

**Documents pertaining to quality of  
care and patient safety practices  
followed by the teaching hospital**



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

Dr. Vithalrao Vikhe Patil Foundation's

**DR. VIKHE PATIL MEMORIAL HOSPITAL**



Opp. Govt. Milk Dairy, Vadgaon Gupta, M.I.D.C. Ahmednagar - 414 111

Tel: 0241-2778042, 2777059, 2779757 | E-mail: [vims.anr@gmail.com](mailto:vims.anr@gmail.com) | Website:

# HOSPITAL INFECTION CONTROL MANUAL 2023



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION


**Date of Imp.**

**Rev. Date**

-

## 1. INTRODUCTION

- a) Healthcare associated infection (HAI), previously referred to as "Nosocomial" or "Hospital" infection, occurs in a patient during the process of care in a hospital or other healthcare facility (HCF, but was not present or incubating at the time of admission. HAIs include occupational infections among healthcare providers.
- b) HAIs are one of the most common adverse events during healthcare delivery and a major public health issue affecting morbidity, mortality and quality of life so DVPMH recognizes the control of healthcare associated infections (HAI) as an important issue and is committed to fulfilling its responsibility by ensuring that proper safeguards are instituted to identify and prevent HAI.
- c) HAIs are largely preventable through effective infection prevention and control (IPC) measures.
- d) It is evident that HAIs result in prolonged hospital stays, long term disability, increased resistance of microorganism to anti-microbial, additional cost on health systems, high cost for patient and their family, and printable deaths.
- e) Healthcare -associated infections (HAI) are neither present nor incubating at the time of admission of a patient to the healthcare facility (HCF). The majority of HAIs manifest after 48 hours of admission.
- f) HAIs should be identified on the basis of both clinical as well as laboratory criteria. Infection acquired in the hospital but not evident until after discharge is also considered as HAI. Infection in a newborn in a health facility may also be considered as HAI. It is important to understand the mode of transmission of diseases in an HCF so that appropriate measures can be taken to control the spread of infection.

  
**MEDICAL SUPERINTENDENT  
DR VIKHE PATIL MEMORIAL HOSPITAL  
AHMEDNAGAR**



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## 2. INFECTION PREVENTION & CONTROL PROGRAMME

A well-organized IPC programme is a basic requirement in every HCF to assist HCWs in the provision of quality healthcare.

### A) Objective of the IPC programme


- The objective is to minimize the risk of HAIs to patients, HCWs and visitors. This is achieved by:
- Enabling and assisting all categories of HCWs to adhere to comprehensive IPC practices at all levels of care, and
- Providing safe and quality healthcare and improving outcomes by refusing morbidity and mortality.

### B) Structure of IPC programme:

The Dean of DVVPPF's medical college & hospital has established a hospital infection control committee (HICC) with well-define composition, roles and responsibilities.

### C) Hospital infection control committee:

The HICC is an integral component of the IPC programme of the Dr. Vikhe Patil Memorial hospital.

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

#### D) Responsibility Of Committee Members

Sr. No		Designation	Role
1.	Chairman HICC	<b>Dean</b>	<ul style="list-style-type: none"> <li>Establishing a multidisciplinary Infection Control Committee</li> <li>Making Provision for appropriate resources for Infection Control Program</li> <li>Develop hospital wide infection control program</li> <li>Approve and review policies and guidelines for IPC.</li> <li>Support educational and training activities for all categories of staff.</li> <li>Ensure availability of safe food and drinking water, and sound waste management according to the BMW rules 2016, 2018.</li> </ul>
2.	Member Secretary	<b>Head of Dept.of Microbiology</b>	<ul style="list-style-type: none"> <li>Responsible for effective implementation of Infection Control Program in the hospital</li> <li>Prepare Infection Control policies and protocols. Presenting quarterly data of prevalent organisms and their antimicrobial susceptibility pattern to the antibiotic stewardship group and helping in formulating the Hospital Antibiotic Policy.</li> <li>Conducting Monthly HIC team meetings &amp; present actionable feedback to committee</li> <li>To circulate the agenda and minutes of the meetings Present Outbreak investigation report.</li> </ul>
3.	Infection control officer	<b>Microbiologist</b>	<ul style="list-style-type: none"> <li>Responsible for the prevention, investigation, monitoring and reporting of nosocomial infections. Investigation &amp; control of outbreaks.</li> <li>Training of ICNs to implement infection control program in the hospital.</li> <li>Audit of infection control measures.</li> </ul>



