

“By failing to prepare, you are preparing to fail.”

*Benjamin Franklin*

Peek Health Hong Kong

Fighting Fomite Transmission

# Infection from Peek's Perspective

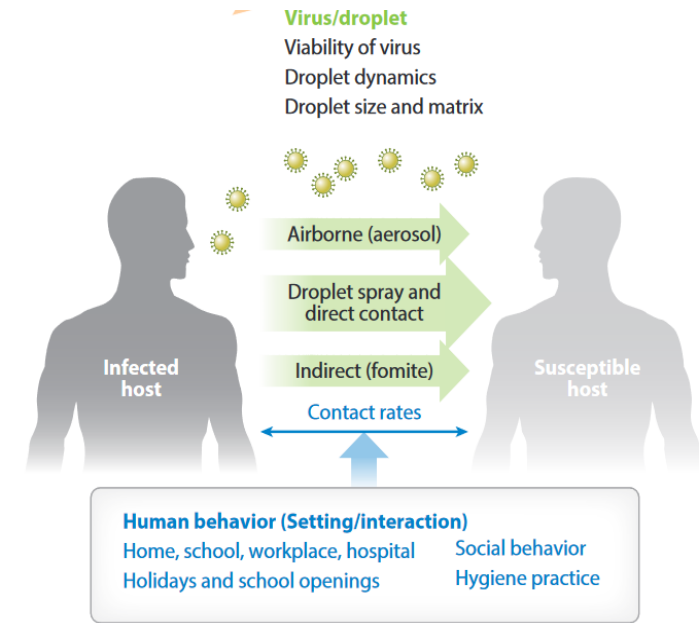
## The 3 ingredients for Covo-19 & Microbial Infection

- **Infected Host (animal, human)**
- **Transmission mechanism (direct or indirect via fomite)**
- **Susceptible host (unhygienic/unprotected)**



## Cross-contamination

- **Hands retain pathogens for up to 3 hours**
- **Spread on to 20 fomites within 90 secs of entering a building**
- **Masked susceptibles contact 10-15 fomites within 90 secs**
- **Hands touch facial mucous membranes 10 times per hour**
- **Public cross contamination has an infection probability factor of 1 in 10,000**
- **High contact fomites have an infection probability of 1 in 500 per day**



## Fomites? Medical terminology

**Inanimate object, surface or substance capable of transmitting infectious organisms to another individual.**

*Examples:*

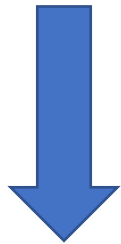
Door handles, light switches, lift buttons, touchscreens, ATMs, railing, bathrooms, terminals, displays & counters, office desks, kitchenette, break out rooms, public transport

# Current Approach to fighting Covid-19 - What's missing?

## World Health Organization website

**To prevent infection and to slow transmission of COVID-19, do the following:**

- **Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub.**
- **Maintain at least six feet distance between you and people coughing or sneezing.**
- **Avoid touching your face.**
- **Cover your mouth and nose when coughing or sneezing.**
- **Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.**



## Peek Health recommendation for individuals

- **Individuals should practice social distancing & wear masks**
- **Identify high risk transmission scenarios outside home**
- **Understand when and if potential transmission contact might be made**
- **Mask wearing helps protect 2 of the 3 mucus membranes from self-contamination, leaving only the eyes susceptible**
- **Habitually wash hands throughout the day, especially after de-masking**
- **Bathrooms are considered a medium fomite risk - assume all surfaces are unclean**
- **Consciously avoid touching your face, especially eyes nose and mouth**
- **Identify potential fomites wherever you are and consciously avoid contact with hands wherever possible, or clean hands immediately (portable alcohol rub) after contact & before touching your face**
- **Fomites change status frequently during the day, therefore always assume they are contaminated.**

**Current public health regimes fail to pay attention to fomites and the risk they pose to the public for indirect transmission**

