

SARS

Severe Acute Respiratory Syndrome due to SARS coronavirus (SARS-CoV)

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Associated documents

- Case Report Form:
Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\SARS\FormsStdLettersQuest\SARS_CaseReport Form_Dec2013.pdf
- Te Mana Ora SARS Office Procedure:
<Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\SARS\Procedures\C&PH SARS Office Procedure April 2013.doc>
- Fact Sheet:
<https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/severe-acute-respiratory-syndrome-sars/>

The Illness

Epidemiology in New Zealand

A large outbreak of a new respiratory disease, termed severe acute respiratory syndrome (SARS), began in the Guangdong province of southern China in November 2002. The disease had a high mortality rate and was caused by a new coronavirus, termed SARS coronavirus (SARS-CoV), thought to have been transmitted from animals (such as the palm civet) to humans in wild animal markets. No cases of SARS have been diagnosed in New Zealand. Since July 2003 there has been no reported human-to-human transmission at outbreak sites. There have, however, been a few international incidents of laboratory worker infection, with secondary spread to two close contacts in one instance.

Clinical description

Relatively insidious onset with fever, myalgia, malaise and headache, followed a few days to 1 week later by dry cough and dyspnoea. About 25% of cases have diarrhoea. Symptoms of upper respiratory tract infection (rhinorrhoea and sore throat) are uncommon. Chest X-rays typically show scattered peripheral and lower zone opacification. About 25% of cases develop severe pulmonary disease that may lead to death from respiratory failure.

The illness is similar but a little milder in children.

Incubation

Range of 2 – \geq 10 days, with a median of 5 days.

Transmission

Person to person, by droplet transmission, direct contact with respiratory tract secretions and possibly fomites. Health care workers are at high risk, especially those undertaking aerosol-generating procedures, such as intubation or nebulisation.

Communicability

From onset of symptoms until 10 days after resolution of fever. Communicability is variable: it is higher in cases with more severe disease and in a subgroup of cases known as 'super-spreaders'. The virus is stable in faeces from cases with diarrhoea for up to 4 days and has been detected by PCR for more than 1 month in stool specimens from cases in whom the initial illness has resolved.

Notification

On suspicion immediately. Notification should not await confirmation.

Notification including laboratory notification of suspected cases should also be made directly to the Ministry of Health, including the Director of Public Health, preferably by telephone.

Case classification

Under investigation: A person who has been referred to the public health service for investigation of possible SARS-CoV infection.

Suspected case: A person presenting with all of the following:

1. sudden onset of high fever ($> 38^{\circ}\text{C}$)
2. one or more of the following respiratory symptoms: cough, sore throat, shortness of breath, difficulty breathing
3. – onset of symptoms within 10 days of either travelling to one of the areas that has been listed as a focus area of transmission of SARS or being in close contact with a person who has travelled to such an area.

Probable case:

- a suspected case with chest X-ray findings of pneumonia or adult respiratory distress syndrome, or
- a person with an unexplained respiratory illness resulting in death, with a post-mortem examination demonstrating the pathology of respiratory distress syndrome without an identifiable cause.

Confirmed case: A clinically compatible illness that is laboratory confirmed.

Not a case: A case that has been investigated and subsequently found not to meet the case definition.

Laboratory testing

Laboratory confirmation requires at least one of the following:

- detection of diagnostic levels of serum antibody to SARS-CoV
- isolation (for example, in cell culture) of SARS-CoV from a clinical specimen
- detection of SARS-CoV nucleic acid in two clinical specimens either collected from
- different sources or collected from the same source on different days.

Consult a reference laboratory to discuss testing. Information regarding the WHO advice for laboratory diagnosis of SARS-CoV^{2,3}:

Management of case

Investigation

- Refer to the Te Mana Ora SARS Office Procedure:
<Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\SARS\Procedures\C&PH SARS Office Procedure April 2013.doc> – The working document for Case and Contact investigation and Management that includes a checklist of actions. Also refer to [Te Mana Ora Outbreak procedure](#).
- Ensure laboratory confirmation has been attempted; for example, SARS-CoV has been detected in upper and lower respiratory tract, blood, stool and urine specimens of cases. Stool samples in the second week of illness give the highest rate of positivity.
- Obtain a history of travel, possible contacts and any occupational risk activities.

Restriction

- In hospital, cases to be placed under airborne and contact precautions throughout the period of communicability.
- Staff should also wear eye protection and footwear that can be decontaminated or disposed of and use disposable equipment for the case wherever possible.
- Outside hospital, cases should be isolated at home or in some other suitable facility throughout the period of communicability. During this time, household members who are not providing care should be relocated if possible. If household members cannot be relocated, they should minimise their contact with the case. People at risk of serious SARS complications (for example, people with underlying heart or lung disease or diabetes mellitus or who are elderly) should not have contact with the case.

Treatment

Consult an infectious diseases physician.

