Infection Control

Hand Hygiene & SYR Protect

> Scot Young Research

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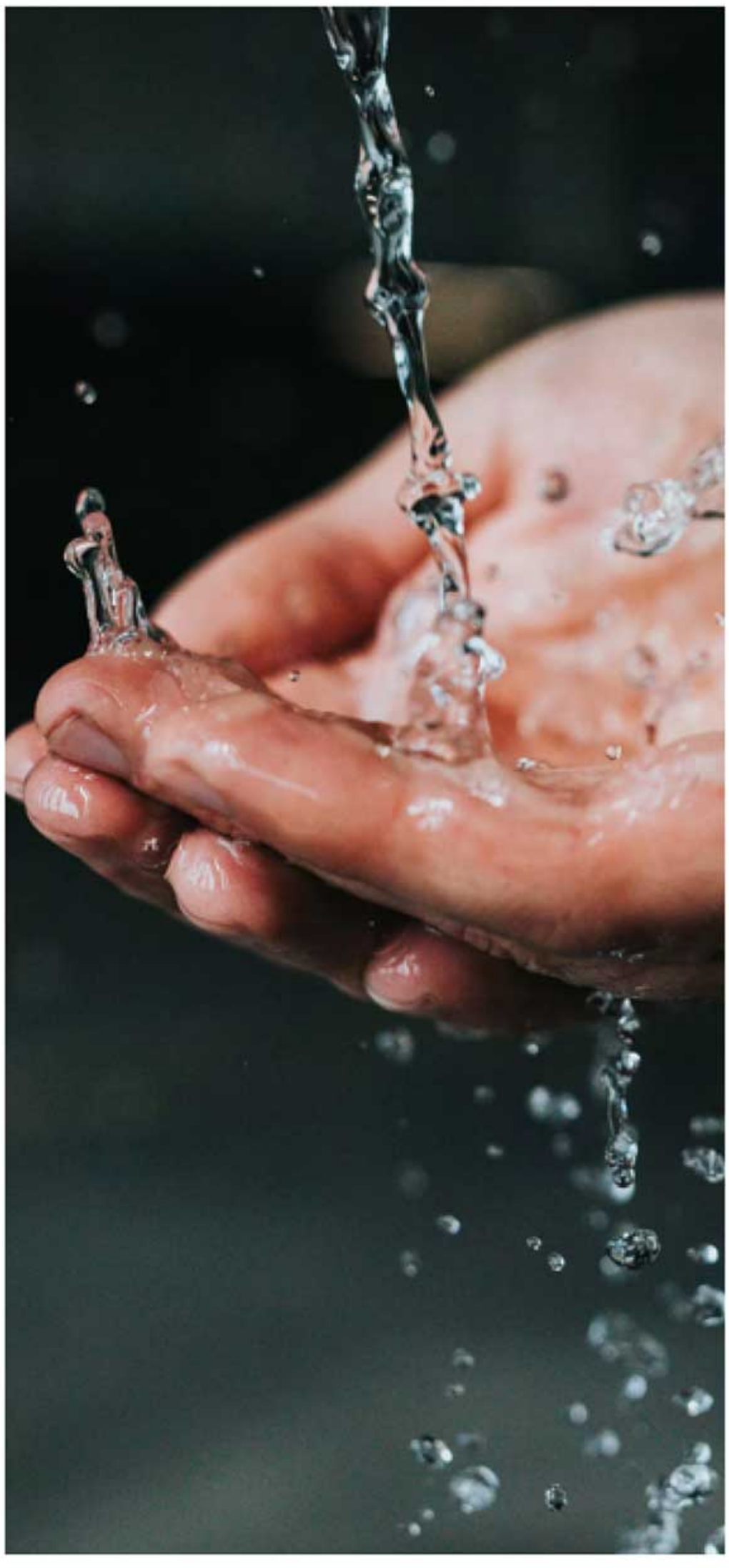
Introduction

The importance of hand hygiene in infection control has long been recognised, originating in the 1840s with the work of scientist Ignaz Semmelweis, who discovered that patient mortality could be drastically lowered by doctors washing their hands regularly. When this theory was proposed, it was seen as controversial, but nowadays maintaining good hand hygiene is regarded alongside regular environmental cleaning as the most crucial factors in infection control. Just like Semmelweis found in his studies, prioritising the cleaning of hands when dealing with patients is vital in the prevention of healthcare-associated infections, defined as infections acquired whilst in a healthcare setting, an idea supported by experts all over the world, including the World Health Organisation.



