An observational study on the time required to effectively clean shared medical equipment in hospitals

CLEANING TIME AND MOTION

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Acknowledgement to the Traditional Owners of the land in which we gather today.
The Wurundjeri Woi-wurrung and Bunurong/ Boon Wurrung peoples of the Kulin Nation and pay our respect to their Elders past, present and emerging.

Avondale UNIVERSITY

CENTIME

BACKGROUND

PROJECT

RESULTS

CONCLUSIONS

BACKGROUND

How often do you see this equipment being cleaned between uses?

Whose responsibility is it to clean equipment after use?

Can infections be spread through hospitals via these pieces of equipment.

Does the cleaning of this equipment reduce infection numbers?

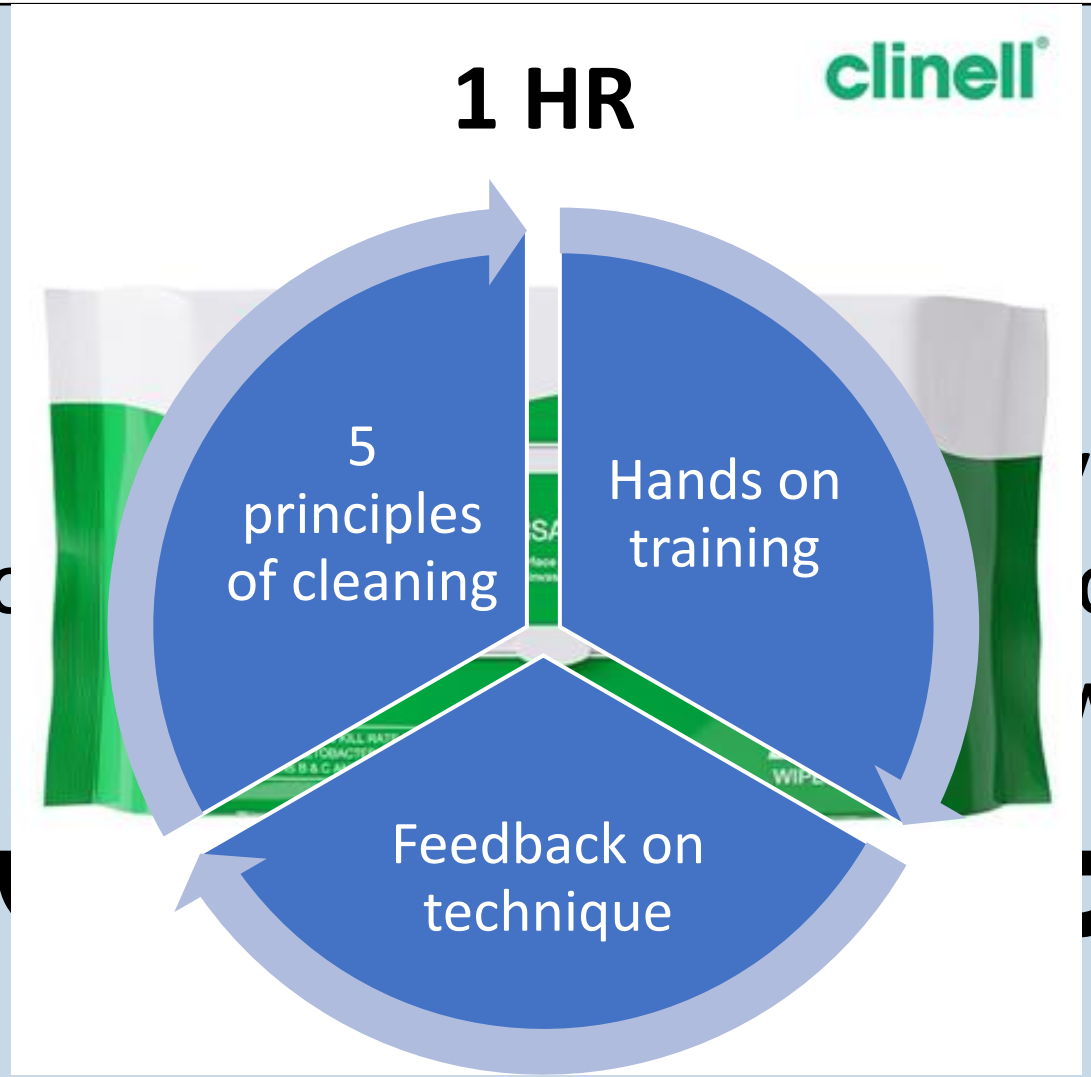
The CLEEN study

Reduction in Hospital Acquired Infections (HAIs)

Time required to effectively clean equipment ??

