

# TARGETING HANDWASHING

## An Educational Exercise

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**The importance of handwashing for the control of infection has long been recognised. A set of five posters illustrating important aspects of handwashing in a simple and humorous manner were purchased as a teaching aid by the Clinical Nurse Consultant, Infection Control. An exercise was planned to evaluate the efficacy of the posters as a means of learning. It was expected that the standard of handwashing would improve following the completion of the exercise.**

### Method

The five posters were displayed in sequence, for a period of two weeks each, commencing 4/4/96. All nursing staff employed in Newborn Care Centre (NCC) from this date and for the following ten weeks were required to fill out a simple questionnaire (see Appendix 1) consisting of two questions per poster (total of ten questions). A blinded (ie. nurses were unaware of being assessed) survey of handwashing was carried out prior to the display of posters, and again in the

month following the display of the last poster. Each survey consisted of ten random observations of nurses washing their hands. The handwash assessment was standardised by a nine point check list, based on a poster illustrating handwashing technique that is displayed at five of the seven handwashing sinks in NCC (see Appendix 2).

The proposed exercise involving the display of posters and the questionnaire was announced and explained at a staff meeting on 27 March 1996. The minutes for staff meetings are recorded in the Communication Book, which all staff are required to read. The questionnaire answer sheets were provided, placed in a prominent position for easy access. Staff were not informed of the handwashing observations until the results of this exercise were presented as inservice education.

### Results

The first handwashing survey was carried out from 2-4-96 to 4-4-96. Strong points (>50% compliance) were identified, including:

- wetting of hands and forearms
- rubbing right palm over left, left palm over right
- repeated procedure for 10 seconds
- rinsed hands
- drying hands carefully.

Weak points (<50% compliance) were:

- rubbing backs of fingers to opposing fingers interlocked
- rotational rubbing of right thumb clasped in left palm and vice versa. This was alleviated by partial compliance in 40% of subjects (ie. only one thumb was washed effectively).

**Table 1: Number and percentage of correct answers for handwashing questionnaire.**

QUESTION	NO	%
1. TARGETING DOMINANT HAND Part a) Part b)	22 22	100 100
2. TARGETING 'TWIXT AND BETWEEN' Part a) Part b)	21 20	95 91
3. TARGETING THUMBS Part a) Part b)	23 23	100 100
4. TARGETING RINGS Part a) Part b)	22 20	95 87
5. TARGETING FINGERTIPS Part a) Part b)	20 22	87 95

- rotational rubbing backwards and forwards with tops of fingers and thumb of right hand and vice versa.

At the end of ten weeks, answer forms were requested. Out of a possible 52, 23 were handed in (44% response rate). Some staff were absent on leave for part of the ten weeks, thus having no opportunity to view some of the posters. Numbers were adjusted for each question, eliminating those who were absent for the two weeks while the relevant poster for that question was displayed. The percentage of right answers for each question is displayed in Table 1.

Questions one and three were answered correctly. Questions two, four and five were answered 87-95% correctly.

The second handwashing survey was conducted between 11-7-96 and 31-7-96. Another ten random assessments of handwashing showed the following results:

Strong points (> 50% compliance) were the same as the first survey with the addition of:

- palm to palm, fingers interlaced.

Weak points (< 50% compliance) were unchanged.

The partial compliance on point 5 also remained consistent. The results of the handwashing surveys are shown in Table 2.

### Discussion

The results of the questionnaire were encouraging despite the poor response rate. The correct answer rate indicates staff had little difficulty in finding the necessary information to answer the questions.

However, this knowledge seems to have had no effect on practice. Very little changed in handwashing technique from

before the educational exercise to afterwards. In fact, only one nurse scored perfectly on all 9 points, during the second survey. In the first survey, Four nurses scored 7-8 of the 9 points, and in the second survey, only three nurses scored 7-9 points of the 9 in the assessment. These results do not support a change in practice as a result of improved knowledge gained from the educational posters.

Stronger evidence for a change in practice may have shown in a larger sample size, but this seems unlikely. It would seem more direct methods are required to improve the standard of handwashing, should this be considered necessary. Maintaining a consistently high standard at all times would seem to be a problem.

Using special solutions (such as Glogem from Johnston and Johnston) to check the effectiveness of handwashing may be a more accurate assessment since there is the possibility that frequent handwashing may have a cumulative effect. However the subjects are not blinded in assessments of this kind, which may affect results.

### Conclusion

The five posters were reasonably successful in providing information on handwashing techniques and problem areas. However, more needs to be done to effect a change in practice, as it seemed nurses failed to apply the information to their own practice. Nurses may wash their hands frequently and at appropriate times, but if certain areas are missed consistently then these areas will carry contamination.