Although much research refers specifically to the importance of keeping hands clean in the healthcare profession, preventing patients being contaminated with harmful bacteria and HCAIs (healthcare-associated infections), there is without a doubt good cause for good hand hygiene even outside of these sensitive environments.

> Why is hand washing/sanitising a good idea?

The reason why regular and effective hand washing is so important is simple: the hands can harbour germs from both inside and outside the body, transferred on through all manner of practices and processes, capable of causing different kinds of infections. Germs are most commonly distributed between people and surfaces through coughing and sneezing. Research has shown the average person only coughs once or twice an hour and sneezes about 4 times a day, but each of these events is an opportunity for germs to be transferred from inside the body to outside, released into the air to settle of surrounding surfaces or caught in the hands. If the individual is infected with an illness but is asymptomatic (as was the case with many of those infected with coronavirus, contributing to the rapid spread of the virus) then it is very easy for more serious or even life-threatening illnesses to be distributed unawares.

If the hands become contaminated, then it is very easy for them to pass these potentially harmful contaminants onto other surfaces. People often do not realise just how much they touch over the course of the day, the action usually done subconsciously. Research has been conducted to determine just how much is touched, although the number is difficult to calculate. One study conducted to investigate the cross-contamination risks in hospital environments estimated that over the course of a 12 hour shift, the average nurse would touch 821 surfaces when conducting their duties. From this, it is easy to understand just how far contaminants can travel between surface to surface and person to person, and emphasises the importance of proper hand hygiene as a preventative measure.

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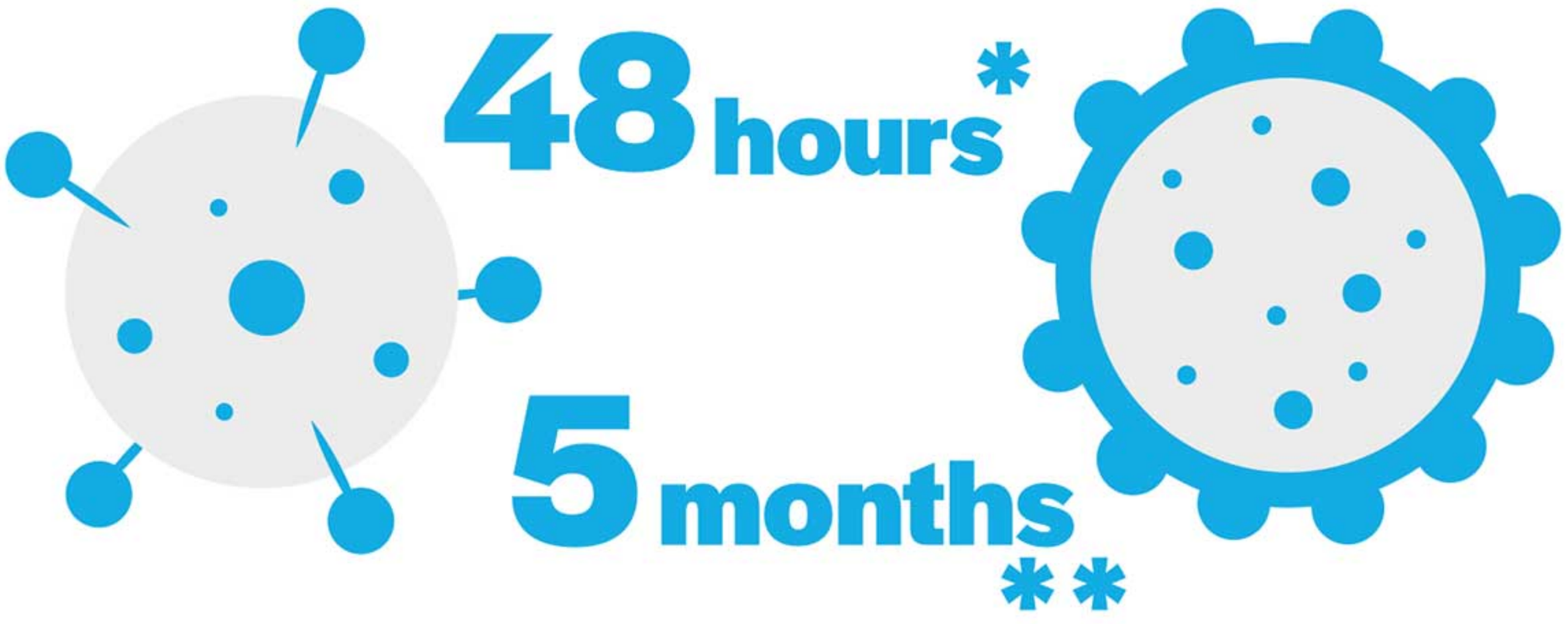
Research has estimated that anywhere between 20- 40% of all healthcare-associated infections can be attributed to cross-contamination via the hands of healthcare personnel. Despite this, staff compliance with recommended hand hygiene practices within healthcare environments has been discovered to be worryingly low, with less than 40% adhering to the guidelines set out by their institution or governing body. This demonstrates the vital importance of training in these areas, instructing staff on the reasons why hand hygiene is essential and making sure they are informed in the most effective ways of cleaning hands.

