Evidence brochure

clinell®

Universal Range

The NHS's no.1 choice for one-step cleaning and disinfection

Clinical findings

Performance in practice

Clinell Universal Wipes' performance has been evidenced in peer-reviewed literature since their introduction in 2006.

99.2% ▼
reduction in **bacterial contamination**[3]
Ahmed et al. 2009.

55% ▼
reduction in **MRSA acquisitions**[1]
Garvey et al. 2018.

VRE contamination reduced by
97%[4] ▼
Chang et al. 2017.

Saved
" >5 **"**
minutes
per item decontaminated[2]

Shepherd et al. 2020.

"An effective alternative to standard cleaning and disinfection"[5]
Casini et al. 2018.

"**Clinically effective, environmentally friendly,** and **cost-saving** compared to disposable cuffs[7]
Zimmerman et al. 2018

Improved adherence to cleaning protocols[8]
Martin et al. 2018.

An **effective intervention** for reducing the overall microbiological burden[6]
Lobaz et al. 2012."

Contents page

Environmental decontamination

Contaminated surfaces act as reservoirs for pathogens[9].

There's a cost to ineffective disinfection and healthcare-associated infections.

Role of surfaces

The role of surfaces in the transmission of pathogenic microorganisms is well recognised[10], with clinical evidence placing those causing healthcare-associated infections (HCAI) in the healthcare environment[11].

Lapses in infection control and environmental hygiene are recognised contributors to HCAI rates[12], and there is a growing body of knowledge which highlights how improved infection control practices can help break the chain of transmission[13]. Environmental decontamination is highlighted as a clinically effective method of managing methicillin-resistant *Staphylococcus aureus* (MRSA) in healthcare facilities[14], according to guidelines from the Joint Healthcare Infection Society (HIS) and Infection Prevention Society (IPS).

As antimicrobial resistance soars in magnitude - with death rates as large as major diseases such as HIV and malaria, and potentially much larger[15] – ineffective disinfection is not an option.

Ineffective disinfection

Traditional disinfectants such as chlorine present several user challenges[16, 17]:

- Require pre-cleaning
- Inactivated by organic matter
- Dilution errors
- Toxic fumes
- Adsorption: formulation-material interaction

Understanding adsorption

This process describes how molecules in the formulation interact with the material of the cloth or wipe. Once attached, the disinfectant agent cannot be applied to the surface and fail to effectively kill microorganisms[18].

Cost of infection

Estimates from National Institute for Health and Care Excellence (NICE) suggest that 6.4% of patients who enter a hospital acquire an infection that they didn't have when they arrived[19].

Patients, healthcare workers and hospitals feel the weight of infections due to increasing costs caused by: increased length of stay, patient isolation, intensive care, outpatient and community care, increased screening and NHS staff absence[20].

£2.7 billion

28,500 patient deaths

79,700 days of healthcare worker absence

The annual cost of HCAIs to the NHS in England[20].

Selecting a wipe

Pre-impregnated wipes are increasingly used in healthcare[21].

Choosing the right wipe is difficult and there are many factors to consider.

Peter Hoffman an author of the Royal College of Nursing's publication 'Wipes it out: the selection and use of disinfectant wipes', outlined the criteria to effectively evaluate and select a wipe.

Effective formulation

Clinically relevant microorganisms

Realistic contact times

Consistent quality

Published evidence

Surface compatibility

Training & implementation

Clinell Universal Wipes

The clinically effective detergent-disinfectant wipe[5]

Created by two NHS doctors, Clinell Universal Wipes were the first detergent-disinfectant used in the NHS and are now found in 9 out of 10 hospitals.

One step cleaning & disinfection

Patented detergent-disinfectant formulation: No pre-cleaning, no dilution errors, no unnecessary products and no wasted time[2].

Kills >99.99% of hospital pathogens

Log 5 kill rate against bacteria and >99.99% effective against bacteria, enveloped viruses, mycobacteria and yeast.

