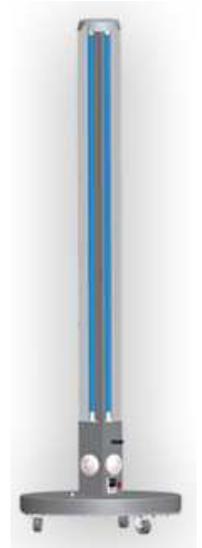


Myths and Misunderstandings of Controlling Flu Viruses

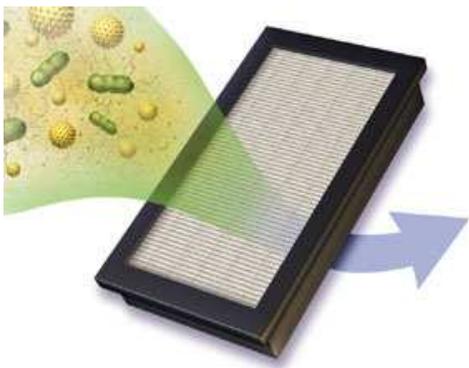
With many recent studies on the spread of different types of viruses, information that was largely unknown has now come to light. This research, presented to the EPA Federal Interagency Committee for Indoor Air Quality in June of 2009 showed that many of the traditional ways of preventing the spread of the new strains of flu viruses are simply not going to be effective. This research by Steven Welty draws from research on the not too distant SARS viral outbreak as well as an understanding of how the H1N1 virus is spread, which is also the same method that any type of influenza is transmitted.

One of the most disturbing findings in attempting to control the spread of any flu virus is that most of the contaminant components of the viruses are under .3 microns, too small to be trapped by common filters that may be effective with other types of contaminants and micro organisms. In addition, these are the smallest of particles that are drawn deeply into the lungs and largely unaffected by hand washing and surface cleaning, which again targets the larger viral contaminants. Individuals that are spending time, money and effort in sanitizing their hands and cleaning all surfaces with disinfectants will still be at less risk for some types of viral and bacterial diseases, but will not be any safer from the various flu viruses.



The small size of the nuclei of the viruses containing the DNA/RNA that causes the disease also makes these viruses highly mobile in the air. The dry air condition in most households, offices and buildings in the autumn and winter months trigger what is often known as the flu season. The dry air contains no moisture to weigh down the viruses nuclei, allowing them to stay airborne indefinitely. Movement of people, objects and even the air from heating and air conditioning systems helps to keep the germs afloat, allowing a greater distribution throughout any type of enclosed space. Heating and air conditioning systems also provide an ideal conduit for the virus to move through buildings to areas where non-infected workers can easily be exposed to the virus in the air that they breathe.

Since the problem with influenza is airborne contamination, not contact with surfaces or germs on the hands, new and more innovative ways to control the airborne nuclei need to be put into place. These systems can include several different options but they have to effectively kill the DNA/RNA nuclei of the virus to be effective in minimizing any possible outbreaks.



Air filters are not effective in eliminating the flu virus because the gaps in the filter are simply too large to stop the viruses from passing through. Most filters in public buildings are capable of trapping less than 12% of all viruses, while the very advanced HEPA type filters can trap up to 99.9%. HEPA filters are not common in most systems and still require air to be blown through the filter to be effective.

This still, however, leaves the problem of a pile up of viable flu viruses within a HEPA filter. Destroying the actual reproductive parts of the nuclei can be done with the use of UV germicidal lights, ensuring that they cannot get into the human body and trigger the disease. These lights, which are in the C band of light, actually sterilize the DNA of the flu virus causing death of the virus. Using UV lights eliminates the flu virus nuclei in the air, preventing the spread of the disease within the environment.