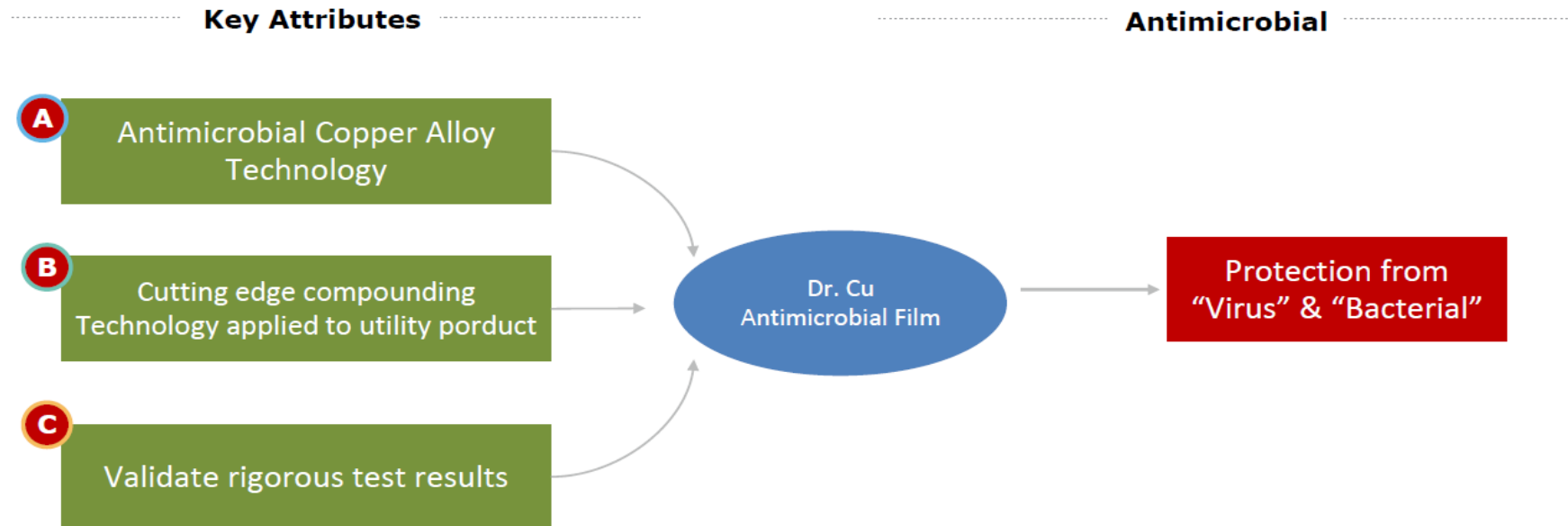
- 1 tiny droplet infection of a fomite yields high risk likelihood of public infection under current practices
- SOPs for cleaning public sites (hotels, hospitals, banks, bathrooms, lifts and counters) fall well short of mitigating Fomite infection
- **Every 2 hour period, provides 115 minute window for 'cleaned' fomites to be recolonised, leading to infection of the public**

## *Recolonization Risk in every public fomite needs to be understood and mitigated*

**Problem:** Wiping fomite surfaces every 2 hours exposes fomites to re/colonization over 90% of the time

**Solution:** Protect fomites using antimicrobial copper film, which *continuously kills viruses and bacteria* that land

*Copper has universally been known to have antimicrobial properties, more effective than other metals*



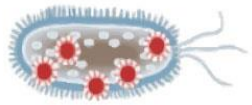
## How Does Copper Kill Microbes?



**1** Copper ions on the surface are recognized as an essential nutrient and enter the cell.



**2** A lethal dose of copper ions interferes with normal cell functions and membrane integrity.



**3** Copper ions impede cell respiration/metabolism, sometimes causing DNA damage.

## Comparative survival time of microbes

<b>Silver</b>	<b>Over 4 hours</b>
<b>Aluminium</b>	<b>Up to 8 Hours</b>
<b>Stainless Steel</b>	<b>Up to 3 days</b>
<b>Plastic</b>	<b>Up to 3 days</b>
<b>Wood</b>	<b>Up to 4 days</b>
<b>Glass</b>	<b>Up to 9 days</b>

