



HOW DOES SOAP WORK?

One of the most important and consistent messages from the World Health Organisation (WHO) has been the importance of good personal hygiene.

Washing your hands with soap is one of the most effective ways of killing off any viruses you may have come into contact with.

Whilst viruses have a complicated structure, they share some common characteristics:

1. They all contain their DNA or RNA which is their genetic material
2. They contain protein, which is the casing around the DNA and helps them replicate themselves
3. They are surrounded by a fatty lipid layer

These three components act like a jigsaw within the virus which makes it difficult to break apart.

It is possible to break up the lipid (fat) layer of the virus with soap, in the same way that soap breaks up oil and fat on either the skin or when washing dishes. Once the fat layer is broken, the virus falls apart. Washing with water alone is not effective as water cannot break up fat or oil.

You have to wash with soap rigorously to break down this layer, which is the WHO recommends 20 seconds of washing with soap. Your skin contains little bumps and crevices in which the virus can hide, given they are nanoparticles.

Soap vs Hand Sanitiser

Both soap and sanitizer are effective against the virus however they act in different ways. Soap breaks down the virus by lining up and surrounding the virus and then dissolving the fat layer.

Hand sanitizer (60-80% alcohol) disrupts the RNA or DNA molecules and stops the virus from replicating itself and should be used when soap and water is not available. Other “antibacterial” products will have no effect on viruses, as it targets only bacteria.

Just wash your hands, with soap. After that towel dry them, which allows a bit more friction on the skin to dislodge any remaining virus.