In brief

Furloughing staff following exposure to COVID-19

16 September 2021

Background

- Recommendations for quarantine have been made throughout the course of the pandemic for people who have COVID-19; have either been exposed or potentially exposed to COVID-19; and those who have travelled.[1] Recommendations are generally based on a risk assessment which considers exposure type and, more recently, vaccination status.[1]
- Workforce reconfigurations, such as splitting teams, have been described for a range of specialties in order to minimise staff exposure.[2]
- This evidence brief focuses on furloughing (leave of absence from work) and self-isolation of healthcare workers following exposure to COVID-19 and the implications for staffing levels. It is based on small descriptive studies and recommendations from healthcare organisations.

Published guidance

- Overall, guidance recommends that following exposure to a COVID-19 case, healthcare workers can continue to work if they are asymptomatic; have no breach in personal protective equipment; have limited contact; and are vaccinated.
- The World Health Organization classifies exposure as lower risk, higher risk and non-occupational risk. For lower risk exposure, depending on whether the status of the healthcare worker is symptomatic or asymptomatic, the advice is to isolate or continue to work following infection control measures, respectively. In higher risk exposure, staff are advised to isolate or quarantine for 14 days (Appendix 1).[3]
- The US Centers for Disease Control and Prevention recommend 14-day work exclusions when the healthcare worker has had prolonged close contact with a confirmed COVID-19 case and:
    - was not wearing a facemask
    - was not wearing eye protection when the infected person was not wearing a facemask
    - they were not wearing all the recommended personal protective equipment when performing an aerosol-generating procedure.

In other cases, no work restrictions are recommended (Appendix 2).[4]

- The US Centers for Disease Control and Prevention updated their recommendations to address healthcare workers who have been vaccinated against COVID-19. These healthcare workers who are asymptomatic do not need to be restricted from work.[5]
- Public Health England recommends a risk assessment following exposure. If this concludes there has been a significant breach or close contact to the confirmed case without wearing personal protective equipment, the worker should remain on leave from work for 10 days.[6]
- The United Kingdom Government recently announced that the National Health Service (NHS) staff who have been told to self-isolate may be permitted to attend work if they are fully vaccinated; have a negative polymerase chain reaction (PCR) test; and have daily negative lateral flow test results for a minimum of seven and maximum of 10 days.[7]

- Authors from the United States report the decision to quarantine a healthcare worker may also depend upon staffing shortages. In some settings, it is acknowledged that the benefit of allowing the healthcare worker to work may outweigh the potential risk of transmission.[8]
- Queensland Health has a matrix for assessment of healthcare workers exposed to a confirmed COVID-19 case (Appendix 3).[9]
- In Australia, there is guidance on infection prevention and control of COVID-19 in healthcare workers and guidance on the use of personal protective equipment for healthcare workers. However, these do not provide advice following exposure to a confirmed COVID-19 case.[10, 11]
- The NSW Clinical Excellence Commission provides guidance on COVID-19 infection, prevention and control. This do not cover advice following exposure to a confirmed COVID-19 case.[12]
- Individual jurisdictions, such as Minnesota and New York in the US, and British Colombia in Canada, have policies which include permitting asymptomatic healthcare workers who have not recently tested positive[13]; who have fully vaccinated or recently recovered from infection[14]; or whose risk of exposure was low[15] to continue to work after being exposed to a COVID-19 case.

Limitations

- The decision to put staff on leave is based on multiple variables, which can change over the course of the pandemic. The decision is contextual, nuanced and needs to be revisited frequently.
- The risk assessment tools identified in this brief do not take into consideration:
    - different COVID-19 variants, which have different risk profiles in terms of transmissibility and virulence
    - the relative risk of transmission of different variants, which is impacted by the type of COVID-19 vaccines
    - the frequency and type of COVID-19 testing used
    - vaccination status of patients
    - the risk assessing patient visitors.
- Much of the evidence and guidance included in this evidence brief is based on international data and findings should be interpreted relevant to factors such as disease prevalence and vaccination coverage in the local context. Only limited sources and key organisation statements were reviewed.