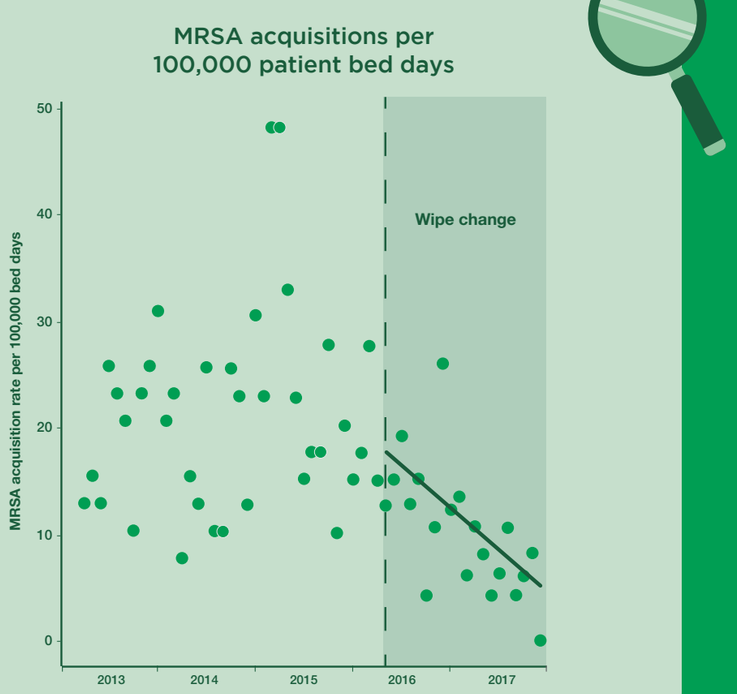
Proven to reduce infections

Evidenced to improve environmental decontamination compliance[21], reduce microbial contamination[7], and reduce HCAI acquisitions[1].

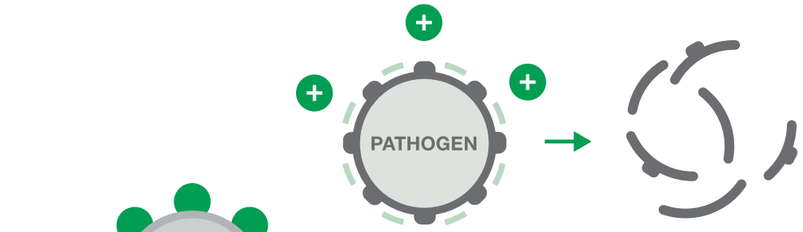
Clinell Universal Wipes reduced MRSA by 55%[1]

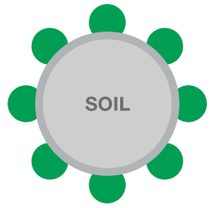
University Hospital Birmingham, an NHS Foundation Trust that clinically services over a million patients per year introduced Clinell Universal Wipes; replacing a two wipe protocol: detergent and alcohol disinfectant.

MRSA acquisitions fell by 55% from 20.7 to 9.4 per 100,000 patient bed days. Plus, the process was faster, simpler and less resource intensive.



Patented formulation





Disinfectants

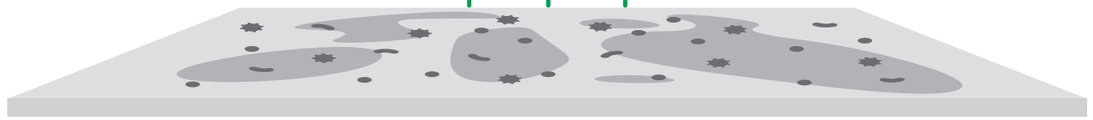
Non-specifically disrupt pathogens' cellular functions causing cell death and reduce surface contamination.

Surfactant

Removes the need for pre-cleaning by reducing surface tension to effectively remove dirt and organic matter.