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**


NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-


			<ul style="list-style-type: none"> <li>• Provide trends of HAI to different patient care units.</li> <li>• Advise staff on all aspects of IPC and maintain a safe environment for patients and staff.</li> <li>• Monitor rational use of antimicrobials.</li> <li>• Oversee sterilization and disinfection.</li> <li>• Organize and conduct regular IPC educational and training activities for HCWs.</li> <li>• Audit infection control procedures, worker safety and antimicrobial usage.</li> </ul>
4.	Members	<b>Representatives of clinical departments, Medical Superintendent &amp; Incharge sister OT</b>	<ul style="list-style-type: none"> <li>• Monitoring the use of alert antibiotics in the hospital Present Deviations in Biomedical waste disposal, hand hygiene.</li> <li>• Staff immunization status and needle stick injuries report.</li> <li>• Implementing and monitoring the Infection control practices in the OTs, ICU, NICU, SICU &amp; PICU.</li> <li>• Notifying any outbreak in the ICU to the Infection Control team.</li> <li>• Helping the Antibiotic Stewardship group in formulating the Antibiotic policy.</li> <li>• Implementing and monitoring the Infection control practices in respective dept.</li> <li>• Present OT cleaning and fogging reports.</li> </ul>
5.	Member	<b>Infection control nurse</b>	<ul style="list-style-type: none"> <li>• Visit the microbiology laboratory and conduct infection control rounds daily and tracks all infected cases and maintain surveillance data.</li> <li>• Monitor implementation of IPC practices and SOPs, including hand hygiene, preventive bundles, sterilization and disinfection and antimicrobial stewardship.</li> <li>• Impart education and training to HCWs under the supervision of the infection control officer.</li> <li>• Ensure compliance with hospital's biomedical</li> </ul>

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

			<p>waste (BMW) management policy.</p> <ul style="list-style-type: none"> <li>• Maintain data of sharps/ needle-stick injuries and post-exposure prophylaxis(PEP).</li> <li>• Initiate and facilitate immunization for hepatitis B virus (immunoglobulin use if needed after exposure, and hepatitis B vaccine), and vaccination for the staff,especially in high-risk areas.</li> <li>• Facilitate provision of first aid and appropriate consultation in case of suspected exposure of any hospital worker.</li> </ul>
6.	Invitees		<ul style="list-style-type: none"> <li>• Additional members from the institution who are invitedfor a particular meeting when there is a scheduled discussion pertaining to their field of expertise</li> </ul>

#### **E) HIC Committee meetings:**

- The infection control committee should meet at least once every month and otherwise if necessary. Documentations and recommendations are kept by the microbiologist /infection control officer.
- Infection control team should meet once a week.
- There are total 10 members in the HIC committee. Quorum of the HIC meeting is defined as 60%
- It means minimum number i.e. 5 member of committee will be required for quorum.

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-


### 3. OBJECTIVE OF HOSPITAL INFECTION CONTROL PROGRAMME:

The primary aim of the Hospital Infection Control (HIC) program is to prevent or minimize the potential for nosocomial infections in patients as well as in staff by breaking the chain of transmission.

#### The program should have following objectives

- I. To develop written policies and procedures for standards of cleanliness, sanitation, and asepsis in the DVPMH.
- II. To interpret, uphold, and implement the HIC policies and procedures in the DVPMH.
- III. To review and analyze on infections that occur in order to take corrective steps.
- IV. To review and give input regarding investigations of epidemics.
- V. To develop a mechanism to supervise infection control measures in all phases of hospital activities and to promote improved practice at all levels of the DVPMH.
- VI. Formulate policies on the proper use of antibiotics, develop antibiotic policies, and recommend remedial measures when antibiotic resistant strains are detected.
- VII. Conduct surveillance of the AMR and HAI: Analyze the surveillance data of HAI.
- VIII. Prepare an annual IPC plan, Establish links with related health programmes such as injection safety programme, TB control programme and control of HIV/AIDS.
- IX. To ensure continuing education of employees on aspects of infection control.
- X. Regulate and give recommendation regarding infection control for any construction or renovation activity in the hospital.
- XI. Investigate outbreaks of HAI's in collaboration with Medical, Nursing & other staff.



 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

#### 4. PROCEDURE AND PRACTICES FOR INFECTION PREVENTION AND CONTROL

A two-tiered approach to precautions is used to interrupt the mode of transmission of infectious agents.

- A) Standard precautions:** these refer to work practices that are applied to all patients receiving care in health facilities, regardless of their diagnosis or presumed infectious status so as to minimize the risk of transmission of infectious agents in all situations. Standard precautions minimize the likelihood of transmission of infectious agents between HCWs and patients, and from patient to patient.
- B) Transmission-based precautions:** Transmission-based precautions are precautions required to be taken based on the route of transmission of organisms like contact precautions, airborne precautions, etc.

If successfully implemented, standard and transmission-based precautions prevent any infection from being transmitted.