Evidence

- In Victoria, Monash Health established a rapid contact tracing process as a strategy to maintain the workforce during the COVID-19 pandemic.[16] The four key steps in this process were to:
    1. notify the medical director when a patient or healthcare worker has confirmed COVID-19
    2. build an outbreak management team
    3. contact trace
    4. communicate transparently.

Information gathered in the contact tracing step is used to stratify patients using a risk matrix (Figure 1).

- Between June and September 2020, Monash Health recorded 23 healthcare workers and 18 patients as confirmed COVID-19 cases. Following contact tracing, a total of 383 healthcare workers were required to take leave based on the risk matrix in Figure 1. A total of 15 of the healthcare workers on leave subsequently became COVID-19 positive during their 14-day isolation period.
- In an observational study from the United States, one health service allowed exposed healthcare workers who were classified as low-risk exposure to continue working (i.e. those who did not participate in an aerosol-generating procedure of a COVID-19-infected patient without an N95 respirator/PAPR and eye protection; and did not have ongoing exposure to a COVID-19-infected household member from whom they cannot self-isolate). Surveillance identified 7.6% (5/66) of low-risk healthcare workers who were subsequently tested, were positive for COVID-19.[17]

Figure 1: Risk matrix for managing COVID-19 positive healthcare workers

The matrix below is a guide only, and there may be circumstances where the risk action is elevated to the next level eg. moderate risk becomes high risk etc. Considerations when determining risk include:

1) **Case details:** asymptomatic versus symptomatic, time of exposure in relation to when symptoms developed, case acquisition (known vs unknown)
2) **Contact details:** distance from case and physical contact, length of exposure time, shared environmental space (significance depends on case symptoms)
3) **PPE:** mask use in index case, was PPE aligned to guidelines, reported breaches in technique
4) **Environment:** were AGPs performed, shared equipment (computers, phones) and use of communal spaces (tea rooms/work-stations/offices)
5) **Staff mobility:** HCWs working at more than one facility, highly mobile staff within facility eg orderly, security

From the period 48 hours before onset of symptoms until the case is deemed no longer infectious	Aerosol generating procedures	Close Contact 15 min or more cumulative over 1 week AND less than 1.5m distance OR Greater than 2 hrs in closed space	Limited Contact Less than 15 mins cumulative over 1 week AND greater than 1.5m distance OR Less than 2 hrs in closed space	Transient contact Large areas
No PPE[1]	High Risk[2]	High Risk[2]	Moderate Risk[3]	Low Risk
Surgical mask only	High Risk[2]	High Risk[2]	Low Risk	Low Risk
Mask and shield only	High Risk[2]	Moderate Risk[3]	Low Risk	Low Risk
Full PPE N95 (AGPs) or surgical mask (routine care) gown, gloves, eye protection	Low Risk	Low Risk	Low Risk	Low Risk

[1] Refer to the appropriate PPE for your healthcare setting.

[2] Consider testing on furlough where a positive result will affect the need for further contact tracing around the exposed HCW; consider point prevalence screening of staff if case acquisition unknown.

[3] For moderate risk cases – considerations include: the extent of the contact trace (eg is there a need to extend the contact trace for unresolved outbreaks), whether HCWs could return to work with a limited testing program in place – eg: testing regimen day 3, 7, 11 for HCWs who remain asymptomatic.

High risk	Moderate risk	Low risk
• Quarantine for 14 days • Test if symptomatic at any time • Test Day 11 (no earlier than D11) • Negative result required for return to work	• Continue to work • Surgical mask to be worn at all times • If role permits consider work from home • HCW alert to mild symptoms • Routine syndromic screening	• Continue to work • HCW alert to mild symptoms • Test only if symptomatic • Routine syndromic screening

Image source: Stuart, et al. 2021 [16]. doi: 10.1016/j.idh.2020.11.003

To inform this brief, PubMed and google searches were conducted using terms related to 'furlough/isolation' AND 'staff/healthcare workers' AND 'exposure' AND 'COVID-19' on 15 July 2021. The Critical Intelligence Unit maintains a living evidence table on COVID-19 transmission and has published an evidence check on quarantine measures.

