



Plumbing has attracted public attention due to the potential of Covid-19 spreading through drains.

SING TAO

VIRUS TRAPS LURK IF WE DON'T GO WITH THE FLOW

The ongoing situation with Covid-19 infections is causing concern in our city, with plumbing in residential buildings being the latest area of worry.

A common suggestion is to fill the P-traps, U-traps or W-traps of floor drains with water.

This is a good precaution, but I believe the chance of getting a virus infection through floor drains is remote.

Virus transmissions occur mostly through droplets (sneezing and coughing) and then by contact (touching of lift buttons, door handles and similar metal surfaces).

For the virus to pass from one floor to another through a long loop of piping would be tortuous.

The purpose of water traps is to block the passage of insects and rodents.

Ensuring the traps are filled is a good precaution, but may not solve the problem of virus infections.

More concerning are toilet drains.

They are for discharging human feces.

The effective operation of these drainage systems with a larger volume of fluid flow requires balanced pressure.

This is provided by the vent pipe connected to the drain, normally on the outside wall of the building.

When we flush our toilets, the waste drops down the pipes by the force of gravity, and the air trapped under it in the drainpipe escapes through vent pipes.

Such systems are designed to work effectively and are approved by the Buildings Department when a residential complex is undergoing construction.

But unfortunately, after years of occupation, some dwellers may decide to alter drainage systems, either to relocate toilets or repartitioning.

Some unscrupulous plumbing contractors may decide to cut out the vent pipes, simply because it may be too far away from the building wall, or for aesthetic reasons.



Nuts and bolts

Edmund Leung

But these modifications make flushing difficult, resulting in backflow.

We do not need an expert to explain that this results in a high risk of virus and bacteria transmission.

Worse still, some owners may decide to convert their premises into subdivided flats.

In the old days, when we had multiple occupants in the same flat, tenants would share toilets and kitchens.

Residents now demand privacy, and additional toilets and kitchens have become standard.

We can foresee that additional drainage systems will have to be installed, often with tortuous routes to reach previous drainage points.

Apart from overloading previously designed drainage piping, this also means the flowing speed will be slow, often resulting in blockages and malfunctions.

Unfortunately, as these modifications are often not reported, these improper installations were not discovered until the occupants get into trouble. In my opinion, this is the biggest cause of virus transmission.

Plumbing and drainage systems are designed and constructed to a high standard, but when they are improperly modified and not checked, problems can easily occur.

The sad fact is that those who suffer are poor tenants who cannot afford proper lodgings and probably have little knowledge of how dangerous these provisions are.

We must try to educate the public that such misbehavior must be discouraged. The resulting infection spread affects everyone.

Veteran engineer Edmund Leung Kwong-ho casts an expert eye over Hong Kong's iconic infrastructure