Standard Infection Control Precautions Literature Review:
Cough etiquette/respiratory hygiene

Version: 2.0
Owner/Author: Infection Control Team
Review Financial year 2018/19

DOCUMENT CONTROL SHEET

Key Information:		
Title:	Standard Infection Control Precautions (SICPs) Literature Review: Cough etiquette/respiratory hygiene	
Date Published/Issued:	August 2015	
Date Effective From:	August 2015	
Version/Issue Number:	2.0	
Document Type:	Literature Review	
Document status:	Final	
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Version History:			
This literature review will be updated as new evidence emerges.			
Version	**Date**	**Summary of changes**	**Changes marked**
2.0	August 2015	Updated after review of current literature	
1.0	January 2012	Defined as final	

Approvals – this document requires the following approvals (in cases where signatures are required add an additional 'Signatures' column to this table)::				
Version	**Date Approved**	**Name**	**Job Title**	**Division**
2.0	August 2015	Steering (Expert Advisory) Group for SICPs and TBPs		
1.0	January 2012	Steering (Expert Advisory) Group for SICPs and TBPs		

HPS ICT Document Information Grid	
Purpose:	To inform the Standard Infection Control Precaution (SICP) section on cough etiquette/respiratory hygiene in the National Infection Prevention and Control Manual.
Description:	This literature review examines the available professional literature on cough etiquette/respiratory hygiene in health and social care settings.
Target audience:	All NHS staff involved in the prevention and control of infection in NHSScotland.
Circulation list:	Infection Control Managers, Infection Prevention and Control Teams, Public Health Teams
Update/review schedule:	Updated as new evidence emerges with changes made to recommendations as required.
Cross reference:	National Infection Prevention and Control Manual http://www.nipcm.scot.nhs.uk/
Update level:	Change to practice – No significant change to practice Research – No significant change

Contents

1. Objectives

The aim of this review is to examine the extant professional literature regarding the application of cough etiquette/respiratory hygiene for standard infection control purposes in health and social care settings.

The specific objectives of the review are to determine:

- What is meant by cough etiquette/respiratory hygiene?
- What is the evidence for covering the mouth/nose as part of cough etiquette?
- What is the evidence to support masking patients as a component of cough etiquette?
- What is the evidence to support segregating patients as an element of cough etiquette?
- What is the evidence to support hand hygiene as an aspect of cough etiquette?
- Where should the principles of cough etiquette be applied in health and social care settings?
- When should the principles of cough etiquette be applied?
- What equipment should be available to support effective cough etiquette/respiratory hygiene?

2. Methodology

This targeted literature review was produced using a defined methodology as described in the National Infection Prevention and Control Manual: Development Process.

3. Recommendations

This review makes the following recommendations based on an assessment of the extant professional literature on cough etiquette/respiratory hygiene for standard infection control purposes in health and social care settings:

What is meant by cough etiquette/respiratory hygiene?

Cough etiquette/respiratory hygiene can be defined as source control measures intended to contain respiratory secretions in order to prevent droplet transmission of respiratory pathogens in the healthcare environment; especially during seasonal outbreaks of viral respiratory tract infections in the community.

(AGREE rating: Recommend)

What is the evidence for covering the mouth/nose as part of cough etiquette?

Individuals should cover their mouth/nose with a disposable tissue when coughing or sneezing. Used tissues should be disposed of into the nearest appropriate waste receptacle.

(Grade D recommendation)

What is the evidence to support masking patients as a component of cough etiquette?

During seasonal outbreaks or increased presentations of viral respiratory tract infections, individuals exhibiting the symptoms of respiratory illness, and especially those that are coughing or sneezing, should be encouraged to wear an appropriate surgical face mask providing that it is clinically feasible to do so and will be tolerated by the patient.

(Grade D recommendation)

What is the evidence to support segregating patients as an element of cough etiquette?

In common areas of health and social care facilities, patients with respiratory symptoms should be separated by a distance of at least 1 metre (3 feet) from asymptomatic patients where possible.

(Grade D recommendation)

What is the evidence to support hand hygiene as an aspect of cough etiquette?

Hand hygiene should be performed by an individual after there has been any contact with respiratory secretions from blowing their nose, coughing, sneezing or touching used tissues.

(Grade B recommendation)

(AGREE: Recommend)

Where should the principles of cough etiquette be applied in health and social care settings?

The principles of cough etiquette should be applied across all health and social care facilities, including areas that are the first point of contact for individuals e.g. waiting rooms, reception areas, outpatient clinics and triage areas.

(Grade D recommendation)

When should the principles of cough etiquette be applied?

Cough etiquette should be applied to any individual – patients, visitors, family members or staff – exhibiting symptoms of respiratory illness at the first point of contact with health and social care services.

(Grade D recommendation)

What support is required for patients with restricted mobility or additional needs in understanding cough etiquette principles?

Certain patients, for example, the elderly or children may require assistance with the containment of respiratory secretions. Patients who are immobile will require a receptacle readily at hand for the immediate disposal of used tissues and provided with hand hygiene facilities.

(Good Practice Point (GPP))

What equipment should be available to support effective cough etiquette/respiratory hygiene?

Health and social care settings should have supplies of tissues in common areas (e.g. waiting rooms) and there should be adequate supplies of alcohol based hand rub that can be used by any individual. Non-touch waste receptacles should be available to allow for the prompt disposal of used tissues.

(Grade D recommendation)

Alcohol based hand rub dispensers should be positioned based on a risk assessment of fire, ingestion and unintended use.