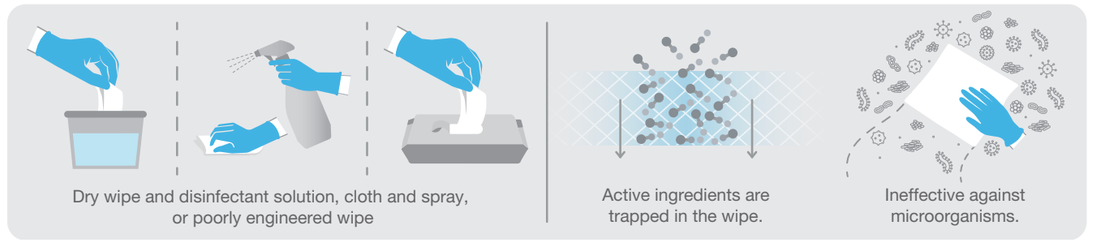
Chelators

Allow the active ingredients to work more effectively by binding free ions.



Overcoming adsorption

Poorly engineered substrate

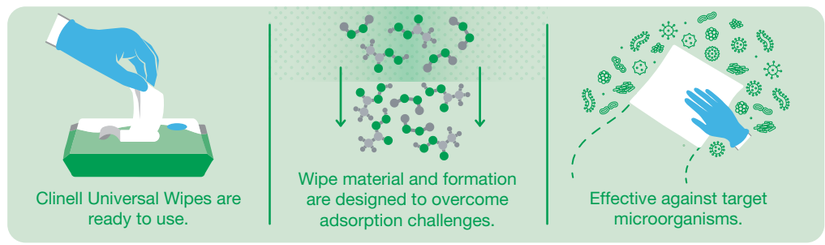


Dry wipe and disinfectant solution, cloth and spray, or poorly engineered wipe

Active ingredients are trapped in the wipe.

Ineffective against microorganisms.

Clinell Universal Wipes



Clinell Universal Wipes are ready to use.

Wipe material and formation are designed to overcome adsorption challenges.

Effective against target microorganisms.

Chlorine comparison

Clinell Universal Wipes outperform chlorine[4]

Researchers compared two decontamination protocols for tackling contamination with VRE. Five rooms containing VRE patients were sampled before and after disinfection with either Clinell Universal Wipes or chlorine.

Chlorine failed to significantly reduce VRE contamination. By contrast, Clinell Universal Wipes removed VRE from 97% of sampled sites. Authors concluded Clinell Universal Wipes delivered improved disinfection compared with chlorine.

Universal quality

The gold standard of infection prevention.

From infection prevention specialists, GAMA Healthcare.

To deliver an effective product, the journey starts with raw materials and scientific theory. At GAMA Healthcare, we've been manufacturing and supplying infection prevention and control products to the NHS since 2006.

Using our depth of knowledge, we've built an end-to-end process which ensures that our customers receive the highest quality products.

Dedicated research facilities

Our 14,000 ft^2 Research & Development laboratory in Halifax, Yorkshire is home to Clinell Universal's experts in formulation chemistry, material engineering and microbiology.

Independent testing

We conduct our efficacy testing in accredited, independent laboratories to ensure reliable results. Plus, our products are frequently batch tested for microbiological assurance.

Quality manufacturing

From lab to label, our products are sourced, manufactured and shipped by accredited partners who conform to our audited quality protocols, supporting our ISO 13485 status.

Market-leading support

Our team are available to support and educate anyone using a GAMA product, across surface hygiene, skin disinfection, air purification and patient isolation.

Microbiological safety controls

In order to protect patients, staff and hospitals, disinfectant wipes must be safe themselves.

From sourcing raw materials to pack construction, there are multiple opportunities for contamination in the production process. According to industry standards, wipes used in healthcare should comply to certain product regulations to validate their safety for use.

