

# medstrom **ECO** *mist*

Caregiver Efficiency • Sustainability • Patient Dignity



The Future of Patient Hygiene

**medstrom<sup>+</sup>**  
Improved Patient Outcomes

# Time for Change

Bed bathing is a crucial aspect of patient care in hospitals. It is the process of washing a patient who is confined to bed, or unable to sit up to wash in a chair or bathroom due to illness, injury, or disability. However, bed bathing can be challenging for both patients and healthcare professionals.



**Studies show bed bathing takes between 48 and 24 minutes per patient.**<sup>1,2,3,4,5</sup>

If a typical ward has around 25 patients, and with a conservative estimate of a quarter of these patients needing a bed bath, that's up to 4.8 hours per ward, per day, spent on the process.



**Patients may feel embarrassed, exposed or vulnerable while being washed via a traditional bed bath method.**

They may experience pain or discomfort if they have injuries or wounds, especially if towels and disposable wipes are being used to remove dirt from the skin.



**If stains are present or organic matter is strongly adhered to the skin, bed bathing may result in a scrubbing motion.**<sup>6,7,8</sup>

This will potentially exacerbate frictional and shear forces on the skin.



**Traditional bed baths use a basin filled with warm water and a washcloth.**

Manual water temperature adjustment can be imprecise, leading to an uncomfortable temperature for the patient.



**Plus-size patient management, ICU, end of life and elderly care.**

These are just a few areas where bed bathing can be particularly challenging.



**Water usage is a key metric in the NHS' Net Zero plan.**<sup>10</sup>

One bed bath can use up to 10 litres of water per patient, leading to a significant consumption of water per annum.



**The most common injuries for caregivers are back injuries.**<sup>9</sup>

Bed bathing can be physically demanding for healthcare professionals. The process requires lifting and moving patients, which can increase the risk of musculoskeletal injuries.

With little to no innovation in this area, **it's time for change.**

# Every innovation has a story

When Alberto (the inventor of ECO Mist) witnessed his sick relative receiving a bed bath in a nursing home, he was horrified at how unpleasant and undignified it was for his loved one. He felt better solutions must be available.



