



The Royal Liverpool Hospital

Tackling Excess Waste by Switching to Reusable Theatre Caps



What Was Done - Introduction of named reusable caps for theatre staff.

Summary of the benefits of named reusable caps over disposable ones: -

1. **Better communication** between staff members and therefore better teamwork, as people know exactly who they are interacting with. This is important, especially during emergencies. According to the WHO, 70% of adverse incidents in health care occur due to miscommunication.
2. **Patient anxiety reduced.** Patients undergoing a surgical procedure come into contact with several team members. Knowing who they are talking to helps them feel more comfortable.
3. **Staff wellbeing** – staff reported that they felt more valued being addressed by name and felt more confident addressing others.
4. **Reduction in hospital waste.**
5. **Reduction in deforestation** - disposable caps are made of viscose, a wood-based product, hence the manufacture of them involves depleting natural forests. They also contain harsh chemicals which have been linked to chronic skin conditions, as well as cancer and heart disease.
6. **Long term cost savings.** In a hospital with about 20 operating theatres, on an average, the trust expenditure on disposable caps is in the region of £25,000 pounds per annum.

Project Description

Firstly, agreement was sought from the infection control department who gave their full support. There are numerous studies in literature which state that the incidence of surgical site infections is not greater with the use of reusable caps.

The project was initially piloted with only the Anaesthetic consultants but has now been extended to all theatre staff.

Staff were given a choice between bandana style or elasticated, both of which are latex free, and the option of having buttons sewn on them for facemask loops. As the operating theatre is a complex environment with many different staff groups, we introduced a colour coding system to make identification of role easier. The caps have the names embroidered on them which helps with team bonding and overall communication.

Full time staff were provided with 4 caps and less than full time staff provided with 2 or 3, depending on the number of days per week that they work.

Cost savings

Staff members across theatres = 400
Number of hats per person = 4
Average hat cost = £10.99 each (embroidered – plain caps are lower cost)
Plus, one wash bag each = £10.50 each

Total cost = £54.46 per person
Total cost for 400 staff = £21,798 (initial outlay for hats which last ~ 3 years)
vs
Total annual cost of disposable hats = £25,000

Savings
£25,000 - £21,798 = £3,202 savings in year 1
£25,000 savings in year 2 (Hats last ~ 3 years)

Total savings = Over 2 years = ~ £28,202
Total savings = Over 3 years = ~ £53,202

*** Additional savings on disposal of single use caps has not yet been estimated – data on this expected soon***

Dis-benefits

Time taken to collect names and roles for the order. The company is looking at developing hats which can be written on which will negate the need to collect all the names/roles.

Barriers

Concerns regarding infection risk expressed by some of the surgeons. This was allayed by sharing the evidence showing no increase (see references below).

What the team had to say:

“Double thumbs up, comfortable and environmentally friendly and in scenarios where we may be working with different teams i.e., in resus, on arrests on the ward etc, it improves communication”.

“It enables clear communication, especially in emergencies where timing is key to communicate with specific individuals and calling by name is important”

“Patients also know who they are interacting with, which allays their anxiety”

“The biggest difference I noticed was on Monday when people addressed me by my name a lot more than usual”

“The team huddle is all well and good in the morning, but I don’t remember everyone’s names and if we had named caps for everyone that would be great”

“They look smart as part of our uniform on top of our otherwise casual suit. The caps create a feeling of a unified workforce, representing the roles within the department”.

“It gives you an identity outside the theatre where your role is sometimes unknown to many”

Press release - [Eco-friendly theatre caps benefit patients and staff \(liverpoolft.nhs.uk\)](https://liverpoolft.nhs.uk)

References:

- 1.Haskins I et al Hernia 2017 “There is no association between the type of surgical hat worn and the incidence of postoperative wound events”
- 2.Hussain S et al , Neurosurgery , Volume 82 ,Issue 4 , 1st April 2018 Pages 548-554
Mandatory change from surgical skull caps to bouffant caps among operating room personnel does not reduce surgical site infections
- 3.Markel Tet al, Journal of the American College of Surgeons, October 2017 Volume 225, Issue 4, supplement 2 “When compared to cloth skull caps disposable bouffant hats had greater permeability, greater particulate contamination and greater passive microbial shedding”.

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Caps in this study were sourced from [Theatre Caps, Scrub Jackets | Warwick Med | England](#)