Appendix 1: World Health Organization, Health worker exposure risk and advised actions

Exposure type	Health worker status	Advice
Lower risk exposure in the workplace: • provided direct care to COVID -19 patient while wearing required PPE and following IPC precautions, • present during an AGP on a patient with COVID-19 while wearing required PPE and following IPC precautions, • exposure to colleague who is a suspect or COVID-19 positive case at work while wearing a mask.	No symptoms (asymptomatic)	• May continue to work following IPC measures including local requirements for wearing of masks. • Test for SARS-CoV-2, if resources available. Follow guidance for Diagnostic Testing for SARS CoV-2.(51) • Reinforce IPC measures (physical distancing, hand hygiene, PPE and use of masks. • Self-monitor for symptoms for 14 days and report immediately to OHS if any symptoms develop. • If positive, identify contacts and follow up according to contact tracing procedures.
	Symptomatic	• Staff member self isolates. • Monitor with OHS. • Test for SARS-CoV-2. Follow guidance for Diagnostic Testing for SARS CoV-2.(51) • If positive, identify contacts and follow up according to contact tracing procedures.
Higher risk exposure in the workplace: • provided direct care to COVID-19 patient with no or inappropriate PPE, or a breach in PPE integrity or other IPC precautions not followed (i.e. hand hygiene not performed as per the WHO 5 moments, lack of cleaning and disinfection of surface/environment), • present during an AGP without or inappropriate PPE, breach in PPE integrity, or other IPC precautions not followed (e.g. hand hygiene not performed per the WHO 5 moments, lack of cleaning and disinfection of surface/environment), • exposure (>15 min face-face contact, < 1m) to a colleague who is identified as positive for COVID-19 with no masks (e.g. in a break room, while eating etc.), • exposure to splash or spray of body fluids/blood and/or a puncture/sharp injury.	No symptoms (asymptomatic)	• Staff to quarantine for 14 days after last exposure. • Staff to remain off work for 14 days from last exposure. • Test for SARS CoV-2. Follow guidance for Diagnostic Testing for SARS CoV-2(51) • If positive, identify contacts and follow up according to contact tracing procedures. • Monitor daily for symptoms and notify OHS.
	Symptomatic	• Staff member self-isolates. • Test for SARS-CoV-2. Follow guidance for Diagnostic Testing for SARS-CoV-2.(51) • Identify contacts and follow up according to contact tracing procedures. • See guidance below for return to work.
Non-occupational exposure (e.g. contact[4] with a confirmed cases who is a family or community member).	Asymptomatic	• Quarantine for 14 days after the last exposure. • If positive, identify contacts and follow up according to contact tracing procedures.
	Symptomatic	• Staff member to isolate. • Test for SARS-CoV-2. • Follow guidance for Diagnostic Testing for SARS-CoV-2. • If positive, identify contacts and follow up according to contact tracing procedures. • See the guidance below for return to work.

Source: World Health Organisation [3]

Appendix 2: Centers for Disease Control and Prevention - Health worker exposure risk and advised actions

Exposure	Personal Protective Equipment Used	Work Restrictions
HCP who had prolonged[1] close contact[2] with a patient, visitor, or HCP with confirmed SARS-CoV-2 infection[3]	• HCP not wearing a respirator or facemask[4] • HCP not wearing eye protection if the person with SARS-CoV-2 infection was not wearing a cloth mask or facemask • HCP not wearing all recommended PPE (i.e., gown, gloves, eye protection, respirator) while performing an aerosol-generating procedure[1]	• Exclude from work for 14 days after last exposure[5,6,7] • Advise HCP to monitor themselves for fever or symptoms consistent with COVID-19[8] • Any HCP who develop fever or symptoms consistent with COVID-19[8] should immediately contact their established point of contact (e.g., occupational health program) to arrange for medical evaluation and testing.
HCP other than those with exposure risk described above	• N/A	• No work restrictions • Follow all recommended infection prevention and control practices, including wearing a facemask for source control while at work, monitoring themselves for fever or symptoms consistent with COVID-19[8] and not reporting to work when ill, and undergoing active screening for fever or symptoms consistent with COVID-19[8] at the beginning of their shift. • Any HCP who develop fever or symptoms consistent with COVID-19[8] should immediately self-isolate and contact their established point of contact (e.g., occupational health program) to arrange for medical evaluation and testing.
HCP with travel or community exposures should inform their occupational health program for guidance on need for work restrictions. HCP who have traveled should continue to follow CDC travel recommendations and requirements, including restriction from work, when recommended for any traveler. HCP with community exposures should be restricted from work if they have a community exposure for which quarantine is recommended.		