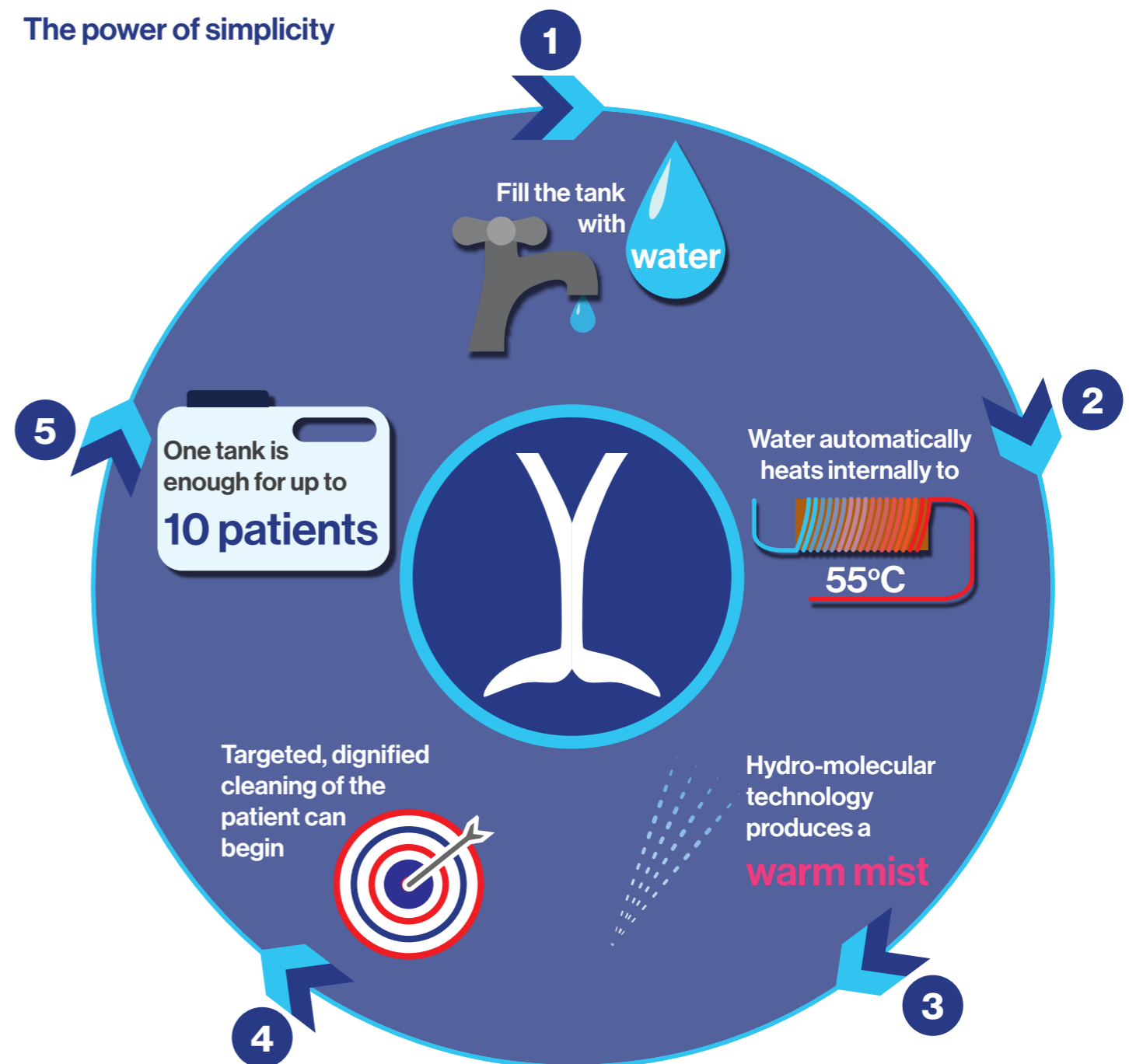
Upon researching, Alberto was shocked to discover that there had been no real innovation for centuries. He began observing ward behaviour to create his own perfect solution and as a result, the ECO Mist patient washing device was born.

Patient dignity restored and patient experience improved

Up to 65% reduction in caregiver time compared to bed baths

Uses up to 95% less water than a bed bath

## The power of simplicity



# Easy clean

The ECO Mist utilises innovative hydro-molecular technology to break the flow of water, transforming it into molecules and dispensing at 100 microns. This enables precision washing, reaching only the intended parts of the patient without contacting surrounding areas and eliminating dispersion of molecules in the air.



The result is a targeted mist effective enough to truly clean the patient, aiding the removal of stubborn stains, whilst avoiding areas of risk such as wounds, dressings, cannulas etc.



The misting effect also avoids the need for “scrubbing” of areas, which may not only be painful for the patient, but can also increase the risk of friction and shear skin damage.



*“As a qualified Infection Control Nurse, I couldn’t be more excited with the prospect of ECO Mist. We know the process of washing a patient removes both organic matter and potentially harmful microorganisms from the skin surface. However a traditional bed bath method can bring associated risks with cross contamination in wash bowl.”<sup>3,11,12,13,14</sup>*

*“With the introduction of ECO Mist, we’re able to clean the patient more effectively in a further controlled manner, releasing lots of benefits from an infection control and governance perspective.”*

**Zoe Rushton**  
**Infection Prevention Nurse Specialist**

# Save time, so you can care

Nurses are struggling as a result of rising patient demand and staff vacancies. This is compounded by record levels of staff sickness and burnout.<sup>16</sup> Moreover, since 2019, waiting lists for elective care have grown over four times faster than the number of nurses recruited.<sup>17</sup> As a result of this 'perfect storm', nurses' time is being stretched to the limit, with not enough hours in the day to complete tasks.