At GAMA Healthcare, we have standardised controls in our supply chain to minimise risks associated with poor manufacturing.

Antimicrobial efficacy

Designed to work, tested to prove it.

Clinell Universal Wipes are tested in dirty conditions and realistic contact times.

Disinfectants should be tested against certain EN Standard Tests to qualify for use in healthcare[21].
Looking at testing alone, a great performance is indicated by:

Significant log reduction
Effectively reduces the number of viable microorganisms

Realistic contact times
'Wet' time needed to reach a specific log reduction

Real-world, dirty conditions
A harder test to pass compared to clean conditions

	Microorganism example	Contact time	EN test	Conditions
Gram-negative bacteria	*Acinetobacter baumannii*	10 sec	EN13727	Dirty
	Escherichia coli	10 sec	EN13727	Dirty
	Klebsiella pneumoniae (CPE)	10 sec	EN13727	Dirty
	Pseudomonas aeruginosa	10 sec	EN13727	Dirty
Gram-positive bacteria	*Enterococcus hirae*	10 sec	EN13727	Dirty
	Staphylococcus aureus (MRSA)	10 sec	EN13727	Dirty
	Staphylococcus capitis	10 sec	EN13727	Dirty
	Enterococcus faecium (VRE)	10 sec	EN13727	Dirty
Mycobacteria	*Mycobacterium bovis*	2 min	EN14348	Dirty
Non-enveloped viruses	Adenovirus	1 min	EN14476	Dirty
	Norovirus	1 min	EN14476	Dirty
	Rotavirus	1 min	EN14476	Dirty
Enveloped viruses	HIV	30 sec	EN14476	Dirty
	Hepatitis C	1 min	EN14476	Dirty
	SARS-CoV-2	30 sec	EN14476	Dirty
	Vaccinia virus	15 sec	EN14476	Dirty
	Influenza (H5N1)	30 sec	EN14476	Dirty
Yeast	*Candida albicans*	10 sec	EN16615	Dirty
	Candida auris	10 sec	EN13624	Dirty

Testing standards

Reflecting real world performance in a laboratory.

Executed appropriately, standard laboratory tests help inform decisions.

Clinell Universal Wipes have been rigorously tested to evidence their antimicrobial capability. As well as meeting expectations, we challenge ourselves and our wipes to generate efficacy data that supports their true use in healthcare.

We test wipe eluate

'Eluate' is the liquid that is squeezed from the product, rather than the solution that is loaded to the wipe. Testing the eluate gives a better indication of the product's true antimicrobial range. That's why we test wipe eluate, so we can be confident in the results our wipes deliver.

We test latest EN standards

Our team of Formulation Chemists and Microbiologists are up to date with the most recent changes to EN Test methodologies. These tests are regularly reviewed and updated by their governing body and are key to demonstrating the efficacious performance of disinfectant wipes.

We test clinically relevant pathogens

GAMA Healthcare's team of clinical experts are up to date with the most relevant clinical literature in the IPC world. By identifying emerging pathogens, we conduct testing and generate data that validates Clinell Universal Wipes' ability to kill causes of infection.

Emerging pathogens

Staphylococcus capitis has been linked to infections in hospitalised neonatal patients[23], with sepsis[24] and high rates of mortality emerging as a result of certain infectious strains.

Inadequate decontamination has been linked to the presence *Staph. capitis* in healthcare, particularly stethoscopes, keyboards and incubators[25].

In response, Clinell Universal Wipes were tested specifically against *Staph. capitis* and verified effective under dirty conditions in 10 seconds.

Published evidence

The evidence for selection and use of Clinell Universal Wipes.

Tested and proven in peer-reviewed literature to show true performance.

Testing alone may not give a true indication of real-world usage[26], but peer-reviewed literature can be used to complete the picture.

Routine decontamination with Clinell Universal Wipes is proven to reduce environmental contamination. Resolving the costs involved with HCAIs as well as reducing the number of products and time involved with standard disinfection practices.