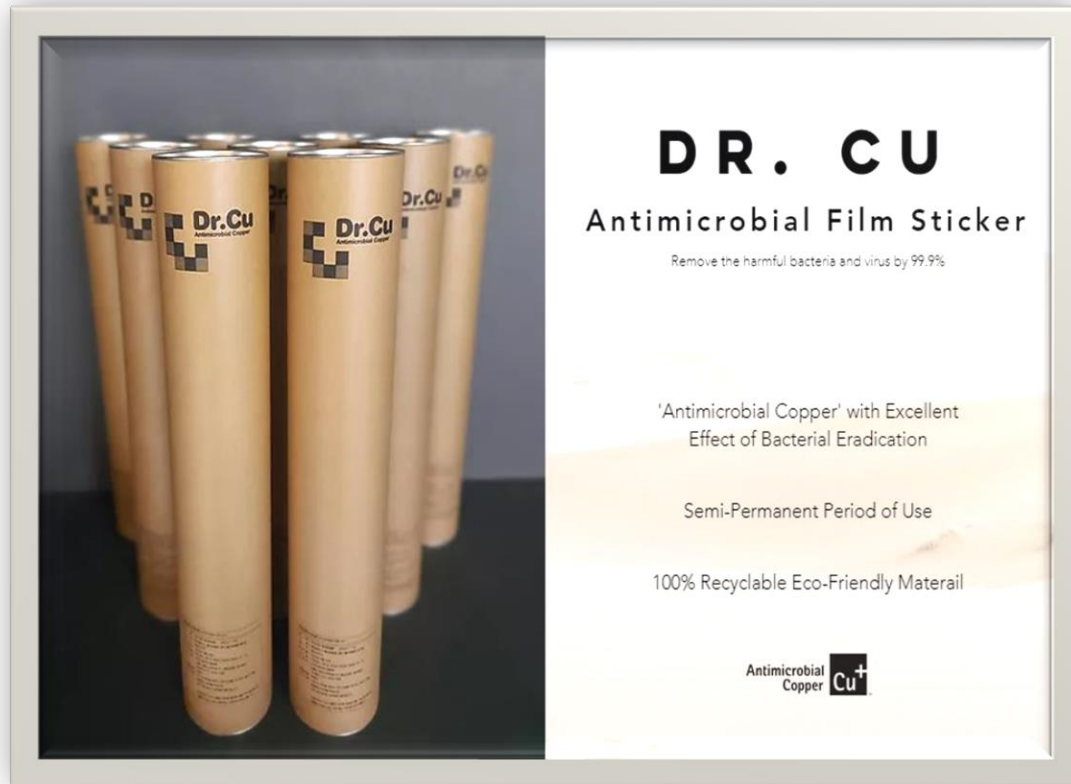
**Covid-19 droplets on a Dr Cu protected fomite will be eradicated**

[Microbiology Researcher](#) Dr. Bill Keevil at the University of Southampton (U.K.), who has published papers on the effect, explains:

*When a microbe lands on copper, ions blast the pathogen like an onslaught of missiles, preventing cell respiration and punching holes in the cell membrane or viral coating and creating free radicals that accelerate the kill, especially on dry surfaces. Most importantly, the ions seek and destroy the DNA and RNA inside a bacteria or virus, preventing the mutations that create drug-resistant super-bugs.*

