



APPENDIX 5

Short Summary of Hand Hygiene Observation Tool (HHOT)

Feedback Intervention Trial

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Report dated: 28 June 2007

Acknowledgements

Thanks to the following people and organisations without whom we would not have been able to develop these standard operating procedures.

Other members of the FIT study team: Ben Cooper³, Andre Charlett³, Andrew Hayward¹, Georgia Duckworth³, Annette Jeanes⁵, Jenny Roberts⁶, Louise Teare⁷.

Staff on Zunz, Marsden, Berry and ITU at the Royal Free Hospital.

Staff on Cloudesley and ITU at the Whittington Hospital

Infection Control Teams at the Whittington and Royal Free Hospitals

Royal Free Hospital Trustees

GOJO Industries

The cleanyourhands team at the NPSA

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1. Introduction

Following a workshop presentation at the NPSA, it became clear that there is a need for a standardised and reliable observation tool for use in hospital wards for audit and feedback. The Hand-hygiene Observation Tool (HHOT) is an ideal candidate for this.

This hand hygiene observation tool and the corresponding standard operating procedures (SOPs) were developed by us in response to this need, as part of a randomised controlled trial of a behavioural intervention to improve hand-hygiene compliance, the Feedback Intervention Trial (FIT), funded by the Patient Safety Research Programme.

Existing hand hygiene observation tools have been extensively criticised in a recent systematic review^[1] and we have also found them to be unsuitable. They often had too many observational categories. Their standard operating procedures were not clearly explained, so were open to differences in interpretation. On the rare occasions when inter-rater reliability was assessed, the methods used to do this were not clearly described. In developing our observation tool, we have tried to simplify categories, described the 'rules' for classifying hand-hygiene behaviour more completely, and assessed inter-rater reliability for each observational category.

After extensive piloting and evaluation we have come up with the tool described in this document. It is a simplified version of that used in the Geneva Hospitals – with more extensive SOPs able to cover the vast majority of situations encountered on a hospital ward. It has been carefully tested and was found to be extremely reliable. The tool has since been successfully used for almost 400 hours worth of observation in 60 wards as part of the FIT trial^[2], and adopted by 25 senior managers at the Royal Free who use it in their regular “walk-about” to monitor hand-hygiene compliance.

The next few pages describe how to use the HHOT and give a brief summary of the standard operating procedures we have developed. A more detailed version can be found on the Infectious Disease Research Network (IDRN) website <http://www.idrn.org/nosec.php> from where you can also download the HHOT. Our summary should allow you to consistently classify the majority of hand hygiene behaviours you are likely to see on wards. We hope that you find the HHOT useful when carrying out hand hygiene audits.

The FIT Study Team.

[1] Gould DJ, Chudleigh JH, Moralejo D, Drey N. Interventions to improve hand hygiene compliance in patient care. Cochrane Database Syst Rev. 2007 Apr 18;(2):CD005186. Review.

[2] McAteer J, Stone S P, Fuller C, Slade R, Michie S. Development of an intervention to increase UK NHS healthcare worker hand-hygiene behaviour using psychological theory. Journal of Hospital Infection 2006; 64 (supplement 1): S53.

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2. Summary of how to use the HHOT

1. Define your **“field of view”** at the start of the observation session. This should include the patient care area to be observed (e.g. three or four beds) and observable points at which HCWs caring for those patients could clean their hands (e.g. nearby sinks with soap, nearby alcohol rub dispensers). Hand hygiene taking place outside of this area, and therefore not seen, is assumed not to have taken place.
2. The HHOT records **hand-hygiene opportunities**, **hand-hygiene behaviours** and the type of **Healthcare Worker**. Use the HHOT sheet available on <http://www.idrn.org/nosec.php>. (See page 4 for example.)
3. **Hand-hygiene opportunities** during patient care occur
 - i. before patient contact
 - ii. after patient contact
 - iii. after contact with the patient’s environment (i.e. space within curtains or patient’s side room)
4. **Hand-hygiene opportunities** are classified as
 - i. high risk (mucosa, body fluids, manipulating an indwelling device)
 - ii. low risk (all other patient contact; contact with patient’s environment)
 - iii. unobserved level of risk (direct contact behind curtains)
5. **Hand-hygiene behaviours** are classified as
 - i. alcohol handrub (AHR) (use of AHR)
 - ii. soap and water (use of soap and water)
 - iii. no action (clearly observed to do neither)
 - iv. unknown (No hand-hygiene behaviour seen before/after unobserved opportunity & AHR is behind curtains.)
6. **Health Care Workers** are classified as
 - i. doctors
 - ii. nurses (including healthcare assistants)
 - iii. other/unsure (all others)
7. **“Before”** a hand-hygiene opportunity is defined as:
The point at which an opportunity begins during a patient contact episode.
“After” a hand-hygiene opportunity is defined as:
The period immediately after a break in a contact episode.
8. **A break in a patient contact episode** includes:
 - i. any contact with another patient (observed or unobserved)
 - ii. moving from a “low risk” contact to a ‘high risk’ contact in the same patient, & vice versa
 - iii. moving from a “high risk” contact to another “high risk” in the same patient
 - iv. moving out of observers field of view. (i.e. around corner).

