

PHILIPS

Protective Measures For Prevention Of SARS Infection

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What We Know About SARS

- Viral infection – a new mutation of coronavirus is suspected as the cause.
- Affects all age groups, highest number of deaths have been among people with pre-existing chronic conditions.
- Suspected to have originated in Guandong, China.
- Causes atypical pneumonia in infected patients.

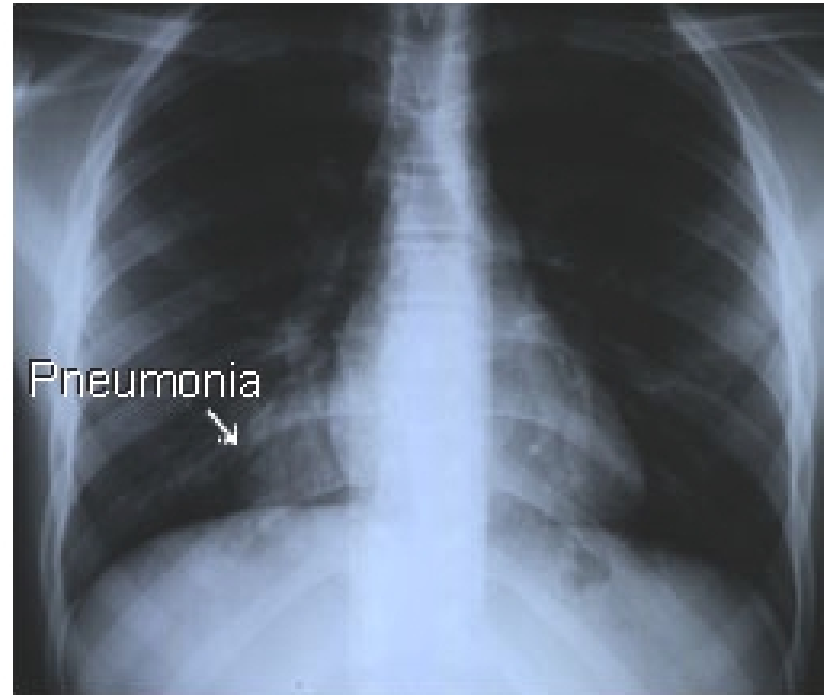
What Is Atypical Pneumonia?

- Typical pneumonia is a lung infection, where the alveoli in the affected area fill up with exudates, blocking the oxygen transfer. Chest X-ray shows a clearly demarcated shadow.
- In atypical pneumonia, the tissue surrounding the alveoli swells, collapsing the alveoli, reducing the blood supply to the area, and obstructing the oxygen transfer. Chest X-ray shows a fuzzy shadow without clear boundaries.

Pneumonia



Typical
Pneumonia

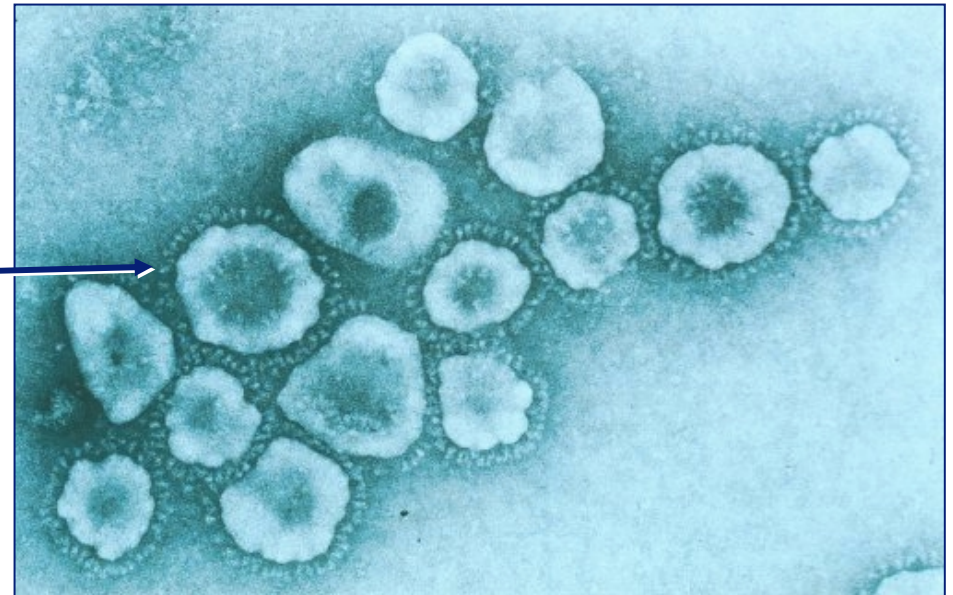


Atypical
Pneumonia

Coronavirus Family

- Cause mild to moderate respiratory illnesses such as common cold.
- Able to survive in dry air for up to 3 hours.
- Can be killed by exposure to ultra-violet light, so they will not survive under sunlight.
- Mutate easily, and each mutation triggers off an epidemic of respiratory disease.

- A new mutation, which arose in Guangdong is suspected of causing SARS.
- The name “coronavirus” refers to the protein molecules surrounding the virus, making it look like a crown (n. “corona” *lat* = crown).