Economic evaluation of a €1.1 million CPE outbreak over 10 months[27]

Otter et al. Counting the cost of an outbreak of carbapenemase-producing *Enterobacteriaceae*: an economic evaluation from a hospital perspective. *Clin Microbiol Infect.* 2017 Mar;23(3):188-196.

Carbapenemase-producing *Enterobacteriaceae* (CPE) have emerged around the world through the 2000s. Building resistance, they have become a costly infection to treat as they are difficult to treat – even more so than other Gram-negative bacteria such as extended-spectrum ß-lactamase-producing *Enterobacteriaceae*.

Extensive infection prevention efforts have been highlighted as a cost-effective method to control the threat of CPE, which in one outbreak across 5 hospitals in West London cost €1.1 million over a 10 month period.

Evidence overview

Author	Overview	Benefit of using Clinell Universal Wipes
Garvey et al. *Antimicrob Resist Infect Control.* 2018.	**Replacing two-step cleaning & disinfection using alcohol wipes** with Clinell Universal Wipes at University Hospitals Birmingham.	**MRSA acquisitions fell by 55%** with additional operational benefits such as **time saved** and **reduced stock storage** requirements.
Shepherd et al. *J Infect Prev.* 2020.	Introducing Clinell Universal Wipes, Clinell Peracetic Acid Wipes and GAMA Healthcare **training & support** to NHS Lanarkshire.	**Significant improvements were seen in time taken to clean and disinfect** ($P < 0.0001$) and in **healthcare worker capability** ($P < 0.0001$) (reported training received); other **improvements in the use of appropriate products.**
Chang et al. *IPS.* 2017.	Comparison against **chlorine**. Five rooms of VRE patients were sampled before and after disinfection with either Clinell Universal Wipes or chlorine.	**Chlorine did not significantly reduce VRE contamination.** By contrast, **Clinell Universal Wipes removed VRE from 97% of sampled sites**. Authors concluded Clinell Universal Wipes delivered **improved disinfection compared with chlorine.**
Casini et al. *Int J Environ Res Public Health.* 2018.	Comparison with **chlorine** during a **carbapenem-resistant *A. baumannii* (CRAB) outbreak.**	Sampling of high-touch sites showed **Clinell Universal Wipes were more effective** at reducing Total Viable Count (TVC) of organisms from the environment. Authors concluded they represent an **effective alternative to standard cleaning and disinfection.**
Cheng et al. *J Hosp Infect.* 2018.	Decontamination of and sampling of heater-cooler units used during cardiopulmonary bypass – known potential reservoirs for ***Mycobacterium chimaera.***	**No contamination with *Mycobacterium chimaera* was observed** on the outside surfaces, which were decontaminated with Clinell Universal Wipes.
Zimmerman et al. *J Infect Prev.* 2018.	Decontamination of non-disposable blood pressure cuffs.	**97% reduction in contamination** caused authors to conclude that using wipes to decontaminate non-disposable cuffs would be **clinically effective, environmentally friendly** and **cost-saving** compared with using disposable cuffs.
Ahmed et al. *Ann R Coll Surg Engl.* 2009.	Bacterial decontamination of tourniquets.	**Bacterial contamination was reduced by 99.2%**, authors concluded tourniquets should be disinfected **after each use.**
Lobaz et al. *Anaesthesia.* 2012.	Decontamination of staff badges and lanyards.	**A mean 72% reduction in colony forming units (CFU) was seen.** Authors concluded that Clinell Universal Wipes are an **effective intervention against pathogens** and in **reducing overall microbiological burden.**
Jenkins et al. *J Clin Audit.* 2012.	Environmental decontamination policy modification.	**Available at the point of use,** with supporting posters and audit findings: introducing Clinell Universal Wipes **improved environmental decontamination compliance by 66%.**
Martin et al. *Open Forum Infect Dis.* 2018.	Protocol comparison against chlorine on medical wards in acute hospitals.	Significantly more likely to remove fluorescent markers, Clinell Universal Wipes **improved adherence to cleaning protocols** and staff felt that the **cleaning process was shortened.**

Surface safe

Verified for compatibility with 100+ pieces of equipment.

