

**INFORMATION RESOURCE PACK ON THE
Prevention of Healthcare Associated Pneumonia**

HEALTHCARE ASSOCIATED INFECTION TASK FORCE

HAI Task Force Information Resource Pack on the Prevention of Healthcare Associated Pneumonia

Nosocomial pneumonia represents a significant proportion of healthcare associated infections (HAIs). However Scotland has no best practice statement or comprehensive guidance available on prevention of nosocomial pneumonias. The HAI Task Force Working Group on prevention of nosocomial pneumonia was formed to assess Scottish/UK resources already available, identify any important omissions and areas for improvement, and advise the HAI Task Force on what is required and what actions can be taken to reduce the incidence of nosocomial pneumonia.

The United States Centers for Disease Control and Prevention (CDC) first published guidelines on prevention of nosocomial pneumonia in 1981 to address the main infection control problems related to hospital-acquired pneumonia at the time. The guidelines were subsequently updated to reflect changing epidemiology of nosocomial pneumonia. In 2003 and 2005 the guidelines were updated again, this time including healthcare settings other than acute hospitals. New sections on pertussis, respiratory tract infections caused by parainfluenza and adenoviruses and reference to sources of updated information on SARS were included.

Using the CDC guidance as a template (see links at foot of page), we have drawn up a list of Scottish/UK and other guidance currently available relevant to prevention of healthcare associated pneumonia. We have included an additional section on tuberculosis. There is separate CDC guidance on Tuberculosis (see link below)

There are eight main sections on the different types of nosocomial pneumonias and for each section there are various aspects of prevention including health education, surveillance, decontamination, vaccination and prophylactic antibiotics where applicable.

This is a rapidly moving field, and material published on the web is frequently updated or moved to new web addresses. We intend to refresh this Resource Pack annually or more frequently as required. Please note that where there is not a formal Scottish policy on any one issue, some of the guidance documents presented here from more than one centre can give contradictory advice on occasion, or may not align easily with the ways of working within NHSScotland.

HAI Task Force August 2007

CDC links:

[CDC guidance on prevention and control of pneumonia in healthcare settings](#)

[Controlling Tuberculosis in the United States. Recommendations from the American Thoracic Society, CDC and the Infectious Diseases Society of America](#)

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1. Prevention and Control of Healthcare Associated Bacterial Pneumonia Including Ventilator Associated Pneumonia

Staff education and involvement in prevention

[The NHS Scotland Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection](#) (HAI Task Force, Scottish Executive)

[HAI Task Force mandatory HAI induction training framework](#)

[Information on Cleanliness Champions Education Programme](#)

[Information on NES hand hygiene education programme](#)

Note: The above educational resources are for HAI in general and are not specific for nosocomial pneumonia

[The British Society of Antimicrobial Chemotherapy Working Party on Hospital Acquired Pneumonia has produced draft guidance for consultation.](#)

Microbiological Surveillance

[Scottish Surveillance of Healthcare Associated Infection Programme \(SSHAIP\)](#)

(Click on 'SSHAIP') Pilot HAI surveillance in Intensive Care Units that includes surveillance of Ventilator-Associated Pneumonia (VAP)

[HELICS \(Hospitals In Europe Link for Infection Control through Surveillance\)](#)

(Click 'protocols' and then 'ICU protocol' version 6.1 September 2004. It includes case definition of ICU-acquired pneumonia).

[The Health Protection Scotland \(formerly SCIEH\) Weekly Reports](#) provide information on various surveillance programmes as well as current infection news and events.

[HPS/SSHAIP participate in the European Antimicrobial Resistance Surveillance Programme](#) (EARSS)

Prevention of Transmission of Microorganisms

[The NHS Scotland Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection](#) (HAI Task Force, Scottish Executive)

Gives general information on prevention and control of infection.

[Model Infection Control policies for Standard Infection Control Precautions](#) from HPS

[Short Health Technology Assessment \(HTA\) on Healthcare Associated Infection](#) by NHS

Quality Improvement Scotland: focuses on the provision of alcohol based products to improve compliance with hand hygiene

Local infection control and decontamination policies for individual hospitals. NHS guidance. Each NHS board has local prevention and infection control guidelines

Decontamination (Cleaning, Disinfection and Sterilisation of Equipment)

[HPS guidance on Decontamination](#)

Principally relates to surgical instruments and endoscopes

[Health Facilities Scotland \(formerly NHSScotland Property & Environment Forum\)](#)

(Click on 'Decontamination' for Decontamination guidance). Gives various decontamination technical documents, Safety Action Notices etc [May require a password]

Precautions for prevention of aspiration and post-operative pneumonia

[The Scottish Intensive Care Society Evidence-Based Medicine Group recently published an evidence-based review on prevention of Ventilator Associated Pneumonia \(VAP\).](#)