## Time savings calculated

Estimates show an ECO Mist wash takes 10 to 15 minutes per patient and is incredibly simple to use at the touch of a button.

This is an average reduction of 65% per patient using data of time spent during traditional bed bath methods.<sup>1,2,3,4,5</sup> ECO Mist is the ultimate ally for caregivers, freeing up more time for them to give the care patients need.



## We've got your back

Due to the simple operation of ECO Mist and the water stylus being able to reach precise areas, there is less manual handling required to lift limbs when accessing difficult areas.

Not only can ECO Mist save nursing time, it can also assist with easier manual handling and prevention of injury.



# A sustainable focus

Being green is high on the NHS' agenda, with an ambitious 2040 net zero pathway already underway. Reducing water usage and enhancing waste management are crucial to this goal. In fact, by 2025, the NHS wants to reduce water consumption by 40%, operational waste by 35% and where viable, implement a zero waste to landfill policy.<sup>18</sup>



ECO Mist is aligned with these targets thanks to its eco-friendly approach to patient hygiene. Using a 'water-lite' method, the innovative system needs only 500ml to wash a single patient, saving up to 95% of the water required for a traditional bed bath. *But what does that really mean?*

## A bucket-load of environmental savings

Based on a standard 25 bedded ward and approximately a third of those requiring a bed bath (8 patients), a single ward would save:



76 litres of water per day,  
equating to **27,740 litres**  
across an entire year



The equivalent of  
**693 showers**  
per annum<sup>19</sup>



At least **2,920**  
**traditional bed baths**  
per annum

## Reduced waste

Current patient hygiene methods also face waste challenges, including:

- Excessive use of 'disposable' pulp bowls to avoid spillages and leaks.
- Hospital macerators becoming blocked or damaged due to the amount of disposable hygiene items being processed.
- Non-recyclable elements contributing to landfill waste.

The ECO Mist's self-contained, simple design avoids unnecessary waste and due its targeted application, offers a sustainable solution for supporting improved patient hygiene.



# Revolutionising patient dignity

Being in hospital can be a daunting experience for patients. The unfamiliar environment, the presence of medical equipment, and the anxiety of being unwell can all contribute to fear and stress.<sup>20</sup>

If a patient is bed bound and unable to perform tasks for themselves, such as getting to a bathroom, this can lead to further distress. Bathing not only helps the patient to feel clean and gain a sense of normalcy, but also removes dirt, perspiration, bacteria, and dead skin as well as promoting blood circulation.<sup>15</sup> Arguably, a traditional bed bath method doesn't truly clean someone, with aspects like hair washing being particularly hard to manage.

## Prioritising patient wellbeing

The ECO Mist allows able patients to be given the water stylus to reach intimate areas, improving dignity and independence. Furthermore:

- The refreshing mist provides a satisfying spa-like experience where patients are getting truly washed, not just wet.
- The temperature and pressure of the mist can be adjusted, dependent on how close or far away you spray, providing ultimate patient comfort.
- Hair washing can also be achieved simply and easily, without excess amounts of water required.



## Case study: ECO Mist in action

A study involving 19 patients examined ECO Mist's effectiveness in saving time and reducing water usage, whilst ease of use and patient experience were also evaluated. Health Care Assistants (HCAs) on the ward used the ECO Mist to wash patients with a wide variety of clinical conditions including dementia and/or delirium, as well as those with frail skin or acute infections.

## Evidenced benefits for caregivers and patients

The following statistics highlight some of the key findings following the study.<sup>21</sup>



Compared to a traditional bed bath, on average, **ECO Mist took 53% less time to wash the patient.**



Across 40 wards (8 patients washed daily on each), time saved equates to **over 20 full-time staff hours a week.**



92% of HCAs answered that **less wipes and towels were used** with ECO Mist compared to a traditional bed bath.



Over 89% of HCAs said that **difficult to reach areas were easier to wash** with ECO Mist.