Source: Centers for Disease Control and Prevention

Appendix 3: Matrix for assessment of healthcare workers exposed to a COVID-19 case

From the period of 48 hours before onset of symptoms until the case is no longer infectious		**Aerosol generating procedures/Aerosol generating behaviours**	**Direct/close contact** ≥15 minutes cumulative during the infectious period[1] AND <1.5 m to case OR >2 hours in a closed space	**Limited confined space contact** <2 hours in a closed space		**Limited face to face contact (cumulative over 1 week)** <15 minutes cumulative during the infectious period[1]		**Transient contact (large area)** No direct contact with the case
				>1.5 m to case	**<1.5 m to case**	**>1.5 m to case**	**<1.5 m to case**	
HCW PPE use[2]	No PPE							
	Surgical mask2 or P2/N95 only		3					
	Surgical mask2 or P2/N95 and eye protection only		3					
	Other PPE concerns e.g. incorrect PPE removal		3					
	Full PPE as per QH guidelines							

[1] The infectious period is considered the period 48 hours before onset of symptoms until the case is no longer infectious.
[2] Surgical mask means any single use face mask that is registered by the Therapeutic Goods Administration as level 1, level 2 or level 3 barrier protection.
[3] Further detailed assessment of fomite contamination of the environment is required and should be conducted on a case-by-case basis. It is important this is completed as soon as practicable after the initial exposure assessment to guide a detailed examination of likely exposure and subsequent transmission risk.

	Casual/limited contact	**Contact**	**Close contact**
Action	• Continue to work • HCW alert to mild symptoms and to stop work if these develop • HCW to be tested if symptomatic at any time (HCW is not to return to work until result is available) • Offer testing post-exposure Days 3, 7 and 10 (HCW can continue to work pending result if asymptomatic) • Routine syndromic screening	• Continue to work if asymptomatic but may be furloughed at the discretion of the line manager and/or hospital executive. • Surgical mask to be worn at all times when working • If work role permits, consider work from home • HCW alert to mild symptoms and to stop work if these develop • HCW to be tested if symptomatic at any time (HCW is not to return to work until result is available) • Testing regime post-exposure Days 3, 7, 10 (HCW can continue to work pending result if asymptomatic) • Routine syndromic screening	• Quarantine for 14 days • Test if symptomatic at any time • Testing regime post-exposure Days 3, 10 • Negative result required for return to work (specimen collected no earlier than Day 10)

Source: Queensland Health [9]