They recommend:

- Sitting intubated patients up at 30-45° C
- Using sub-glottic drainage tracheal tubes
- Non-invasive ventilation
- Using Heat & Moisture Exchange Filters instead of Heated Water Humidification

Local Intensive Care guidance for prevention of VAP

Other non-UK guidelines on VAP include:

- **[American Thoracic Society Guidelines for the management of adults with hospital-acquired, ventilator-associated and health-care associated pneumonia](#)**
- **[Institute of Healthcare Improvement VAP care bundle](#)**

They recommend:

- Elevation of the head of the bed
 - Daily "sedation vacations" and assessment of readiness to extubate
 - Peptic ulcer disease prophylaxis
 - Deep venous thrombosis prophylaxis
- European Task Force on VAP (European Respiratory Society Task Force, *European Respiratory Journal*, 2001; 17: 1034-45)

NHS QIS has developed Best Practice Statement on **[Working with Dependent Older People to Achieve Good Oral Health \(May 05\)](#)** and **[Caring for the patient with a Tracheostomy \(Jan 03\)](#)**. Poor oral health may result in the aspiration of dried secretions.

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Modifying host risk of infection
Vaccination
<u>Immisation Against Infectious Disease 1996 - "The Green Book" Updated chapter on Pneumococcal and influenza vaccination</u>
Chest physiotherapy
There are no specific guidelines on chest physiotherapy other than local hospital policies

Other prophylactic measures
Antibiotics
No guidance is published on selective decontamination of the digestive tract (SDD prophylaxis). BMJ review: <u>Effectiveness of Antibiotic Prophylaxis in Critically Ill Adult Patients: Systematic Review of Randomised Controlled Trials</u> <i>Roberto D'Amico et al. BMJ 1998;316:1275-1285</i>
<u>The Scottish Medicines Consortium</u> have set up an Antibiotic Sub Group with the remit to review hospital antibiotic prescribing and advise Health Boards whether there is a useful role for SMC in addressing clearly defined aspects of this area which are not being addressed by other relevant bodies.
Antibiotic policies from local Drug and Therapeutic Committees
HAI Task Force initiative ' <u>Antimicrobial Prescribing Policy and Practice in Scotland</u> '. Recommendations for good antimicrobial practice in acute hospitals.
<u>Advice from the Specialist Advisory Committee on Antimicrobial Resistance (SACAR)</u>

2. Prevention and Control of Healthcare Associated Legionnaires' Disease

Primary prevention (no documented cases)

Staff education

[SHTM 2040 The control of legionellae in healthcare premises – a code of practice.](#)

Health Facilities Scotland (formerly NHSScotland Property and Environment Forum). [May require a password]

Local hospital Legionella surveillance and prevention policies

[Health and Safety Commission 2000. Legionnaires' Disease: The control of legionella bacteria in water systems. Approved code of Practice and Guidance L8.](#) Summary only (hospital Estates Departments will hold a copy of the full text)

[Health and Safety Executive: Legionnaires' disease – A guide for employers](#)

[HPS Legionella Guidance Note 2002](#)

Secondary prevention (response to case)

Guidelines for investigating single cases of legionnaires' disease

JV Lee, C Joseph, on behalf of the HPA Atypical Pneumonia Working Group

[Communicable Disease and Public Health 2002; 5\(2\):157-62](#)

Local infection control policies on prevention and control of Legionella.

3. Prevention and Control of Healthcare Associated Pertussis

Staff Education

Dodhia H, Crowcroft N, Bramley J and Miller E. [UK guidelines for the use of erythromycin chemoprophylaxis in persons exposed to pertussis. *Journal of Public Health medicine* 2002; 24 200-206](#) (Covers guidelines on managing close contacts, vulnerable contacts, dosing and timing of prophylaxis, treatment of cases, and use of pertussis vaccine)

[Guidelines for chemoprophylaxis and immunisation in persons exposed to pertussis - February 2005](#)

Vaccination

[Immunisation Against Infectious Disease 1996 - "The Green Book" Updated chapter on Pertussis \(August 2004\) - Chapter 24](#)

Case Reporting

[Statutory notification to Health Protection Scotland - recent data](#)

4. Prevention and Control of Healthcare Associated Pulmonary Aspergillosis

Prevention of Transmission of *Aspergillus* Species

Health Facilities Scotland (formerly NHS in Scotland Property and Environment Forum)
[SHFN 30: Infection Control in the built environment](#)

No national guidelines on aspergillosis but some guidance from websites such as:

[‘Prevention of nosocomial aspergillosis’ prepared for the Aspergillus website](#)

Chemoprophylaxis

Local anti-fungal prophylaxis guidance for immuno-compromised patients (eg haemopoetic stem-cell transplant recipients)