Formulated for compatibility without compromising antimicrobial efficacy.

Clinell Universal Wipes benefit from a QUAT, quaternary ammonium compounds, based formula. QUATs are comparatively unreactive and have better surface compatibility than other disinfectants[29].

Corrosive chlorine

Reactions between chlorine-based disinfectants and organic matter produce, amongst other things, chloramines[30]. Chloramines are highly reactive amines which can be responsible for aminolysis of plastic surfaces; causing costly permanent damage and providing pathogens with a new reservoir to occupy.

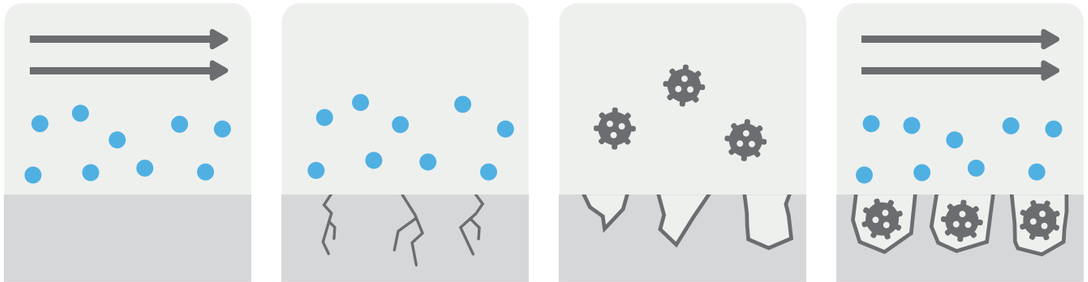
Hidden actives

Some QUAT-based disinfectants may include hidden ingredients to supplement their antimicrobial efficacy. Third party testing of Clinell Universal Wipes shows that they do not produce harsh chemicals so do not cause environmental stress cracking.

Extreme pH

High or low pH can contribute to the occurrence of environmental stress cracking. Clinell Universal Wipes' near neutral pH helps them overcome challenges associated with poor compatibility.

Environmental stress cracking



Exposure of incompatible formulation and susceptible surfaces.

Change to the molecular structure of the surface causes polymers to untangle.

Prematurely brittle surfaces form fine cracks which deepen and rupture with stress.

In the newly formed reservoir, pathogens are harder to remove by disinfection.

Removing reservoirs

Effective decontamination for every surface.

Mycobacterium reservoirs

Cheng et al. *Mycobacterium chimaera* contaminated heater-cooler devices: the inner surface as the missing link?. *J Hosp Infect.* 2018;100(3):e157-e15828.

A study from Hong Kong highlights the potential for surfaces on the heater-cooler units to be reservoirs for mycobacterium.

No contamination was found on the outside surfaces of the units, which were disinfected with Clinell Universal Wipes.

Bacterial contamination of tourniquets

Ahmed et al. A study of microbial colonisation of orthopaedic tourniquets. *Ann R Coll Surg Engl.* 2009;91(2):131-1343.

All tourniquets sampled in this study were found to be contaminated with bacteria. The authors hypothesised that this could be a source of cross-infection.

Disinfection using Clinell Universal Wipes reduced bacterial contamination by 99.2%.

Colonisation of badges and lanyards

Lobaz et al. Pathogenic colonisation of hospital badges and neck lanyards in the theatre environment. *Anaesthesia.* 2012; 67(5): 562-5676.

A before-after study examining disinfection of badges and lanyards, of which >25% harboured HCAI-causing pathogens. A mean 72% reduction in CFU was seen.

The authors concluded: Clinell Universal Wipes are an effective intervention for HCAI-associated pathogens.

