions such as breathing and talking, although these in fact have smaller aerosol numbers.