

Health Check: Should I use antibacterial hand sanitisers?

January 14 2014, by Trent Yarwood



Credit: AI-generated image ([disclaimer](#))

I should start by saying that an important part of my job is encouraging hospital staff to [clean their hands](#). The World Health Organisation has a global patient safety campaign reminding us that [Clean Hands SAVE LIVES](#), and in-hospital hand hygiene is [universally recognised](#) as one of the most important ways of reducing healthcare-associated infection.

Most of you don't live in a hospital, though. So what about at home? Little bottles of hand gel are appearing in more and more places every day. Is this a good idea or just part of a societal "germ panic"?

There are three groups of products to consider: alcohol-based hand sanitisers, [antibacterial soaps](#) and other antibacterial products.

Hand sanitisers

These are usually alcohol-based and are highly effective at cleaning hands. They are the preferred method in hospital because they are also fast and convenient – and this increases the likelihood they will be used.

Hand sanitisers kill most bacteria and fungi as well as many viruses (norovirus, a common viral gastroenteritis, is a weakness) and work without water. We have a bottle in our nappy bag for that inconvenient pit stop.

Antibacterial soaps

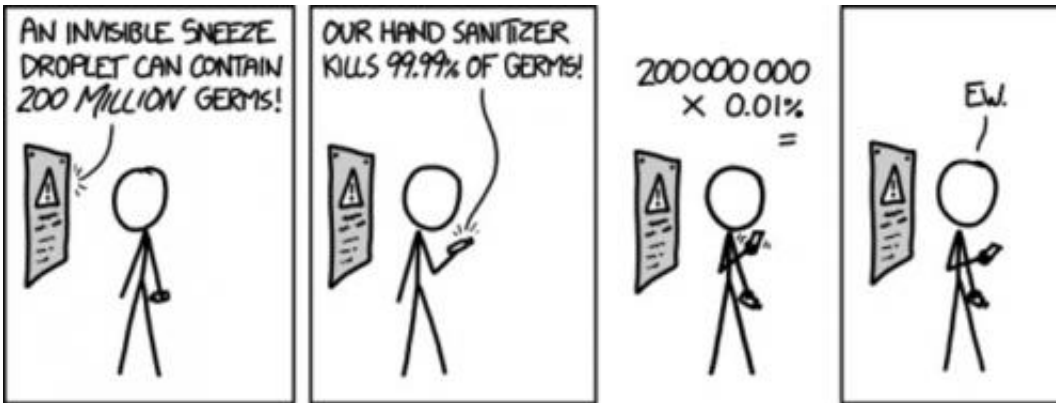
Unlike the alcohol gels, these usually contain a disinfectant—such as triclosan—or a quaternary ammonium compound.

Antibacterial soaps have come in for a bit of a bashing in recent media reports, based on the US Food and Drug Administration releasing a press statement and consumer notice announcing plans to require makers of these products to prove that they work.

All the rest

It seems that it's a great way to market your product by saying it's "germ resistant". This is the sales pitch for everything from chopping boards to

children's toys and even toilet seats.



Don't panic. Credit: xkcd.com

Are they safe?

By and large at an individual level, yes, they are. Alcohol-based hand rubs are safe to use. They're obviously not designed to drink and should be kept away from children, but pose no major health risks. Muslim health-care facilities have adopted their use, despite alcohol being haram in Islamic faith.

All [hand-hygiene](#) activities take oils from your skin and increase the chance of dry hands or dermatitis, but hand rubs are better from this perspective than soap-and-water hand washing.

Triclosan has received media attention because of concerns about thyroid hormone metabolism in animal models, but has not been shown to cause these effects in humans. There are concerns about its role as an environmental contaminant as it is found in waste water from sewerage, but also as a residue from industrial processes (the manufacture of those

antibacterial plastics). Although, again, there is not conclusive proof of harm.

Of concern to people like me, however, is the risk of antimicrobial resistance. If germs in the community are exposed to these products, could we be creating more resistant germs that will cause us problems down the track?

Because hand rubs kill germs by direct action of the alcohol against the germs, there is no risk of resistance. The question is not so clear for the soaps, though.

In the hospital setting, we know triclosan is a good antimicrobial hand wash and can be effective at reducing rates of hospital superbugs.

But hospital-grade triclosan (1%) is a far cry from the concentration in most over-the-counter liquid soaps. A review in 2007 found no additional benefit to these products and identified risks for resistance.

Any microbiologist will tell you that prolonged exposure of bugs to low concentrations of antimicrobials is the textbook way of breeding resistance.

Are they necessary?

So, does the average house and family need to armour up in the war against germs?

I have to say probably not.

Good hygiene is important in preventing disease—and [hand washing](#) is part of that (along with cough etiquette, staying home when sick, and so on). But the benefits of these products over soap and water (apart from

the portability of gels) have not been shown outside the hospital setting.

Antibacterial chopping boards won't stop you from getting sick if you don't practice good food-handling techniques and antibacterial toilet seats do not add to (or replace) washing your hands when you're done.

And those antibacterial baby toys? Babies put their hand from the toy straight onto the floor, onto the cat or any of a dozen other non-antibacterial surfaces, so any effect is likely to be small (i.e. zero).

We do not – and cannot – live in a germ-free world. Spending money on these products doesn't guarantee you won't get sick (of course they can't) and probably don't even reduce your risk of getting sick. But they might contribute to bacterial resistance, and they certainly cost more.

Break the marketing cycle of germ panic and reach for the plain old soap.

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Citation: Health Check: Should I use antibacterial hand sanitisers? (2014, January 14) retrieved 7 July 2024 from <https://medicalxpress.com/news/2014-01-health-antibacterial-sanitisers.html>

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