Counselling

Advise the case and their caregivers of the nature of the infection and its mode of transmission.

A fact sheet is available:

<https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/severe-acute-respiratory-syndrome-sar>

Management of contacts

Definition

All those who have cared for, lived with or had unprotected direct contact with respiratory secretions and/or body fluids of a case or suspected case during the period of clinical illness or subsequent communicability.

Air Travel

If a case was infectious while on a plane contacts are those who sat within 6 rows of the case (6 rows in front, 6 rows behind and the same row). Refer to the Air NZ Procedure:

Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\SARS\SARS2003-04_Documents\Air NZ SARS procedures.doc

Investigation

Refer to:

- the Te Mana Ora SARS Office Procedure:
<Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\SARS\Procedures\C&PH SARS Office Procedure April 2013.doc> – The working document for Case and Contact investigation and Management that includes a checklist of actions. Also refer to [Te Mana Ora Outbreak procedure](#).
- the SARS Contact Form:
Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\SARS\SARS2003-04_Documents>Contact Form C&PH April 2013.dot for documenting contacts' details, exposure, symptoms, and management plan.

Restriction

Recommend voluntary isolation at home and record temperature daily for 10 days following contact. Diary found here: Y:\CFS\ProtectionTeam\FinalDocs\notifiableConditions\SARS\SARS2003-04_Documents\Temperature and symptoms diary_20130411.doc.

Ensure contact is visited or telephoned daily by a member of the public health service to determine whether fever or other symptoms of SARS-CoV infection are developing. Clinical evidence of SARS in a contact requires immediate clinical assessment and isolation.

Prophylaxis

Nil.

Counselling

Advise all contacts of the incubation period and typical symptoms of SARS-CoV infection.

Encourage them to seek early medical attention if symptoms develop.

A fact sheet is available:

<https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/severe-acute-respiratory-syndrome-sars/>

Other control measures

Identification of source

Check for other cases in the community.

Disinfection

Clean and disinfect surfaces and articles soiled with respiratory secretions or faeces, using a product with antiviral activity. For further details, see MoH Communicable Disease Manual Appendix 1: Disinfection:

<https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/severe-acute-respiratory-syndrome-sars/>

SARS Infection Control Advice: <Y:\CFS\ProtectionTeam\FinalDocs\notifiableConditions\SARS\Infection Control\SARS Infection Control Advice April 2013.docx>

Health education

Consider a media release and direct communication with local health professionals to encourage prompt reporting of symptoms and to provide advice (for both the public and professionals).

Airport⁴

See References and Further Information.

Reporting

- Ensure complete case information is entered into EpiSurv.
- On receiving a notification, Medical Officers of Health should immediately notify the Communicable Diseases Team and the Director of Public Health at the Ministry of Health.
- The International Health Regulations National Focal Point in the Ministry must notify WHO of events involving any case of smallpox, poliomyelitis, SARS or human influenza caused by a new subtype.
- If a cluster of cases occurs, contact the Ministry of Health Communicable Diseases Team and outbreak liaison staff at the Institute of Environmental Science and Research (ESR), and complete the Outbreak Report Form.

References

Update using EndNote once installed.

Further information

This protocol is based on the Ministry of Health Communicable Disease Control Manual

Update using EndNote once installed.

Document review history

Protocol review task	Responsibility	Date completed
Advise team of review (and planned timeframes)	PHS	11/09/2018
Create draft document in EDMS.	PHS	30/08/2018
Review Ministry of Health (MoH) advice, literature, other protocols, and write draft update.	PHS	20/09/2018
Update Fact Sheet (or source link from MoH website), if applicable.	PHS	28/09/2018 <i>checked, no update required</i>
Send drafts to MOsH, CD, Team Leader, and HPO via EDMS workflow, for feedback.	PHS	31/10/2018
Update drafts further as required.	PHS	09/11/2018
Send final drafts to Com Dis MOoH.	PHS	as at 31/10/2018
Com Dis MOoH sign-off.	Com Dis MOoH	as at 31/10/2018
Send final drafts to Clinical Director for approval.	Com Dis MOoH	as at 31/10/2018 <i>No changes received</i>
Clinical Director approval (in EDMS).	CD	Format only V3, 17/08/2023
Complete electronic document control tasks incl. header; footer; EDMS metadata. Check Te Mana Ora P&P site page links work, or add new links as required. Create .pdfs (for external links), and save to: <ul style="list-style-type: none"> • Protocols – Y:\CFS\Quality\Archive\Protection\IntranetPROTOCOLS • Fact Sheets – Y:\CFS\Quality\Archive\Protection\FactSheets Documents saved in above folders and uploaded to: <ul style="list-style-type: none"> • Protocols – Surveillance (PHU server) website and MS Teams. • Fact Sheets – CPH website or links are checked to MoH website, if applicable. 	QC	Format only V3, 17/08/2023
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