Contaminants may also be passed onto other surfaces or other people through touch. The length of time a virus or bacteria cell may survive outside the body differs depending on the type of cell – e.g. some types of non-COVID coronavirus can survive on surfaces for about 48 hours*, whilst spores of C.diff have been found to live for more than 5 months** in some healthcare environments.



Hand Hygiene Methods:

As was mentioned above, maintaining good hand hygiene is imperative in keeping people safe from the spread of illness. Washing hands with soap and water is an effective method of reducing levels of pathogens on the hands before they can be transferred to another person or surface, as well as visibly cleaning hands of dirt, oils or any other kind of debris. According to international experts like the CDC, hands should be scrubbed for at least 20 seconds, forming a lather that will trap microorganisms with the micelles in the soap, allowing the germs to be washed away when hands are rinsed.

Using this method of washing hands is especially recommended when suffering from, or dealing with others suffering from, infections with symptoms like vomiting or diarrhoea, as it is vital that contaminants from this kind of illness are rinsed away. Under examination, it was discovered that one single gram of faecal matter can contain one trillion germs, a particularly unpleasant statistic that emphasises the need for effective hand washing to prevent potentially harmful bacteria from being distributed. Indeed, implementing proper hand washing techniques into different communities has been found to have a positive impact on minimising instances of gastrointestinal infections, particularly in children, with school absenteeism due to this kind of illness being reduced by as much as 57% in some cases.

Although hand washing with soap and water is typically the recommended method of cleansing hands, and is always the best method of cleaning visibly contaminated hands, doing so is not always practical in certain situations. For example, as the coronavirus pandemic demonstrated, people can be exposed to contaminants in all manner of places, demonstrating the necessity of cleansing one’s hands,
but many places do not have adequate hand washing facilities available for use.

Hand sanitiser is a suitable alternative, recognised by medical experts and institutions as an effective method of keeping hands clean. Not to be used as a total replacement to washing with soap and water, sanitiser has been recommended as an additional method of maintaining good hand hygiene, useful in its ability to be applied quickly. While soap and water is effective at eliminating germs because it traps and washes away contaminants, hand sanitisers, provided that they are applied correctly and of a high quality formula, actually kill many types of germs on the hands. This is achieved through the products' alcohol content, usually ethanol or isopropyl, which provided it is concentrated enough, will dissolve the protein layer of viruses and disrupt the cell membrane of bacteria, rendering them inactive.

Hand hygiene interventions using hand sanitiser specifically have proven useful in a range of different setting, not just limited to healthcare, including education, offices and households. Evidence suggests that encouraged regular use of hand sanitising products can lead to a reduction in respiratory symptoms even in very young children in primary schools and day-care centres, settings where infections normally can spread very quickly between people. Similarly, research indicates that the use of hand sanitiser in the workplace reduced absenteeism, with fewer days being missed as a result of illness and staff reporting significantly less instances of ailments like the common cold and coughs.