*“The properties never wear off, even if it tarnishes,”*

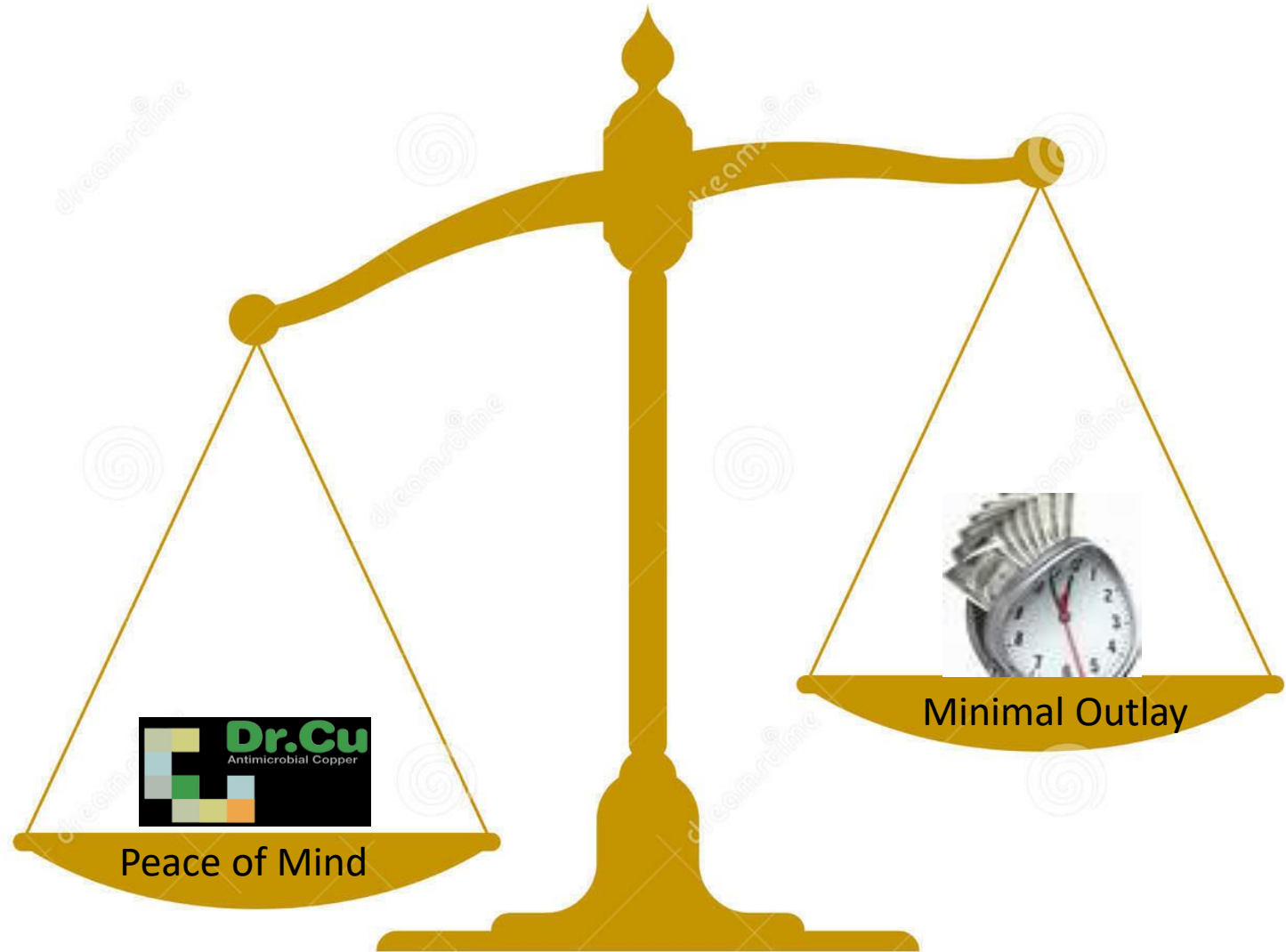
## *Dr Cu: Kills greater than 99.9% of bacteria and viruses upon contact*



- ***Manufactured only using copper alloys registered with the United States Environmental Protection Agency (EPA)***
- ***Must meet the requirements of proving a 99.99% kill rate of microbes upon contact.***
- ***99.9% Antimicrobial Effect***
- ***Dr Cu continually controls & eradicates all microbes***
- ***Addresses secondary & cross contamination***
- ***Antimicrobial copper surfaces eliminate contaminants and thus mitigate the risk of fomite infection***
- ***It is durable and certified as environmental friendly***

## How much would value the return to health & BAU

- **Expert Installation**
- **Professional/Expert detailers can install on many surfaces both curved and flat.**
- **Installation can be done during off hours to ensure no disruption of business.**
- **Fast, safe and clean. Installers will leave the place as clean as they find it.**
- **Semi-permanent installation saves costs and need to reinstall constantly.**
- **Little maintenance needed. Just wipe down with a clean wet cloth. The copper in the film continuously kills the microbes.**



# Specifications

Material	Antimicrobial Copper Film (LLDPE & Cu+)
Type	Sheets, Rolls
Measurements	A4 paper size, 40CM*10M rolls
Adhesive	removable self adhesive
Durability	Semi-Permanent depending on use
Uses	Elevator button, Door handles, Touch screen, Mobile case, Public transportation, counter tops, handrails
Effectiveness	Kills 9% of pathogens regularly
Country of Origin	South Korea
Certifications	EPA, ICA

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