References

1. COVID-19 Critical Intelligence Unit. Evidence check-quarantine options [Internet]. Sydney: NSW Agency for Clincal Innovation; 2021 [Cited 15 July 2021]. Available from: https://aci.health.nsw.gov.au/__data/assets/pdf_file/0008/643634/Evidence-Check-Quarantine-measures.pdf.
2. COVID-19 Critical Intelligence Unit. Evidence check-workforce reconfiguration [Internet]. Sydney: NSW Agency for Clinical Innovation; 2020 [Cited 15 July 2021]. Available from: https://aci.health.nsw.gov.au/__data/assets/pdf_file/0005/587867/Evidence-Check-Workforce-reconfiguration.pdf.
3. World Health Organization. Prevention, identification and management of health worker infection in the context of COVID-19 [Internet]. Geneva: WHO; 2020 [Cited 15 July 2021]. Available from: https://www.who.int/publications/i/item/10665-336265.
4. Centers for Disease Control and Prevention. Potential exposure at work [Internet]. 2021 [cited 2021 15 July]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html.
5. Centers for Disease Control and Prevention. Infection control after vaccination [Internet]. 2021 [cited 2021 15 July]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-after-vaccination.html.
6. Public Health England. COVID-19: management of staff and exposed patients or residents in health and social care settings [Internet]. London: GOV.UK; 2021 [Cited 15 July 2021]. Available from: https://www.gov.uk/government/publications/covid-19-management-of-exposed-healthcare-workers-and-patients-in-hospital-settings/covid-19-management-of-exposed-healthcare-workers-and-patients-in-hospital-settings.
7. Iacobucci G. Covid-19: Fully vaccinated NHS staff may not need to self-isolate. BMJ. 2021;374:n1830. DOI: 10.1136/bmj.n1830
8. Harrison R, Sexton DJ, Mitty J. COVID-19: Occupational health issues for health care workers [Internet]. UpToDate; 2021 [Cited 15 July 2021]. Available from: https://www.uptodate.com/contents/covid-19-occupational-health-issues-for-health-care-workers.
9. Queensland Health. Management of COVID-19 outbreaks in hospital settings [Internet]. 2021 [Cited 15 July 2021]. Available from: https://www.health.qld.gov.au/__data/assets/pdf_file/0021/1018605/covid-19-outbreaks-hospital-settings.pdf.
10. Australian National COVID-19 Clinical Evidence Taskforce. Australian guidelines for SARS-CoV-2 infection prevention and control of COVID-19 in healthcare workers [Internet]. 2021 [Cited 15 July 2021]. Available from: https://app.magicapp.org/#/guideline/4826.
11. Australian Government Department of Health. Guidance on the use of personal protective equipment (PPE) for health care workers in the context of COVID-19 [Internet]. Canberra: Department of Health; 2021 [Cited 15 July 2021]. Available from: https://www.health.gov.au/sites/default/files/documents/2021/06/guidance-on-the-use-of-personal-protective-equipment-ppe-for-health-care-workers-in-the-context-of-covid-19.pdf.
12. NSW Clinical Excellence Comission. COVID-19 infection prevention and control manual [Internet]. Sydney: Clinical Excellence Comission; 2021 [Cited 15 July 2021]. Available from: https://www.cec.health.nsw.gov.au/__data/assets/pdf_file/0018/644004/COVID-19-IPAC-manual.pdf.
13. Minnesota Department of Health. COVID-19 recommendations for health care workers [Internet]. St. Paul, MN: Minnesota Department of Health 2021 [Cited 15 July 2021]. Available from: https://www.health.state.mn.us/diseases/coronavirus/hcp/hcwrecs.pdf.
14. New York Department of Health. Revised protocols for personnel in healthcare and other direct care settings to return to work following COVID-19 exposure – including quarantine and

furlough requirements for different healthcare settings [Internet]. New York: New York Department of Health; 2021 [Cited 15 July 2021]. Available from: https://coronavirus.health.ny.gov/system/files/documents/2021/04/exposed-hcp-rtw-guidance_042221.pdf.

15. BC Centre for Disease Control. Recommendations for risk assessment and management of health-care worker exposures to COVID-19 patients: interim guidance for the provincial workplace health call centre [Internet]. British Columbia: BC Centre for Disease Control 2021 [Cited 15 July 2021]. Available from: http://www.bccdc.ca/health-professionals/clinical-resources/covid-19-care/testing-and-case-management-for-healthcare-workers.
16. Stuart RL, Zhu W, Morand EF, et al. Breaking the chain of transmission within a tertiary health service: An approach to contact tracing during the COVID-19 pandemic. Infection, disease & health. 2021;26(2):118-22. DOI: 10.1016/j.idh.2020.11.003
17. Monsalud CFL, Lind MFG, Hines CM, et al. Mitigating staff shortages: Risk of permitting healthcare workers to return to work after coronavirus disease 2019 (COVID-19) exposure. Infection control and hospital epidemiology. 2021 Mar 19:1-2. DOI: 10.1017/ice.2021.121

SHPN: (ACI) 210680 | TRIM: ACI/D21/695-26