Clean Hands, Clear Water: Hand Rubbing for an Eco-Friendly Scrub

Comisiwn Bevan Commission

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Background:

Chlorhexidine (Status Quo)

Harsh on skin
27.8% report dermatitis related to chlorhexidine.[1]

High use of clean water
>1 million litres of water per year in Glan Clwyd Hospital.

Not removed in water treatment
Persists into the oceans and water table.

Toxic to aquatic life
Affects fish behavior and primary producer numbers.[2]

Alcohol-Based hand Rubs (ABHRs)

Use no clean water
If hands not visibly soiled and have been washed that day.

2 minutes for sterile hand preparation
Hand must remain wet for 2 minutes.

Prolonged antimicrobial action
Suppressed microbial growth within surgical gloves for up to 6 hours.[3]

Recommended by the Royal College of Surgeons
In the 'Intercollegiate Green Theatre Checklist'.[4]

Improved skin hydration
Reduced cracking and fissuring.[5]

Aims and Objectives:

- **Implementation:** Transition to ABHRs for all sterile procedures within 12 months.
- **Education:** Provide training for all clinicians, integrated into hospital inductions.
- **Monitoring:** Audit compliance and infection rates post-implementation.

Approach:

- Introduced ABHRs (Sterillium) to the Intensive Care Unit to evaluate feasibility in a controlled environment.
- Delivered drop-in sessions, bedside teaching, and visual "memory aids" to address technique changes.

Outcomes:

The pilot was successfully established in ICU, though wider rollout faced cultural and logistical hurdles.

Impact:

Before ABHR (n=12)

50%	Rated scrub stations outside of theatre as inadequate.
30%	Reported skin irritation from chlorhexidine hand scrubs.
20%	Were familiar with ABHRs or had used them previously.

Do you have any concerns about the use of alcohol-based hand rubs? (free text)

'Dry hands, skin peeling off'
'Does not feel as thorough. No good if visibly soiled. Not sure if it's effective for all pathogens'
'Option if evidence backs is it up and cost effective'
'Need assurance comparable to standard scrub with water and chlorhexidene/betadine'

After ABHR (n=13)

100%	Reported ABHRs as easy to use.
93%	Reported increased ease of adherence to hand hygiene practices for sterile procedures.
85%	Reported no change or improved skin condition.
93%	Were either 'satisfied' or 'very satisfied' with the introduction of ABHRs in ICU.

What changes have you noticed in hand hygiene practices since the introduction of alcohol-based hand rubs? (free text)

'Easier and less mess'
'Easier & quicker'
'Hand washing for aseptic technique is much easier, quicker and less messy (compared to soap and water). No need to worry about non-sterile towels to dry your hands. Gloves easier to put on as alcohol rub dries completely, whilst it can be difficult to dry hands completely after using soap and water.'
'Better hands hygiene'

What could be done to improve the implementation of alcohol-based hand rubs in your department? (free text)

'To consolidate and disseminate information about safety and efficacy'
'Idiots guide on the wall next to it, A5, 4 bullet points'
'Continue to introduce across other areas of the hospital, including the ED'
'Ensuring that it is always in stock and easily accessible throughout the department'
'Bedside teaching sessions'

Key Conclusions:

- High satisfaction (93%) suggests that initial resistance can be overcome through education and evidence.
- Despite implementation hurdles, the ICU pilot proved ABHRs are a practical, cost-saving, and eco-friendly alternative.

Next Steps:

- Finalise the rollout to Radiology, Outpatient Surgery, and the Labour Ward.
- Complete the transition for all main operating theatres.
- Disseminate findings to the BCUHB Strategic Infection Prevention Group to encourage adoption across North Wales.

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