The efficacy of hand sanitiser does differ depending on the formulation and the level of alcohol content in the product, but broadly alcohol-based hand sanitising products have been found to be effective in deactivating different types of virus, including SARS, MERS and influenza. The World Health Organisation has recommended two different formulations of alcohol-based hand sanitiser, ethanol 80% and isopropyl alcohol 75%, both of which have been tested and found to perform effectively against a range of pathogens.

> Problem with hand sanitisers

The early days of the COVID-19 pandemic was marked by widespread panic -buying in many countries around the world, with hand sanitiser famously being one of the most sought after products, leading to global shortages of the product. Taking advantage of this deficit and relaxed standards, many manufacturers that did not previously make this product started to produce it, leading to a rise of unsafe and non-compliant hand sanitisers appearing on sale to the public.

In the worst cases, some of these hand sanitiser products contained dangerous substances that were potentially dangerous to health: in an independent examination by pharmaceutical company Valisure, several samples of commercial pocket hand sanitiser in the USA were found to contain high levels of benzene, a carcinogen that is known to cause blood disorders. Even without the presence of harmful substances, many products were still unsafe in that they did not effectively eliminate germs, leaving people more exposed to infections than they might have thought. In the UK, independent tests by Which? found a number of sanitisers, available for purchase on online, not only did not have sufficient quantities of alcohol in their formulation to be effective against bacteria and viruses, but the manufacturers were even being fraudulent, with the products containing drastically less alcohol than was being claimed on the label. Even if these unsafe, non-compliant and poor quality hand sanitisers are in the minority, it is still imperative that, should a business choose to supply hand sanitiser to their staff, customers or other visitors to the premises, the sanitiser chosen be of a safe formulation, reliable enough to halt the spread and transmission of bacteria and viruses. Failing to do so could not only increase the likelihood of cross-contamination occurring in the workplace, but could also harm brand reputations.

SYR PROTECT

In light of the appearance of these fraudulent and unsafe products, SYR has created SYR Protect, a collection of hand hygiene products created with safety and reliability in mind every step of the way.
Just like SYR's other products, safety and high quality construction has been the priority in this range; designed, formulated, quality tested and certified within the UK, SYR hand sanitisers have been manufactured according to the strictest guidelines to perform effectively against bacteria and viruses.
All of the products in the SYR Protect range are fully compliant to EN standards, including EN1500 for bactericidal activity, meaning they can trusted for safe use even in sensitive hygiene environments.
Containing a minimum of 70% alcohol, SYR hand sanitisers are designed to effectively fight germs fast, quickly absorbing into the skin without leaving greasy residue.
A common complaint expressed by people who are required to wash and sanitise hands repeatedly throughout the day – namely people who work in environments where cross-contamination is most dangerous, such as hospitals, care homes and food preparation areas – is skin on the hands drying out painfully. Caused by the natural oils of the skin being stripped away and the drying effects of these high - alcohol concentration products, this skin irritation can be especially concerning in those with sensitive skin, resulting in not only redness and dryness but even cracks, blistering and bleeding of skin on the hands.

As well as causing pain to those afflicted, open wounds and cracked skin can become portals of entry, putting the individual at risk of infection.

As research shows that the painful effects of hand washing and sanitising can actually considerably reduce even healthcare staff's adherence to hand hygiene protocols, it is vital that all effort is made to counteract this irritation. Use of a good quality moisturiser throughout the day is one method to take in counteracting these effects, but this is not always convenient if hands need to be cleansed frequently. As a solution, all SYR Protect hand sanitisers contain added moisturisers, ensuring that they can be absorbed into the skin quickly without drying out hands.

Although regular hand hygiene actions throughout the day are advised to keep hands clean, event - prompted hand cleaning interventions, cleansing within one minute of touching a contaminated surface, are the most vital in preventing infection and cross - contamination.
As such, it is imperative that people have quick access to facilities within any public environment, able to wash or sanitise their hands if they touch something unhygienic.

Available in a range of sizes, from a 8ml pen - sized pocket sanitiser to a 5000ml bulk fill bottle, SYR Protect sanitisers are a useful addition to any business, workplace or institution, ideal for keeping all those on the premises safe from bacteria and viruses.

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