



Adult Learning Within Reach

Member Lecture – 16 July 2020

Coronavirus – Fact and fiction
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Questions and answers not taken during lecture and those taken away to answer post-lecture.

Q1 The reproduction R number is often quoted, but this is meaningless without the period in which a single generation occurs. If R is 0.5 how long does it take for the number of new infections to half? Can you tell us what the period associated with R for Covid-19 is?

The R number is an estimate or an average of data that have been collected. Since the moment of infection is seldom known, scientists calculated R value only from data that has been collected, i.e. scientists work backwards. As with any statistical data – the more frequently data is sampled and the longer the period over which it is gathered the more accurate the average can be calculated.

<https://www.bbc.co.uk/news/health-52473523>

<https://www.gavi.org/vaccineswork/what-covid-19s-r-number-and-why-does-it-matter>

Q2 If the average period of being infectious is say 4 days, then with an R of 0.5, would the infection level reduce by half after about 4 days?

The R number is an average and assumes that (a) no one has been vaccinated (b) no one has been infected already (c) no controls are in place to check the spread. Statistically any R value of less than one will result in a declining infection rate.

<https://www.healthline.com/health/r-nought-reproduction-number#meaning>

Q3 Is Covid-19 more prevalent in patients with auto-immune conditions?

Yes. Individuals with auto-immune conditions are in the high-risk category.

<https://anconmedical.com/autoimmune-disease-and-covid-19-are-you-at-high-risk/>

Q4 Where did the virus develop from?

This is a highly contentious issue and now underpinned by geo-political, diplomatic and economic tensions. In addition, conspiracy theories have also emerged as possible options. The most boring and most likely is that this is a natural event as has happened many times in human history.

The WHO concludes that 'All available evidence for COVID-19 suggests that SARS-CoV-2 has a zoonotic source.'

<https://www.theguardian.com/world/2020/may/01/could-covid-19-be-manmade-what-we-know-about-origins-trump-chinese-lab-coronavirus>

Q5 What research is being done to see what lasting symptoms the 80% have?

I am not aware of any such research at the present. That research will take place in due course. One place to look for it will be in the R&D section on the WHO website.

<https://www.who.int/teams/blueprint/covid-19>

Q6 Given the list of possible symptoms you gave, were the government right to concentrate on just a few?

Covid-19 is a 'novel' coronavirus i.e. a strain that has not been previously identified in humans so many of the symptoms and characteristics are new, and not all are known. Governments like scientists are working to understand all aspect of disease.

https://en.wikipedia.org/wiki/Novel_virus
<https://www.who.int/publications/m/item/2019-novel-coronavirus-overview-of-the-state-of-the-art-and-outline-of-key-knowledge-gaps-slides>

Q7 I thought nothing kills the virus in the body? Is it not killed outside the body by the hand-washing, UV light, sanitiser, a week with no host?

You are correct. It is killed outside the body by treating with detergent and sanitiser. Covid-19 can be killed by UV light, but this can be harmful to skin (similar to sun burn) so hands (or any living tissue) should not be exposed to extended periods of strong UV light.

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters#uv>

Q8 If it is a virus, there can be no vaccine because it mutates?

Yes in principle that is true. That is why we have an annual flu vaccine. This is likely to be true for Covid-19 virus too. It will also mutate and we will need (perhaps) annual covid-19 jabs once a vaccine is established.

Q9 Since apparently Covid-19's most devastating impact is due to the cytokine storms caused by an overreaction by the patient's immune system, is it possible to predict who will have the worst reaction to exposure to the virus?

Early days at the present but researchers are initiating several clinical trials of cytokine blockers for Covid-19.

<https://www.bbc.com/future/article/20200505-cytokine-storms-when-the-body-attacks-itself>

Q10 Would regular washing of your face help?

That would remove contaminants on the face but those contaminants usually gets there via our hands. It is surprising how often we touch our faces with our hands. So regular thorough hand washing remains a very effective control. Research is still evolving. Some research indicates that face shields may be more effective than face masks.

<https://jamanetwork.com/journals/jama/fullarticle/2765525>

Q11 How long is it thought, that asymptomatic people are infectious?

I have not seen a definitive answer for this yet. The WHO said in April :-

'There are few reports of laboratory-confirmed cases who are truly asymptomatic, and to date, there has been no documented asymptomatic transmission. This does not exclude the possibility that it may occur. Asymptomatic cases have been reported as part of contact tracing efforts in some countries.'

<https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200402-sitrep-73-covid-19.pdf>

If you are interested in science courses, the following are available:-

One-off sessions (free)

C3844735 – Britain in Space – Tue 28th July, 10.00am

C3844737 – The Day the Cosmonaut came to Manchester – Thu 30th July, 10.00am

C3844797 – Covid-10 Fact or Fiction (with Dr James Anson), Fri 31st July, 11.00am

4 week course

C3844740 – Staying safe online – Mon & Thu, starting 3rd August, 5.15pm