

COVID-19 and Australian bats – Information for bat carers, researchers and others interacting with bats

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Wildlife Health Australia, in collaboration with government and non-government stakeholders, is continually assessing information on the COVID-19 situation. A risk assessment was conducted to assess the likelihood of SARS-CoV-2 establishing in an Australian bat population following human-to-bat transmission, and the resulting consequences: [Qualitative Risk Assessment – COVID-19 & Australian Bats](#).¹ On the basis of the findings of this assessment and the current situation, the following information has been developed to assist bat carers, researchers and others interacting with bats to manage the potential risk.

This information is based on current knowledge. As this is a dynamic situation, we will continue to assess new information within the Australian context, and update this document accordingly. Overseas advice on reducing risk of transmission of SARS-CoV-2 has been developed by the IUCN SSC Bat Specialist Group,² and the IUCN Wildlife Health Specialist Group and OIE.³ Information on COVID-19 and Australian wildlife is provided in the WHA fact sheet: [COVID-19 \(SARS-CoV-2 virus\)](#). Further information on COVID-19 and animals is provided by the [Australian Veterinary Association](#) and [World Organisation of Animal Health - OIE](#). Links to other key resources are on the [WHA website](#).

Potential involvement of Australian bats in SARS-CoV-2 transmission

There have been no detections to date of SARS-CoV-1, SARS-CoV-2 or closely related viruses in Australian bats or other wildlife. Betacoronaviruses have been found in [a variety of Australian bat species](#); however, SARS-CoV-2 is not closely related to any known Australian bat coronaviruses.

Precautions when in contact with Australian bats

Disease transmission from bats to humans: There is no evidence to suggest that bats or other wildlife in Australia can be a source of SARS-CoV-2 infection to humans. To reduce the risk of exposure to other diseases such as [Australian bat lyssavirus](#), only people who are trained and rabies-vaccinated, and using appropriate personal protective equipment (PPE) should handle bats.

Disease transmission from humans to bats: Human to animal transmission of SARS-CoV-2 has occurred in some species overseas (see the [WHA sheet](#) and [OIE website](#) for more information), but has not yet been reported in bats. SARS-CoV-2 infection has now been detected in [wild white-tailed deer populations in North America](#), and it is safest to assume that any mammal wildlife species may have the potential to be infected with SARS-CoV-2 following close exposure with an infected human, under similar situations to those described as risky for human to human transmission. Appropriate precautions are always recommended before, during and after contact with bats or other wildlife and their food, supplies and excreta (see [National Wildlife Biosecurity Guidelines](#)).

Anyone interacting with bats should assume that SARS-CoV-2 could be transmitted from humans to bats, and should take appropriate measures to minimise the likelihood of this occurring. The following advice is provided as a guide only. The risk will vary depending on specific circumstances, so individuals should assess their own risk and if deemed higher (e.g. large number of bats in care resulting in a higher rate of interaction; people who live, work or visit areas with high rates of COVID-19 infection; people who are unvaccinated), should take higher level precautions to prevent transmission. Where feasible, it may be appropriate to restrict, postpone or cancel activities until the risk is reduced. In all cases, animal welfare and human safety should not be compromised.

General advice for people interacting with bats

- A person who has been diagnosed with COVID-19, or identified by the Public Health agency as a close contact of a person diagnosed with COVID-19, should not have any contact with bats or other wildlife. You should contact the Public Health agency and advise them that you have bats in your care, and that you are concerned about transmission risk. The Public Health agency will liaise with the state/territory Agriculture and Environment agencies as needed, to determine how the bats can be best cared for. If continued contact with bats is unavoidable, you should reduce the risk by wearing respiratory PPE including a face mask (see note below), in addition to [standard PPE for handling bats](#) (puncture-resistant gloves, etc).⁴
- Wherever possible, apply the same precautions recommended for prevention of human-to-human transmission to your interactions with bats.
- Practice [good hygiene](#):
 - Wash your hands with soap and water for at least 20 seconds BEFORE AND AFTER interacting with bats, their food, excreta, equipment and/or enclosures.
 - Avoid touching your eyes, nose and mouth.
 - Cough and sneeze into your elbow.
- Routine use of face masks is strongly recommended if you are unable to maintain physical distancing between yourself and the bat (i.e. at least 1.5 m in a well ventilated area). As outlined above, if you are diagnosed with COVID-19 or identified by the Public Health agency as a close contact of a person diagnosed with COVID-19, and it is not possible for bats to be transferred to another carer, use of a face mask is strongly recommended during any interaction with the bats. Make sure you know [how to use the mask](#) and dispose of it appropriately. Using a mask incorrectly can increase the risk instead of reducing it. If you choose to wear a disposable P2 or N95 respirator, do not use a valved mask as the valve allows unfiltered exhaled air to pass out.
- Getting yourself vaccinated against COVID-19 is one of the best ways to prevent transmission and protect the wildlife in your care.