**Table 2: Percentage compliance for 9 point handwashing assessment before and after handwashing questionnaire.**

POINTS ON ASSESSMENT	FIRST SURVEY	SECOND SURVEY
1. Wets hands and forearms	Yes: 100	Yes: 80 Partial: 20
2. Right palm over left, left over right	Yes: 80 Partial: 20	Yes: 70 Partial: 20 No: 10
3. Palm to palm, fingers interlaced	Yes: 50 Partial: 30 No: 20	Yes: 70 Partial: 20 No: 10
4. Back to fingers to opposing fingers interlocked	Yes: 40 Partial: 30 No: 30	Yes: 30 Partial: 10 No: 60
5. Rotational rubbing of right thumb clasped in left palm and vice versa	Yes: 10 Partial: 40 No: 50	Yes: 40 Partial: 30 No: 30
6. Rotational rubbing backwards and forwards with tops of fingers and thumb of right hand in left and	Yes: 10 Partial: 30 No: 60	Yes: 10 Partial: 20 No: 70
7. Repeats procedure for 10 seconds	Yes: 90 No: 10	Yes: 90 No: 10
8. Rinses hands	Yes: 100	Yes: 100
9. Dries carefully with paper towel	Yes: 100	Yes: 100



# APPENDIX 1

## TARGETING HANDWASHING

### 1. TARGETING THE DOMINANT HAND

- Identify your dominant hand.....
- What do studies say about the dominant hand?.....

### 2. TARGETING 'TWIXT AND BETWEEN.'

- Which is one of the most common areas missed during handwashing?.....
- Name one activity that contaminates the area between thumb and index finger.....

### 3. TARGETING THUMBS

- Name a common area missed during handwashing.....
- Name three groups of patients who are at risk from poor handwashing

a) .....

b) .....

c) .....

### 4. TARGETING RINGS

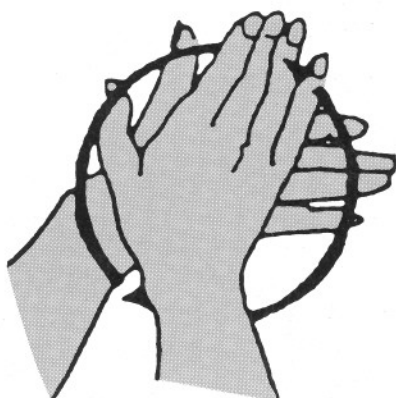
- Name an area where organisms can lurk.....
- What happens when skin remains moist? .....

### 5. TARGETING FINGERTIPS

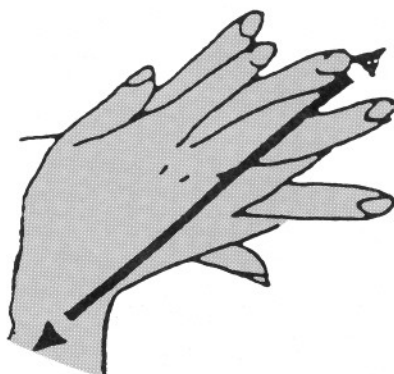
- With what should fingertips never come in contact?.....
- When do infection control regulations say gloves are required? .....

# APPENDIX 2

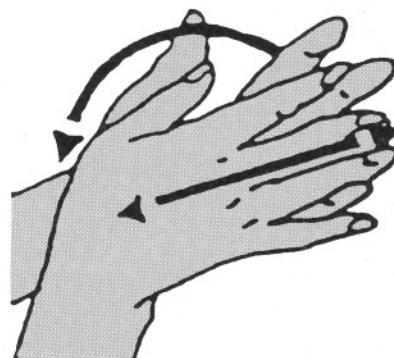
## HANDWASHING TECHNIQUE



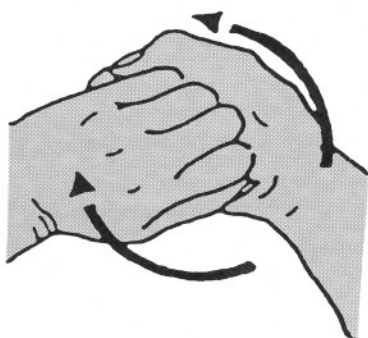
1. Wet hands and forearms



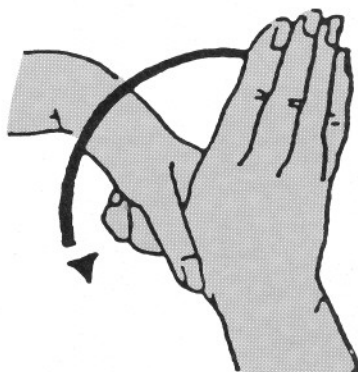
2. Right palm over left, left over right



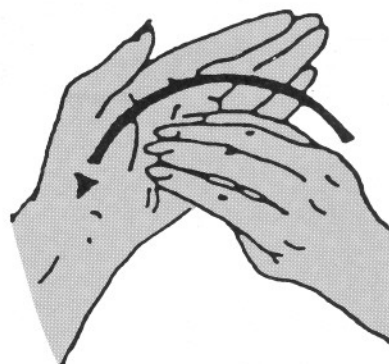
3. Palm to palm fingers interlaced



4. Back to fingers to opposing fingers interlocked



5. Rotational rubbing of right thumb clasped in left palm and vice-versa



6. Rotational rubbing backwards and forwards with tops of fingers and thumb of right hand in left and vice versa

**REPEAT PROCEDURE FOR TEN SECONDS.  
RINSE HANDS AND DRY CAREFULLY WITH DISPOSABLE PAPER TOWEL.**