Supporting implementation

Adopting a new wipe requires a new protocol.

GAMA Healthcare provide free-of-charge face-to-face and online education, along with audit tools and dispensers to Clinell Universal Wipes users.

Dispensers

Surfaces and equipment should be decontaminated regularly, especially between patient use, and using a dispenser makes sure Clinell Universal Wipes are placed where they're most needed.

Promote best practice

Place at the point of use

See them, use them

Easy to clean

Store wipes correctly

Percentage improvement in environmental decontamination compliance[8]

Jenkins EK, Silman F, Gosden PE. Sharps Tray Cleaning after use - A completed audit cycle. *J Clin Audit*. 2012; 4(3).

A before-after audit evaluated the compliance with recommended cleaning of sharps trays.

Intervention

- Availability of Clinell Universal Wipes at point of care
- Audit findings shared with staff
- Decontamination awareness posters in clinical rooms

Result

Product availability, training and audit resulted in a completed cycle compliance with tray cleaning improved from 10% to 76% post-implementation.

▲ 66%

improvement in environmental decontamination compliance

Chlorine vs. Clinell Universal Wipes: impact on compliance, protocol and time saving[26]

Martin et al. 1150. Cleaning High Touch Surfaces of Patients' Rooms: Make It Easier, and It Simply Gets Cleaner. *Open Forum Infect Dis*. 2018 Nov 26;5 (Suppl 1):S346.

A prospective intervention cross-over study to examine the impact of introducing Clinell Universal Wipes compared with chlorine solution on medical wards in an acute hospital.

Measure

Both disinfection methods were judged through the removal of fluorescent markers.

Result

Clinell Universal Wipes were significantly more likely to result in the removal of all fluorescent marks than the chlorine solution.

▲ Improved adherence to room cleaning protocols

▼ Less time taken to complete cleaning process

Time saving

The impact of right product and right training.

Published by Scotland's third largest health board[2].

A clinical team in Lanarkshire, Scotland, evaluated the impact of an intervention to improve hospital cleaning and disinfection through the implementation of pre-impregnated wipes combined with enhanced training.

A survey of staff before and after the implementation identified significant benefits in terms of faster cleaning, and improved levels of training in staff doing the cleaning.

The intervention involved:

Rationalising products for cleaning and disinfection

Clinell Universal Wipes and Clinell Peracetic Acid Wipes (formerly Clinell Sporicidal Wipes) replaces a protocol using detergent wipes and sodium hypochlorite.

Delivering an environmental decontamination training course

Clinical Educators from GAMA Healthcare delivered a training course to all ward staff specifically related to the use of the wipes and how to clean key items of equipment.

Providing supporting communication materials

Posters and instructions for use were provided by GAMA Healthcare to support good decision making around which wipe to use and how to use it correctly.

Improvement in the time to decontaminate

		Before intervention	After intervention
	**Mattresses**	>10 minutes	6-10 minutes
	**Commodes**	6-10 minutes	1-5 minutes
	**Lockers**	6-10 minutes	1-5 minutes

Frequently asked questions

What makes them Clinell ‘Universal’ Wipes?

The wipes function as both disinfectant and detergent. They can also be used on all surfaces, ward-based equipment and non-invasive medical devices.

Why are Clinell Universal Wipes better than chlorine?

- Clinell Universal Wipes offer several advantages over chlorine-based disinfectants.
- No pre-cleaning. Chlorine is inactivated by organic matter, meaning chlorine-based disinfectants require the surface to be cleaned before disinfected.
- No dilutions. Chlorine is typically provided in tablet or concentrate form and requires dilution before use. To be effective, this dilution must be carried out accurately. Clinell Universal Wipes remove the possibility of dilution errors, to provide an effective dose with each wipe.
- Time saving decontamination. Combining two manual processes (cleaning and disinfection) into one, Clinell Universal Wipes are proven to save time[2].
- Fewer products required. Chlorine-based disinfectant solutions not only require products for pre-cleaning, but also accompanying cloths and buckets. These unnecessary products are not needed when using Clinell Universal Wipes.
- No toxic fumes. Chlorine can release toxic fumes which are hazardous to patients and staff.