Browne, K. *et al.* (2024) 'Investigating the effect of enhanced cleaning and disinfection of shared medical equipment on health-care-associated infections in Australia (CLEEN): A stepped-wedge, cluster randomised, controlled trial', *The Lancet Infectious Diseases* . doi:10.1016/s1473-3099(24)00399-2.

PROJECT



the time required to effectively
dical equipment shared between
workers in the hospital setting

PROJECT

- Placement of 10 UV dots on FTP
- Dots only visible under florescence
- Participants clean equipment with time to clean monitored
- Equipment considered effectively cleaned if 80% of dots removed

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RESULTS

Type of equipment	Mean time to effectively* clean (min:sec)	Standard deviation (min:sec)	Minimum cleaning time (min:sec)	Maximum cleaning time (min:sec)	95% confidence interval (mean)(min:sec)
Blood glucose testing kit	0:50	0:14	0:27	1:10	0:40 - 1:00
Intravenous stand	1:20	0:30	0:40	2:01	0:59 - 1:41
Infusion pump	1:21	0:28	0:31	2:06	1:01 - 1:41
Blood pressure monitor	1:49	0:19	1:00	2:13	1:35 - 2:02
Patslide	2:17	0:24	1:38	3:00	1:59 - 2:34
Metal trolley	2:19	0:49	1:38	4:20	1:44 - 2:55
Wheelchair	2:29	0:45	1:21	3:38	1:57 - 3:01
Resuscitation trolley	2:29	0:32	2:01	3:50	2:35 - 3:20
Computer on wheels	2:43	0:45	1:46	4:00	2:11 - 3:15
Commode	2:58	0:43	2:18	4:20	2:28 - 3:30
Bladder scanner	3:16	0:53	2:09	5:01	2:39 - 3:54
Medication trolley	3:53	0:30	3:15	4:28	3:36 - 4:11

Six participants = 20 pieces each

Time to clean ranged 50 seconds – 3 minutes 53 seconds

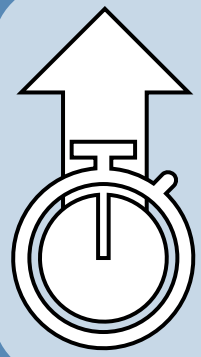
Intravenous stand = 100% of dots removed 100% of the time

Bladder scanner = 12 attempts to meet 80% criteria

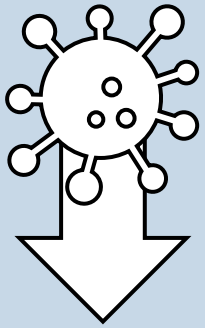
Cumulative cleaning time: 120 pieces = 4 h 41 min 58 sec

CONCLUSIONS – Key take home

What does this mean for clinical staff?



Takes a long time to clean effectively



CLEEN showed effective cleaning reduces HAIs

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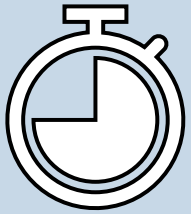
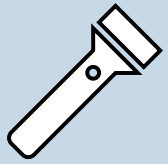


Time

Training



Audit & Feedback

- Training tool for hospital staff
- Business cases/service delivery to improve cleaning & disinfection of shared medical equipment
- Cost effectiveness evaluations

CONCLUSIONS

Matterson, G., Browne, K., Tehan, P.E., Russo, P.L., Kiernan, M., & Mitchell, B.G. (2024). Cleaning time and motion: an observational study on the time required to effectively clean shared medical equipment in hospitals. *The Journal of Hospital Infection*.

Speaker	Time	Room	Project
Prof. Brett Mitchell AM & Nirmali Sivapragasam	Wednesday 08:45 – 09:15	Plenary 1	The CLEaning and Enhanced disiNfection (CLEEN) study: A stepped-wedge cluster randomised trial
Dr Kate Browne	Wednesday 11:55 – 12:15	Meeting room 203	Practical application of the CLEEN study

Thank you