(Mandatory)

4. Discussion

4.1 Implications for practice

What is meant by cough etiquette/respiratory hygiene?

There is very little available published evidence examining cough etiquette/respiratory hygiene. Much of the available material is limited to professional opinion and is based on the CDC isolation guidance produced in the USA which developed in response to the Severe Acute Respiratory Syndrome (SARS) outbreaks of 2003.

Cough etiquette/respiratory hygiene can be defined as source control measures intended to contain respiratory secretions in order to prevent droplet transmission of respiratory pathogens in the healthcare environment; especially during seasonal outbreaks of viral respiratory tract infections in the community.[1]

(AGREE rating: Recommend)

What is the evidence for covering the mouth/nose as part of cough etiquette?

There is consensus in the literature that individuals should cover their mouth/nose with a disposable tissue when coughing or sneezing.[2-14] Limited experimental evidence indicates that although covering the mouth/nose with a tissue may not completely contain respiratory droplet dispersal from coughing or sneezing, it does reduce dispersal, and so is preferable to unobstructed coughing or sneezing.[15;16] There is consensus in the literature that used tissues should be disposed of into the nearest appropriate waste receptacle.[2-6;11-14]

(Grade D recommendation)

Some literature advocates coughing or sneezing into the elbow or upper arm instead of the hands where no tissue is available[6;12-14], however there is no consensus on this issue. It is unclear whether this practice should be recommended for healthcare facilities in Scotland. Whilst an individual sneezing into their sleeve may be preferable to sneezing into or onto their hands, it is possible that their sleeve will prove less able to contain the dispersal of respiratory secretions compared to a tissue. One experimental study demonstrated that use of the sleeve/arm to cover the mouth and nose when sneezing did not completely block droplet dispersal, however the study also found that none of the other cough etiquette manoeuvres

tested were able to completely block droplet dispersal either.[16] The use of the upper arm or sleeve may also represent a potential source of indirect contamination until such time as the item of clothing is changed.[14] As such, no recommendation is made on this issue.

What is the evidence to support masking patients as a component of cough etiquette?

It is consistently recommended in the literature that during seasonal outbreaks or during periods of increased viral respiratory tract infections, individuals exhibiting the symptoms of respiratory illness, and especially those that are coughing or sneezing, should be encouraged to wear an appropriate surgical face mask providing that it is clinically feasible to do so and will be tolerated by the patient.[4;6;9;10;12] Limited experimental evidence indicates that while use of a surgical mask may not completely contain respiratory droplet dispersal from coughing or sneezing, it does reduce dispersal, and so is preferable to unobstructed coughing or sneezing.[15;16]

(Grade D recommendation)

What is the evidence to support segregating patients as an element of cough etiquette?

The literature identified by this review also demonstrates consensus on the segregation of symptomatic patients in healthcare settings, suggesting that patients with respiratory symptoms should be separated by a distance of at least 1 metre (3 feet) from asymptomatic individuals.[4;6;10;12-14;17;18]

(Grade D recommendation)

What is the evidence to support hand hygiene as an aspect of cough etiquette?

The literature also consistently recommends that hand hygiene should be performed by an individual after there has been any contact with respiratory secretions from blowing their nose, coughing, sneezing, or touching used tissues.[2-4;6-8;10;12-14;19-21] Systematic review evidence indicates that hand hygiene can reduce the spread of respiratory viruses.[22] While this evidence is not specifically in relation to cough etiquette, it is appropriate to extrapolate from this evidence to strengthen this recommendation.[22]

(Grade B recommendation)

(AGREE Recommend)

Where should the principles of cough etiquette be applied in the hospital setting?

There is also consensus that the principles of cough etiquette should be applied across health and social care facilities, including in areas that act as the first point of contact for individuals e.g. waiting rooms, reception areas, outpatient clinics and triage areas.[3;4;6;10-12]

(Grade D recommendation)

When should the principles of cough etiquette be applied in the hospital environment?

The literature identified by this review is consistent in its recommendation that cough etiquette should be applied to any individual – patients, visitors, family members or staff – exhibiting symptoms of respiratory illness at the first point of contact with health and social care services.[3;4;6;7;9-11]

(Grade D recommendation)

What support is required for patients with restricted mobility or additional needs in understanding cough etiquette principles?

No evidence was identified by this review regarding assisting patients with mobility problems or additional needs in understanding or implementing the principals of cough etiquette.

What equipment should be available to support effective cough etiquette/respiratory hygiene?

The identified evidence suggests that health and social care facilities should have supplies of tissues available in common areas (e.g. waiting rooms) and there should be adequate supplies of alcohol based hand rub that can be used by any individual. [6;7;9;10;12;20] The results of one experimental study suggest that 4-ply tissues may be more effective than 2-ply tissues at containing respiratory droplets created during coughing/sneezing, due the fact 2-ply tissues tore more easily during use.[15] Non-touch waste receptacles should be available to allow for the prompt disposal of used tissues.[6;12]

(Grade D recommendation)

A comprehensive risk assessment should be conducted before positioning alcohol based hand rub dispensers in health and social care settings. This assessment should take into account the risk in relation to ingestion or unintended use.[23-25]

(Mandatory)

4.2 Implications for research

Cough etiquette/respiratory hygiene is a relatively new addition to the Standard Infection Control Precautions and there is a relatively limited evidence base. Further research is required to assess the effectiveness of the individual elements, in order to strengthen the overall evidence base and corresponding grades of recommendation.

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