NB: healthcare workers moving from one low risk contact to another on the same patient are not classified as having a break in patient contact between each low risk opportunity
9. **Avoid “double counting”**: Hand hygiene opportunities should not be double counted. If a HCW is observed moving directly from one hand hygiene opportunity to another, without any intervening opportunities this should be classified as one ‘after’ opportunity and not as an “after” and as a “before” opportunity.
10. **Overall compliance (%)**:
$$\frac{\text{Number of soap \& AHR behaviours}}{\text{Total hand-hygiene opportunities} - \text{number of unknown behaviours}} \times 100$$

3. Using the Observation Tool

In the following section we give a practical example of how the tool is used with the corresponding completed sheet.

As researchers we observe wards for longer time periods than most ward audits. We use one sheet for every 20 minute session. Where the bay or observation area is particularly busy, additional sheets can be used per session.

Practical Example:

1. A doctor who has been reading patient notes near the nurse's station, puts on a pair gloves without cleaning hands and puts together a tray with syringe needles, and blood tubes. He takes the blood from a patient, and puts the tray on a table next the sink.
Classify as: *Before high risk contact, doctor, no action*
2. He takes off the gloves and washes his hands at the sink.
Classify as: *After high risk contact, doctor, soap*
3. A nurse uses the alcohol hand rub as she approaches a patient. She takes the patient's obs.
Classify as: *Before low risk contact, nurse, alcohol*
4. She leaves the bay without cleaning her hands.
Classify as: *After low risk contact, nurse, no action*
5. A physiotherapist walks onto the ward and uses the alcohol hand rub. She pulls the curtain around a patient bed and spends 10 minutes doing patient exercises.
Classify as: *Before unobserved contact, other, alcohol*
6. At the end of the session, she pulls back the curtains and moves to the nurse's station to write up her notes without you seeing her wash her hands. There is alcohol hand rub behind the curtain. You can't tell whether she has cleaned her hands or not.
Classify as: *After unobserved contact, other, unknown*

Name: **Observer** Session no: **1** Sheet no:.....

	Before low risk contact	After low risk contact	Before high risk contact	After high risk contact	Before unobserved contact	After unobserved contact
Doctor						
Opp.			1	2		
Soap				2		
Alcohol						
No action			1			
Unknown						
Nurse/HCA						
Opp.	3	4				
Soap						
Alcohol	3					
No action		4				
Unknown						
Other/Unsure						
Opp.					5	6
Soap						
Alcohol					5	
No action						
Unknown						6

Hospital: **Nosuch** Ward: **A** Date: **1.6.07** Start time: **9.00** End time: **9.20**
 Patients observed: 6 No. of soap dispensers: 1 No. of alcohol dispensers: 7

Calculating hand hygiene compliance:

Hand hygiene compliance is calculated by dividing the number of times that hands were cleaned by the number of times that hands should have been cleaned.

- Step 1.** Add together the number of times that soap or alcohol was used.
- Step 2.** Count the total number of hand hygiene opportunities in which hand hygiene has been classified as soap, alcohol or no action
- Step 3.** Divide the result from step 1 by the result from step 2.
- Step 4.** Multiply by 100 to give a percentage compliance score.

In our practical example soap was used on one occasion, alcohol twice and hands were not cleaned on two occasions. Compliance score was 60%

$$\frac{1 \text{ soap} + 2 \text{ alcohol hand rub}}{1 \text{ soap} + 2 \text{ alcohol hand rub} + 3 \text{ no action}} \times 100 = \frac{3}{5} \times 100 = 60\%$$