5. Prevention and Control of Healthcare Associated RSV, Parainfluenza and Adenovirus Infections

Staff Education and Monitoring and Infection Surveillance

Surveillance in progress by HPS:

[RSV, adenovirus and para-influenzavirus](#) (click on 'A', 'P' or 'R' for links)

Pilot Study from April 2003 on Surveillance of HAI Respiratory Syncytial Virus (RSV) and surveillance of bacteraemias in Yorkhill, Glasgow and Edinburgh Sick Children's Hospitals - view the [RSV protocol](#) developed for surveillance of RSV

Prevention of transmission of RSV, Parainfluenza or Adenovirus

[HPA/HPS publication on RSV diagnosis, vaccination, treatment and epidemiology](#)

Other measures

[Joint Committee on Vaccination and Immunisation view on the use of monoclonal antibody, Palivizumab, in protecting at-risk groups against Respiratory Syncytial Virus \(RSV\).](#)

6. Prevention and Control of Healthcare Associated Influenza and Avian Influenza

Staff education

[NHS Immunisation information](#)

[HPS resources on avian and pandemic influenza](#)

[UK Health Departments Pandemic Influenza contingency Plan](#)

Surveillance

[Surveillance activities in Scotland](#)

The HPS influenza reports include immunisation, surveillance and flu-spotter data.

Scottish Enhanced Respiratory Virus Infection Surveillance (SERVIS) is an integrated approach to influenza surveillance that offers a more detailed and accurate picture of the influenza outbreak during the winter season. The main component of SERVIS is the provision of clinical data from sentinel CMR (continuous morbidity recording) general practices with linked virological testing in a small sample of consultations from each practice.

The Scottish flu spotter scheme collates reports of flu-like illness during the winter flu season in Scotland. The scheme consists of routine lab reporting to HPS of influenza virus diagnoses, together with estimated consultations for flu-like illness from 90 practices in 13 NHS board areas covering around 10% of the Scottish population. The scheme, together with SERVIS, is part of a group of early warning systems operating throughout Europe which contribute data from clinical consultations and laboratory tests to the European Influenza Surveillance Scheme (EISS).

Modifying host risk of infection

Vaccination

Immunisation Against Infectious Disease 1996 - "The Green Book" Updated chapter on Influenza vaccination (August 2004) - Chapter 20

www.immunisation.nhs.uk

<http://80.168.38.66/article.php?id=400>

CMO Letters outlining annual immunisation strategies and arrangements:

[CMO\(2005\)9:1. Influenza immunisation programme for 2005-06; 2. pneumococcal immunisation programme for those aged 65 and over: 2005-06](#)

[CMO\(2006\)12: Influenza and pneumococcal immunisation programme 2006-07](#)

Use of antiviral agents

[NICE published guidance on the use of zanamivir, oseltamivir and amantadine for the treatment of influenza in 2003](#)

Prevention of person-to-person transmission

[Guidance from the Infection Control Team at Health Protection Scotland](#) (Guidance for Pandemic Influenza)

Control of Influenza outbreaks

Scottish Executive Health Department
NHS Scotland – Emergencies

[NHS in Scotland Manual - Responding to Emergencies: Annex P](#) - Incidents involving infection/infectious disease - includes outbreak control eg influenza vaccination

[HPS pandemic influenza guidance](#)

NOTE: With the recent cases of avian influenza in South East Asia, HPA/HPS have drawn up algorithms for the [management of suspected cases and guidelines for surveillance of Avian influenza](#)

Local guidelines on influenza and avian influenza

General

[Department of Health \(England\) has produced clinical guidelines for patients with an influenza-like illness during an influenza pandemic](#)

7. Prevention and Control of Healthcare Associated Severe Acute Respiratory Syndrome (SARS)

General

www.hpa.org.uk/infections/topics_az/SARS/Guidelines.htm

[Scottish SARS guidance documents from HPS](#)

[Case definition and guidance on reporting, and management of SARS patients in the UK in the inter-epidemic period](#)

[Guidance on microbiological sampling and investigation of potential cases of SARS](#)

[Fact sheet for clinicians – interpreting SARS test results](#)

[Guidance for primary care in the inter-epidemic period](#)

Guidance for hospitals on the clinical management of SARS
(available from the [British Thoracic Society](#) web site)

[Guidance for hospitals on infection control](#) in the inter-epidemic period

[Face masks and respirators – FAQs](#)

Guidelines for use during a SARS outbreak period have been drafted and are available from CDSC Respiratory Diseases Department on request

8. Prevention and Control of Healthcare Associated Tuberculosis

Prevention of Transmission

[Current UK, US and international guidance on TB](#) summarised on HPA website

Scottish guidance is currently under revision. The 1998 document is available [here](#)

[Clinical Diagnosis and management of tuberculosis, and measures for its prevention and control](#) NICE guidance published March 2006.