On the study ward, washing 8 patients with ECO Mist would **save 192L of macerator water per day.**



Annual hospital cost savings would equate to a **£677,440 reduction vs. traditional bed bathing methods.**

“It was quicker than using a [traditional wash] bowl, less water was wasted, and the bed was less wet.”

HCA (Health Care Assistant)

“My hair wash was nice - I felt really great after this!”

Patient

## Technical Specification

<b>External dimensions:</b>	93cm x 47cm x 37.5cm	<b>IPX rating</b>	IP21
<b>Weight (without water):</b>	34kg	<b>Maximum internal water temperature:</b>	55°C
<b>Maximum dispensing water temperature:</b>	40°C		

## References:

1. Bastos, 2019. Bed-Bath: The Care-Omitting Behavior of the Nursing Team.
2. Carruth et al, 1995. Bag Baths: An alternative to the bed bath.
3. Massa, 2010. Improving efficiency, reducing infection, and enhancing experience.
4. Nøddeskou, 2014. Elderly patients' and nurses' assessment of traditional bed bath compared to prepacked single units – randomised controlled trial.
5. Groven, 2020. Comfort during the bed bath—A randomised crossover trial on the effect of washing without water versus water and soap in nursing students.
6. Konya I et al, 2023. Minimum wiping pressure and number of wipes that can remove dirt during bed baths using disposable towels: a multi-study approach. BMC Nurs 22, 18.
7. Bryant R & Rolstad B, 2001. Examining threats to skin integrity. Ostomy Wound Manage, 47, 18–27.
8. Birch S & Coggins T (2003). No-rinse, one-step bed bath: the effects on the occurrence of skin tears in a long-term care setting. Ostomy Wound Manage, 49, 64–7.
9. How to move, lift and handle someone else - Social care and support guide - NHS ([www.nhs.uk](http://www.nhs.uk)).
10. Greener NHS » Delivering a net zero NHS ([england.nhs.uk](http://england.nhs.uk)).
11. Coyer et al, 2011. The provision of patient personal hygiene in the intensive care unit: A descriptive exploratory study of bed-bathing practice.
12. Groven, 2017. "How does washing without water perform compared to the traditional bed bath: a systematic review".
13. Veje, 2019. Bed bath with soap and water or disposable wet wipes: Patients' experiences and preferences.
14. Veje, 2020. Effectiveness of two bed bath methods in removing microorganisms from hospitalized patients: A prospective randomized crossover study.
15. Assisting Patients With Personal Hygiene - StatPearls - NCBI Bookshelf ([nih.gov](http://nih.gov)).
16. Trivedi, SS. 2023. Nurse burnout: NHS sickness absence points to staff's struggles. Nursing Standard. Available online: Nurse burnout: NHS sickness absence points to staff's struggles ([rcni.com](http://rcni.com)).
17. Dangerously inadequate staffing levels: NHS waiting list growing 4 times faster than nurse workforce (2023). Royal College of Nursing. Available online: NHS waiting list growing 4 times faster than nurse workforce | News | Royal College of Nursing ([rcn.org.uk](http://rcn.org.uk)).
18. [www.nhsbsa.nhs.uk](http://www.nhsbsa.nhs.uk). (n.d.). Our core priorities | NHSBSA. [online] Available at: <https://www.nhsbsa.nhs.uk/our-core-priorities> [Accessed 1 Dec. 2023].
19. [www.sciencefocus.com](http://www.sciencefocus.com). (n.d.). How long does a shower have to be, to use the same amount of water as a bath? [online] Available at: <https://www.sciencefocus.com/science/how-long-does-a-shower-have-to-be-to-use-the-same-amount-of-water-as-a-bath>.
20. Ford, DM, et al. 2023. In-hospital stress and patient outcomes: A systematic review and meta-analysis. PLoS One. 2023;18(3):e0282789. Published 2023 Mar 9. doi:10.1371/journal.pone.0282789.
21. Medstrom data on file.

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