Are Clinell Universal Wipes wet?

Yes, Clinell Universal Wipes are pre-loaded with a patented formulation, which ensures a consistent effect with each wipe.

Will Clinell Universal Wipes damage my surfaces?

Universal Wipes are safe to be used on all surfaces.

They will not damage rubbers, plastics or metals. Though alcohol-based wipes tend to damage materials after prolonged use, our patented, pH neutral formula ensures that this will not occur with Clinell Universal Wipes. Alongside surfaces, Universal Wipes can be used on all non-invasive medical devices.

If you are unsure about whether the wipes are suitable to use on a particular object or surface please contact us. Always follow medical equipment manufacturer's cleaning procedures and guidelines.

When should I use Clinell Universal Wipes?

Routine decontamination of surfaces and shared equipment should be carried out after each use to prevent transmission.

Guidelines published in 2022 by the Healthcare Infection Society and Infection Prevention Society map out how to approach environmental decontamination of MRSA[24].

Where should I use Clinell Universal Wipes?

Surfaces, equipment and non-invasive medical devices.

CE-marked Clinell Universal Wipes are classified as a medical device and are suitable for surface disinfection and cleaning of non-invasive medical devices.

Should I use Clinell Universal Wipes instead of Clinell Peracetic Acid Wipes?

Clinell Universal Wipes kill most common causes of HCAIs, making them perfect for routine and terminal decontamination. They are effective against microorganisms including Gram-negative and Gram-positive bacteria, enveloped viruses and emerging fungal pathogens such as *Candida auris*.

Clinell Peracetic Acid Wipes are designed to target specific high-risk and hard-to-kill microorganisms such as *Clostridioides difficile*. In particular, they are effective against the most resistant microbial categories: bacterial spores and dry surface biofilms.

Together, as part of a combined IPC strategy, Clinell Universal Wipes and Clinell Peracetic Acid Wipes provide unbeatable surface decontamination.

Why should I use a dispenser?

Dispensers promote cleaning compliance.

Positioned at the point of use, staff are visually prompted to carry out proper decontamination as guided by IPC protocols. Mounted to the wall, Clinell Universal Wipes are always there when needed. They cannot be accidentally lost or left in other areas. This saves time for the user and increases compliance.

Can they be used without gloves?

GAMA Healthcare’s clinical recommendation is to wear gloves when using medical device-classified Clinell Universal Wipes. However, the decision not to wear gloves can be made according to local risk assessment.

Order information

Product details

	Product	Wipe quantity	NHSSC code
Wipes	**Universal Wipes** Our famous green wipes in convenient pack sizes	200	VJT118
		40*	VJT119
	Universal Wipes Adhesive Back 50 Peel off and stick to nearby flat surfaces	50	VJT518
	Universal Wipes Clip Pack 50 Clip to equipment for convenient access	50	VJT253
	Universal Maceratable Wipes 160 Dispose by macerator after use	160	-
Tubs, buckets & refills	**Universal Wipes Tub 100**	100	VJT223
	Universal Wipes Tub Refill 100	100	VJT224
	Universal Wipes Bucket 225	225	VJT190
	Universal Wipes Bucket Refill 225	225	VJT192
Sprays	**Universal Spray 500ml**	-	-
Accessories	**Universal Wipes Dispenser**	-	-
	Indicator Notes Green	-	FSE123

To find out more, visit **www.gamahealthcare.com**

* PT2 Biocidal Product

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† Enveloped viruses.

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Use disinfectants safely.
Always read the label and product information before use.

Always follow medical equipment manufacturer's
cleaning procedures and guidelines.

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