

## **CORONA VIRUS**

**By Prof Lucia Anelich**

### **Question: What are corona viruses?**

Coronaviruses (CoV) are a large group of viruses that are common in many different species of animals. They cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). The common cold is something we are all familiar with – this is often caused by what is termed “common human coronaviruses” of which there are many strains. A few MERS cases continue to occur, mainly in the Arabian Peninsula, whilst no human SARS cases have been reported since 2004 (Centers for Disease Control and Prevention – CDC <https://www.cdc.gov/>; World Health Organization – WHO <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>).

The current virus that was reported on 31 December 2019 for the first time by China, is a new strain that has not been previously identified in humans. It is been given the name “novel coronavirus” or “SARS-CoV-2. The disease it causes is known as Covid-19.

### **Question: What are the symptoms of infection?**

Common signs are respiratory symptoms, fever, cough, shortness of breath, and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death (WHO). The incubation period seems to be 2-14 days; this is why expats returning to home countries are monitored or quarantined or potentially infected persons [those with a mild cough and low-grade fever (37.3 degrees C or higher)] are asked to self-isolate for at least 14 days. It appears that people with no symptoms (asymptomatic) may be able to spread the virus; however more research is needed to be definitive.

### **Question: Can the SARS-CoV-2 be transmitted via food?**

The simple answer is that we do not have clear evidence that the SARS-CoV-2 is transmitted via food and we do not have answers yet on the behaviour of the SARS-CoV-2 and effective kill treatments in the “food space” (see below). Despite this, there are general precautions provided by the WHO to avoid contact with diseased animals, wash hands well after handling raw meat etc, which remains good advice in any setting, not only related to coronaviruses.

The best that we can do currently is use information that we have regarding closely related viruses i.e. MERS and SARS viruses. Whilst we cannot say that the SARS-CoV-2 will react in exactly the same way, it does give us an indication of what we may be dealing with.

**MERS:** Data has shown that the MERS virus can be transmitted via consumption of raw camel milk. However, we do know that raw milk from animals is a high risk product as it may contain many other microbes that can cause disease in humans when ingested; hence pasteurization of milk to render it safe for human consumption.

**SARS:** The SARS virus is killed by thermal processing at 60° for 30 min. Another study on survival of SARS particles on dry surfaces, showed a 5-6 fold decrease (logarithmic) in 9 days at room temperature. This shows that the first SARS virus could remain viable on surfaces for quite a long time.

The greatest risk is person-to-person infection, not infection via food. People within a radius of two metres of an infected person should be exposed for at least 15 minutes to contract the virus. This means that in a food processing environment, one ill person can transmit the infection to co-workers via bad hygiene practices (including coughing, sneezing, spitting etc). This happens when droplets of mucous containing virus are sneezed or coughed into the immediate environment. It is worth noting that these droplets can land on various surfaces such as tables, work surfaces, handles of doors, escalators; any surface in the public space. This is why surfaces in the home and work space should be wiped down regularly with disinfectant. Washing hands and disinfecting them (sanitizing) after being out in public is key. Wash hands well with soap and water – hands must be washed for at least 20 seconds.

Another question that has arisen is whether there is potential carriage of the virus to humans via bio-aerosols from raw food, but currently, there is little evidence of this as well. Implementation of Good Hygiene Practices, particularly regular hand washing and where necessary, hand disinfection (sanitizing) remain key prevention measures.

**Question: Who is most at risk?**

Everyone is potentially at risk. However, high risk cases remain mainly older people or people with underlying health conditions or habits that put them at risk, such as diabetes, heart conditions, heavy smokers etc. It is therefore likely that persons with HIV may be more susceptible due to their weaker immune systems. Children and babies seem less likely to be infected.

**Is there any disinfectant that works against SARS-CoV-2?**

Fortunately, household bleach and hydrogen peroxide seem to be effective to inactivate the virus. It seems that common hand sanitizers purchased in a store are effective against SARS-CoV-2 as well. This is not the case for many other viruses, which are far more difficult to kill. More research work in this regard is needed though.

**Regular, updated information can be viewed on the Anelich Consulting website at:**

<https://www.anelichconsulting.co.za/food-safety/corona-virus-novel/>