Methods Of Transmission

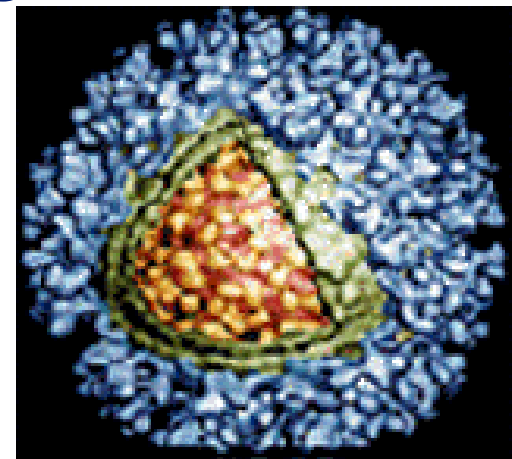
- Most frequent method of transmission of coronavirus from person to person is droplet transmission.
- If the sick person coughs or sneezes, the virus can be carried in saliva droplets to people nearby, infecting them.



Airborne Transmission

- Coronavirus family also has the property of surviving in dry air/surfaces for up to 3 hours.
- In these conditions, the virus crystallizes, and can float in the air like dust.
- It is suspected that the SARS virus can be transmitted in this manner.

Schematic view of a crystallized virus particle



Infectivity And Virulence

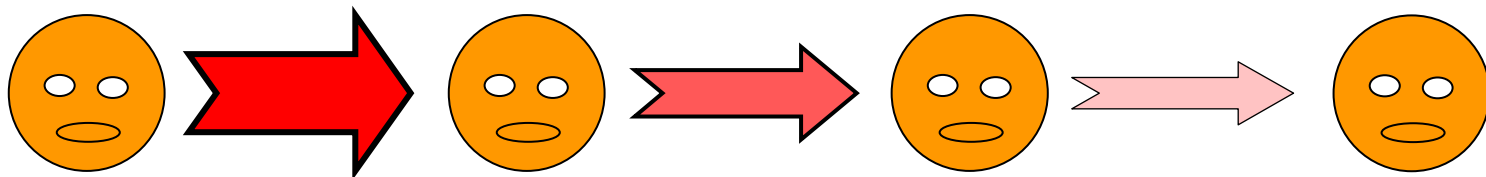
- Infectivity is the ability of a virus to jump from one person to another. The recipient must receive a dose large enough to cause the disease. From epidemic reports, it appears that SARS virus has low infectivity (ie it requires a large dose to pass on to the recipient). Other members of the coronavirus family have very high infectivity.
- Virulence is the property of the virus to cause damage to the patient's organs. The SARS virus is very virulent. Other members of the coronavirus family have low virulence.

Incubation Period

- After the virus enters the body, it requires 3-10 days incubation period before the disease appears.
- According to current data, infected people do not pass on the virus to others during the incubation period.
- They become infectious only when the first symptoms appear: cough, sneezing – which spread droplets containing virus particles.

Attenuation

- Attenuation is a phenomenon seen in some members of the coronavirus family, where the virulence decreases when it jumps from person to person.
- The SARS virus seems exhibit this phenomenon (however, there are no studies yet to prove this).



Symptoms

- Cough, nasal congestion, sneezing
- High fever (39°C or higher)
- Severe muscle and joint pain
- Difficulty in breathing – similar to asthma
- Continuous localized pain in the chest, which increases when taking a breath



Risks To PMS Employees

- Customer Engineers, Clinical Specialists and sales people who visit hospitals are under risk of contracting SARS, and must take precautions.
- In the event an employee is suspected of having contracted the disease, he/she must take steps not to expose colleagues and customers to risk.



Customer Visits

- Precautions must be taken when entering all ICU, MICU, CCU, SICU and respiratory therapy units, regardless of whether the hospital/unit is known to have SARS cases.
- Tan Tock Seng Hospital must be visited only where absolutely necessary, and specialized safety procedures in place at the hospital must be followed.



Precautions To Take When Visiting ICUs

- Leave all personal belongings, not relevant to the visit, in the office.
- Take a N95 or FFP-1 grade mask from the office.
- Before entering the unit, put on the mask as per instructions, and check for leakage.
- After entering the unit, ask for a pair of surgical gloves before handling equipment.
- Do not place belongings, tools etc on the floor or on exposed surfaces. Request a paper towel from the staff to spread on the surface.
- If you need to bring equipment/parts back to the office, have them sterilized according to hospital procedure by a member of the ICU staff.

When Leaving The ICU...

- After exiting the unit, remove the mask first and discard it, then remove the gloves.
- Wash hands thoroughly with chlorhexidine scrub solution.
- Do not re-use a mask.
- Do not touch a used mask without wearing gloves.



If The ICU Staff Object...

- Tell them that Philips Medical Systems is following this safety procedure in the interests of both the customer and PMS.
- This ensures that the CEs will be protected, and will be available for emergency repairs.
- In addition, the CEs will not involuntarily carry the infection into the unit from another hospital.

Safety In Public Places

- So far, all recorded SARS cases have developed the disease only after having prolonged and close contact with a patient (eg. family members, doctors and nurses).
- There are no recorded instances, where the disease was transmitted via casual contact, traveling in public transport etc.
- A person can only pass on the infection after symptoms appear.
- Only a very small percentage of the population have the disease (eg 90 out of 4 million), and they are sequestered.
- Therefore, wearing masks in public places and transport will not give any appreciable protective benefit.
- However, if you suspect that you have become infected with SARS, wearing a mask when traveling to the hospital is your civic responsibility.

What To Do If You Think You Have SARS

- If you develop fever, cough and muscle pain:
 - Inform your supervisor
 - Go to the company doctor immediately
- If you are quarantined by health authorities:
 - Inform your supervisor
 - Compile a list of colleagues and customers you have had contact with for the last 3 days and forward it via e-mail to your supervisor
 - Do not leave your house for any reason, or entertain visitors during the quarantine period
 - If you develop any of the symptoms during the quarantine period, inform relevant health authorities immediately