



Persatuan Pengguna Pulau Pinang Consumers Association of Penang

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Press Statement

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OVERUSE OF HAND SANITISERS POSE HEALTH PROBLEMS

Consumers are advised to prioritise handwashing over sanitiser use as regular and overuse of hand sanitisers can pose long-term health problems.

Thorough handwashing is the first defence against disease transmission. According to the US Centers for Disease Control and Prevention (CDC), washing hands with soap and water is the best way to prevent the spread of infections and decrease the risk of getting sick. This dislodges dead microbes and viral cells from the hands and washes them down the drain.

The CDC recommends that you wet your hands with running water, turn off the tap, and then scrub your hands with soap for at least 20 seconds. Rinse your hands under clean running water and then immediately wipe them with a clean towel.

No hand sanitiser has been approved by the US FDA to prevent or treat COVID-19. Although it kills bacteria and viruses, hand sanitiser is not fully effective unless used properly and in the correct amount, which many people do not. Unlike handwashing which reduces the amounts of all types of germs and chemicals on hands, hand sanitisers might not remove harmful chemicals, like pesticides and heavy metals, from hands. And they may not work well when hands are heavily soiled or greasy.

Sanitisers should be used only as a backup when soap and water are not available. They should be treated like prescription medicines, used appropriately and with strict adherence to instructions. Clear advice should be given about using them responsibly and the consequences of misuse.

Below are some problems related to the overuse of hand sanitisers:

ALCOHOL RESISTANCE

A 2018 study in *Science Translational Medicine* found that multidrug-resistant bacterium *Enterococcus faecium* has become increasingly tolerant to the alcohols in widely used hospital disinfectants such as hand rub solutions.

A 2016 study in Pakistan that looked at 25 brands of hand sanitisers found that several bacterial strains have begun to become tolerant to them:

- > *Pseudomonas aeruginosa* (causes pneumonia and bloodstream infection) – 64% resistance
- > *E. coli* (causes abdominal cramps, diarrhoea and vomiting) – 48% resistance
- > *Staph aureus* (causes gastrointestinal, skin, systemic and hospital-acquired infections) – 32% resistance
- > *Micrococcus luteus* (transmitted through contact with contaminated objects and surfaces) – 24% resistance

In the early 2000s when Australian hospitals introduced use of more hand sanitisers, this caused a rise in enterococcal infections, which affect the digestive tract, bladder, heart and other body parts. A 2018 Australian study looking at the behaviour of enterococcal bacteria in 139 hospitals from 1997 to 2015 showed that they indeed evolved to become 10 times more resistant to alcohol after 2010.

ANTIMICROBIAL RESISTANCE

Alcohol-based hand sanitisers are a possible gateway to bacteria developing resistances. It is feared that bacteria resistant to sanitisers may resist the very antibiotics commonly used to treat them. This is possible as the mechanisms whereby alcohols kill bacteria or viruses (such as membrane damage and protein denaturation) are similar to the mechanisms antibiotics utilise to target infections.

Over the last decade, dozens of studies were published warning about this. Overuse could lead to certain bacteria adapting to survive the product, creating new superbugs that could threaten public health, warned Andrew Kemp, head of Scientific Advisory Board on the British Institute of Cleaning Science, in 2020.

TOXIC

Too much use of alcohol-based hand sanitisers can cause skin dryness, damage and cracks, which can allow contaminants and harmful viruses to enter our bodies. It can also trigger an eczema breakout. The American Academy of Dermatology Association says dry skin can increase your chances of picking up germs. If your skin cracks or bleeds, it is even more susceptible to bacteria.

High levels of alcohol in hand sanitiser can also cause burning and damage the surface of the eye if it gets into your eyes. The US Food and Drug Administration (FDA) advises watching over young children around sanitiser dispensers, which are often mounted at eye level and can splash.

Alcohol poisoning – causing vomiting, confusion and drowsiness – can also happen to children with just a lick of hand sanitiser. In severe cases, there can be respiratory failure, blood acidity, coma and even death in young children. The American Association of Poison Control Centers reported over 9,000 cases of alcohol poisoning from hand sanitisers in children under 12 years in the first 5 months of 2020 alone. In October 2020, the National Toxicological and Forensic Sciences Institute in Spain reported 874 cases of intoxication from hand sanitising gels, two-thirds of which were young children who had drunk it, inhaled it or got sanitiser in their eyes. In the UK, there were 398 cases of poisoning reported to the National Poisons Information Service in 2020, an increase of 157% compared to 2019.

SANITISER TIPS

1. USE one with an alcohol concentration of 60-95%. Products with a lower alcohol concentration, or non-alcohol-based hand sanitisers, are subpotent. A study in *Emerging Infectious Diseases* indicates that low-alcohol concentration gels spread germs around without killing them. And concentrations above 95% are less effective because alcohol needs a certain amount of water to denature the proteins of microbes and inactivate viruses.
2. APPLY the correct amount, too little will not quickly kill germs. A common mistake is using too little sanitiser to cover both hands, with dispensers tending to release too little in a single pump. The World Health Organisation (WHO) recommends using at least a coin-sized drop. Tip: “If hands feel dry after being rubbed together for less than 10-15 seconds, it is likely that an insufficient volume of product was applied,” says the WHO.
3. RUB all over hands, including between the fingers and on the back of hands, until completely dry (about 20-30 seconds). Don’t rinse or wipe off the product, or it won’t work as well.
4. ENSURE it is completely dry on your hands before continuing activities that may involve heat, sparks, static electricity, or open flames.
5. KEEP it out of children’s reach; and away from heat or flame as hand sanitiser is flammable – *never* store in the car or anywhere above 105°F.

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