

Calculation of individual Covid-19 infection risk at different work places and during different activities

based on a model for the Max Planck Institut for Chemistry, Mainz, Germany: <https://www.mpic.de/4747361/risk-calculator?en>

Assumptions:

regular surface disinfection, regular hand washing/disinfection

no touching of face with hands, no sneezing

In order of increasing individual infection risk



Scenario #	Name, kind of workplace or activity	hours of duration	Speaking volume (relative scale)	Parameters for modell calculation							individual risk of infection
				Mask others	Mask you	No. of People	Floor Size (m2)	Heigth (m)	Fraction of Speaking	Air exchange rate per hour	
1	4h microscopy session, medium size room, 2 Microscopes	4	1	FFP2	FFP2	2	30	3	5 %	4	0.01%
2	Long instrument training, 1,5h, small room	1.5	2	FFP2	FFP2	2	15	3	80 %	4	0.012%
3	Troubleshoot by staff, 15 min, medium size room	0.25	1	surgical	surgical	3	30	3	20 %	4	0.013%
4	Lab Seminar (2h), large room, well ventilated	2	3	surgical	surgical	10	120	3	10 %	4	0.041%
5	4h large shared laboratory (busy)	4	2	surgical	surgical	12	120	3,5	20 %	6	0.047%
6	Lab work in 4°C cool room, 5 min	0.1	1	everyday	everyday	2	10	2,5	10 %	2	0.054%
7	Short instrument introduction, 30 min, medium sized room	0.5	2	surgical	surgical	2	30	3	80 %	4	0.12%
8	4h large shared laboratory (not fully occupied)	4	2	everyday	everyday	4	120	3,5	20 %	6	0.13%
9	Chat in the hallway, 15 min	0.25	2	everyday	everyday	2	30	2,5	80 %	2	0.33%
10	Joint Lunch in Lunch Area, 45 min	0.75	2	none	none	8	120	3	50 %	2	0.34%
11	4h microscopy session, medium size room, 2 Microscopes	4	1	everyday	everyday	2	30	3	5 %	4	0.36%
12	Full day, small lab course (8h)	8	2	surgical	surgical	4	80	3	50 %	4	0.46%
13	Long instrument training, 1,5h, small room	1.5	2	surgical	surgical	2	15	3	80 %	4	0.69%
14	4h Work in shared office	4	1	everyday	everyday	2	25	2,5	10 %	3	0.77%
15	Large shared office (not fully occupied), 8 h	8	2	everyday	everyday	4	80	3	30 %	2	1.5%
16	Small coffee room, 15 min	0.25	2	none	none	3	10	2,5	80 %	1	1.9%

All calculations performed by C. Kolbe, Max Planck Society, December 2020