

Covid-19 Room: Don't forget to dry your hands if you don't want your hands to become rubbish

'Disposable paper towels are recognized as the fastest and most effective way to remove residual moisture, which can create an opportunity for microorganisms to spread. This is very important in the context that people are concerned about the spread of corona virus'.

As the number of people infected with corona virus is increasing worldwide, the World Health Organization (WHO) continues to recommend that people wash their hands frequently. You can wash your hands with soap or an alcohol-based dry hand wash.

But alcohol only works to inactivate the corona virus but is not sure to remove dirt and other pathogens. Therefore, rubbing hands with soap for at least 20 seconds is still recommended as the most effective disease prevention method in the current Covid-19 epidemic.

However, in addition to misunderstanding the 20 seconds and many people are washing their hands very quickly, health experts say there is one step in the hand washing process that most people are neglecting: They do not dry their hands mine.



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A wet hand not only makes you uncomfortable, but it also increases the amount of germs that your hand can spread back and forth between contact surfaces. Scientific studies have shown that pathogenic microorganisms have a higher chance of spreading on wet skin than dry skin.

Wet hands spread germs more easily than dry hands

That's the conclusion of a 2018 meta-review study published in the Journal of Infection Prevention by two authors: John Gammon, Deputy Head of Health and Human Sciences, Swansea University and Julian Hunt, a research officer. [help here](#).

In this review, they surveyed 112 previous studies and selected 21 scientific papers investigating the differences between a wet hand and a dry hand, and ways to dry it effectively to limit the spread. [transmit germs](#).

Prominent among these are the research of AF Merry at the Green Lane Hospital Anesthesiology Department in New Zealand and colleagues. In particular, she tested seven different drying scenarios, to test the amount of bacteria that can be transmitted there.



The scenarios include:

- (1): A dry, unwashed hand.
- (2): Hand wash under cold running water for 3 seconds, do not wipe or tumble dry.
- (3): Wash your hands according to an arbitrary process that volunteers often do at home.
- (4): Wash your hands according to the procedures in the hospital: Use soap containing bactericidal povidone iodine or chlorhexidine for 3 minutes and dry with a sterile cloth.
- (5): Wash your hands under cold water for 3 seconds, then dry with a hot air dryer for 45 seconds.
- (6): Wash your hands under cold water for 3 seconds, then pat dry with a towel for 10 seconds and then dry with a hot air dryer for 10 seconds.

(7): Wash your hands under cold water for 3 seconds, then pat dry with a towel for 10 seconds and then dry with a hot air dryer for 20 seconds.

After the volunteers performed the scenarios, they were given four sterile plastic tubes to hold on their fingertips, simulating their contact with the intravenous catheter that would be inserted into the patient.

The tubes are then collected, put into sterile salt water and swirled centrifuged for 15 minutes to collect the bacteria. Each milliliter of water containing the bacteria will be raised in agar plates to see how many bacteria remain on the hands of volunteers after each touch.

And this is the result:

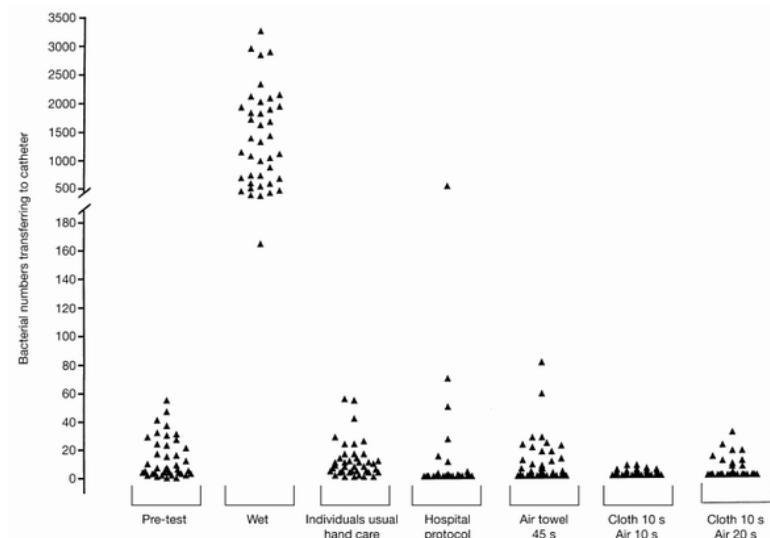


Fig 1 The numbers of bacteria transferred during the seven hand washing methods described in the text (each point relates to one catheter segment).

As you can see, a wet hand will be the most terrible bacterial transmission agent. " Our data confirms the role of the residual moisture in the hand influences the level of bacterial contamination by touching surfaces. Humidity in the hands has never been considered before, but it does have could undermine the benefits of hand-washing processes , "the authors write in the study.

Agreeing with this, Miryam Wahrman, author of the book " *Handbook: Surviving in a pathogenic world* ", said that letting your hands wet after washing your hands is a golden opportunity to help bacteria get back on your own hands. friend.

" A moist hand touching the door handle of a restroom is a perfect re-infection storm, leaving your clean hands covered with germs , " Wahrman wrote.

How should you dry your hands in Covid-19?

While Merry's research has convincingly proved the likelihood of infection of a wet hand being much larger than that of a dry one, the suggestion of drying hands with a towel and hot air dryer is not appropriate in terms of Current fact.