Additional specific advice for bat carers

- Protect the bats in your care by protecting yourself. Follow the [public health guidelines](#) for minimising COVID-19 transmission risk between other people and yourself.
- People who have [COVID-19-like symptoms](#) should avoid contact with bats and other wildlife wherever possible. If you care for wildlife, you should have a plan in place for the animals in your care in the event you become sick or have to self-isolate.
- Where possible, reduce the number of bats in care in individual homes.
- Minimise the number of people interacting with the bats in your care. For example, if you care for bats in your home, house them in a room or area that is physically separate from the general living spaces. Other household members should not enter this area.
- Where possible, house the bats in an outdoor enclosure with good ventilation.
- Avoid unnecessary contact with bats. In situations where it is practical, apply “physical distancing” by keeping at least 1.5m away from bats. Very close contact (such as kissing, bringing the face in contact with the bat or blowing breath on the bat) should never be practiced.
- Always wear appropriate PPE when handling bats.⁴
- If practical, wear dedicated clothing when interacting with bats. Otherwise, cover your clothing e.g. wear an apron that is only used for that purpose. Wash clothing regularly (see ‘Cleaning and disinfection’ below).
- Clean linen, equipment, enclosures and surfaces regularly (see ‘Cleaning and disinfection’ below).

Additional specific advice for bat researchers and ecological consultants

- Follow the [public health guidelines](#) for minimising COVID-19 transmission risk between other people and yourself. Follow the relevant biosafety and animal ethics regulations from your institute, where applicable.
- Personnel who have [COVID-19 like symptoms](#) should not have any contact with wildlife, whether in captivity or in the field.
- Personnel who have bats in captivity should have a formal plan in place if they become sick or have to self-isolate. Many research institutes will require this plan to be lodged with their relevant Animal Ethics Committee.
- Minimise the number of people interacting with bats.
- Avoid unnecessary direct contact with bats. Where practical, apply “physical distancing” by keeping at least 1.5m away from bats. Very close contact (including blowing breath on the bat e.g. to encourage it to move) should never be practiced.
- Always wear appropriate PPE when handling bats.⁴ Existing biosafety protocols for working with bats should continue as normal.
- Wear dedicated clothing when interacting with bats. Wash clothing regularly (see ‘Cleaning and disinfection’ below).
- Clean catching and laboratory equipment, enclosures and surfaces regularly (see ‘Cleaning and disinfection’ below).

Cleaning and disinfection

- For advice on cleaning and disinfection:
 - Australian Government Department of Health: [Coronavirus \(COVID-19\) Information about routine environmental cleaning and disinfection in the community](#)
 - Safe Work Australia: [Cleaning to prevent the spread of COVID-19](#)
- Clothing and other linen should be washed in a regular cycle wash using the warmest possible setting with normal washing detergent (see Safe Work Australia link above).

This document was written by Wildlife Health Australia in consultation with a working group of government and non-government stakeholders and the [WHA Bat Health Focus Group](#).

Note: The information in this document should not be relied on in place of professional veterinary or medical consultation. To the fullest extent permitted by law, Wildlife Health Australia will not be liable for any loss, damage, cost or expense incurred in or arising by reason of any person relying on information in this document. Persons should accordingly make and rely on their own assessments and enquiries to verify the accuracy of the information provided.

References & links

1. Cox-Witton K, Baker ML, Edson D, Peel AJ, Welbergen JA, Field H (2021) Risk of SARS-CoV-2 transmission from humans to bats – An Australian assessment. *One Health* **13**, 100247
<https://www.sciencedirect.com/science/article/pii/S2352771421000379>
2. IUCN SSC Bat Specialist Group (2021):
 - [Recommended Strategy for Researchers to Reduce the Risk of Transmission of SARS-CoV-2 from Humans to Bats. AMP: Assess, Modify, Protect](#)
 - [Recommendations to reduce the risk of transmission of SARS-CoV-2 from humans to bats in bat rescue and rehabilitation centers. MAP: Minimize, Assess, Protect](#)
 - [Recommendations to reduce the risk of transmission of SARS-CoV-2 from humans to bats by cavers MAP: Minimize, Assess, Protect](#)
3. IUCN WHSG & OIE (2020): [Guidelines for Working with Free-Ranging Wild Mammals in the Era of the COVID-19 Pandemic](#)
4. Wildlife Health Australia (2020): [Personal protective equipment \(PPE\) information for bat handlers](#)