A number of new studies have shown that using hot air dryers can spread germs to the environment, although the dispersion is not as great as high-speed dryers - using only cold airflow nearly 9 times more than hot air dryers.

And reusable cloths also become a problem, as they can be contaminated with bacteria and viruses.



" The findings highlight that hot air dryers and cloth towels can be a problematic way of drying hands - especially in hospital settings, " said John Gammon and Julian Hunt.

They cited a 2014 study published in the Journal of Hospital Infection showing that high-speed cold air dryers can spread dozens of germs within a radius of 1.5 meters. The number of pathogens spreads less with hot air dryers, but they can still move within 0.75 meters thanks to the airflow.

Using cloth and paper towels to dry hands will reduce air disturbance and minimize the number of pathogens spread within 0.5 meters:

Table 1

Mean number of spots and yeast colonies detected on indicator paper discs or Sabouraud dextrose agar plates in the acid and yeast model experiments, at different distances from and angles to the hand-drying units (N = 20)

Dryer type	Angle	Distance travelled by spots/yeast colonies from drying unit						
		0 m	0.2 m	0.5 m	0.75 m	1 m	1.25 m	1.5 m
Paper towels	0°	1.3/2.2	0.8/6.5	0.7/0.2	0/0	0/0	0	0
	30°	1.3/0	0.6/0.7	0.1/0	0/0	0/0	0	0
	90°	1.3/0	0.5/0.3	0.4/0.2	0/0	0/0	0	0
Continuous roller towel	0°	0.7/2.2	0.5/34.7	0.2/0.3	0/0	0/0	0	0
	30°	0.7/0	1.2/1.7	0.2/0	0.2/0	0/0	0	0
	90°	0.7/0	0.2/2.2	0.2/0	0/0	0/0	0	0
Warm air dryer	0°	19.5/41.5	4/6.7	0.1/0.3	0/0	0.1/0	0	0
	30°	19.5/0	3.4/20.3	0.1/0.3	0/0.5	0/0	0	0
	90°	19.5/0	4.4/1.5	0.7/1	0/0	0/0	0	0
Jet air dryer	0°	61.8/59.5	16.1/67	1.7/32.3	2.5/18.2	0.4/26.2	8	11.5
	30°	61.8/0	18.9/18	1.5/7.7	1.4/2.8	0/0	0	0
	90°	61.8/0	13.3/10.8	3.6/4.8	0/0	0/0	0	0

Results for acid model shown in regular text, and results for yeast model shown in italics.

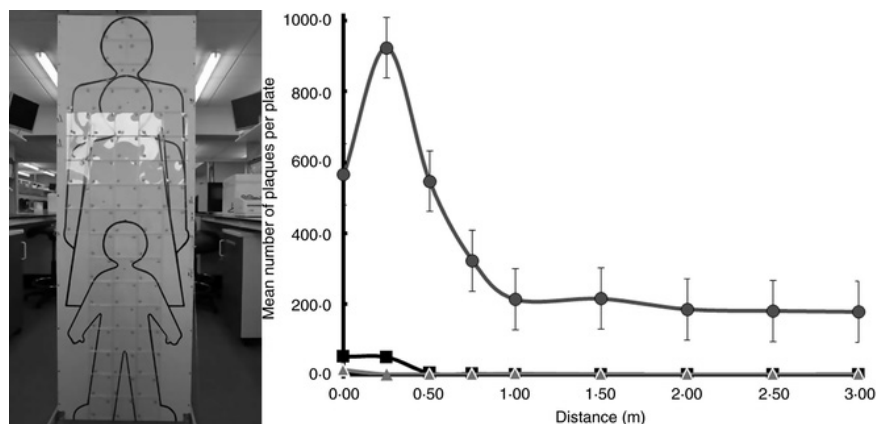


" Studies show that drying your hands with a tissue or cloth will remove more bacteria than just washing your hands, because the friction of drying reduces the number of bacteria even further ," said Wahrman. know.

But according to her, if you use cloth towels, you will have to pay attention to a few things: They should only be used at home, where each person has a separate towel and hang in place. Hand towels must be washed regularly, every few days if used a lot.

So Wahrman's advice is to use paper towels. A study in The Society for Applied Microbiology also advocated drying hands with a tissue, proving it was the most restrictive way to spread the virus.

Scientists have built a dummy model depicting children and adults, standing in different ranges to measure the amount of virus emitted from high-speed air dryers (circles), warm air dryers (square) and paper towels (triangles) to it. As a result, using paper towels is safer:





John Gammon and Julian Hunt agree with these studies. They write: " *Disposable tissue paper is recognized as the fastest and most effective way to remove residual moisture, which can create an opportunity for microorganisms to spread. This is very important in every context.*" who is concerned about the spread of the corona virus ".

" *Our research serves as a timely reminder that proper and effective hand wiping is indispensable in the hand hygiene process, whether you are in the hospital, you are a surgeon. or just working in the office* ".

Wahrman, meanwhile, recommends that you bring a clean, tissue-wrapped bag in your pocket during the season. And especially note, paper towels used to wipe hands must be tough, water-proof and not pipples. If not, they could dirty your hands more.

Refer to *Theconversation, Businessinsider*

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