##### 4.1 Universal precautions:

- Consider ALL patients potentially infectious.
- Assume ALL blood and body fluids and tissue to be potentially infectious.
- Assume ALL unsterile needles and other sharps to be similarly contaminated.

##### 4.2 Standard Precautions:

The use of standard precautions is the primary strategy for minimizing the risk of transmission of microorganisms in healthcare facilities.

Standard precautions are to be followed for all patients, irrespective of their infection status. These are to be used to avoid contact with blood, body fluids, secretions and excretions regardless of whether contaminated grossly with blood or not; non-intact skin; and mucous

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

membrane. The key components of standard precautions are:

- 4.2.1 Hand hygiene
- 4.2.2 Personal protective equipment.
- 4.2.3 Respiratory hygiene and cough etiquette.
- 4.2.4 Prevention of injuries from sharps.
- 4.2.5 Safe handling of patient-care equipment
- 4.2.6 Principles of asepsis.
- 4.2.7 Environmental infection control.
  - 4.2.7.1 Patient placement
  - 4.2.7.2 Environmental cleaning
  - 4.2.7.3 Linen and laundry
  - 4.2.7.4 Waste disposal

#### **4.2.1 Hand hygiene:**


The WHO guidelines on hand hygiene in healthcare (2009) suggest that HAND hygiene is the single most important measure for prevention of infection.

Evidence suggests that the hands of the HCWs are the most common vehicle for the transmission of healthcare-associated pathogens from patient to patient and within the healthcare environment. Studies show a direct correlation between an increase in adherence to hand hygiene with decrease in HAIs.

#### **a) Routine Hand Hygiene**

##### **I. Hand Washing and Antisepsis (hand hygiene) :**

Appropriate hand hygiene can minimize microorganisms acquired on the hands during

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

daily duties and when there is contact with blood, body fluids, secretions, excretions, and known and unknown contaminated equipment or surfaces.

## II. Wash or decontaminate hands :

- a. After handling any blood, body fluids, secretions, excretions, and contaminated items,
- b. Between contact with different patients,
- c. Between tasks and procedures on the same patient to prevent cross contamination between different body sites,
- d. Immediately after removing gloves,
- e. Using a plain soap, antimicrobial agent, such as an alcoholic hand rub or waterless antiseptic agent



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

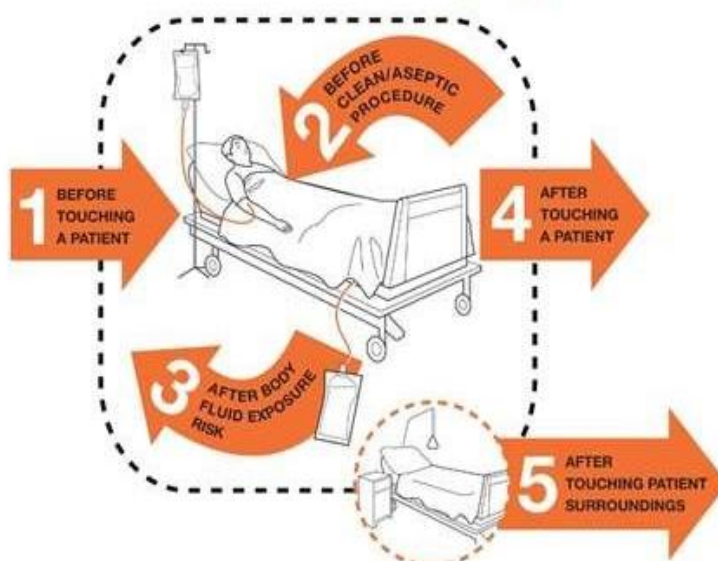
## b) “Five Moments for Hand Hygiene” Approach

The newly developed “Five Moments for Hand Hygiene” approach has emerged from the *WHO Guidelines on Hand Hygiene in Health Care* to add value to any hand hygiene improvement strategy.

This includes:

- a. Before touching a patient
- b. Before clean or aseptic procedure**
- c. After body fluid exposure risk
- d. After touching a patient**
- e. After touching patient surroundings

Posters prompting and reminding healthcare workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it are displayed in various sections of hospital.



**Fig. 4.1.** Five moments for hand hygiene in clinical setting



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

**a. Before touching a patient**

WHY? To protect the patient against colonization and, in some cases, against exogenous infection, by harmful germs carried on your hands.

WHEN? Clean your hands before touching a patient when approaching him/her.

*Situations when Moment 1 applies:*

- (a)** Before shaking hands, before stroking a child's forehead.
- (b)** Before assisting a patient in personal care activities: to move, to take a bath, to eat, to get dressed, etc.
- (c)** Before delivering care and other non-invasive treatment: applying oxygen mask, giving a massage.
- (d)** Before performing a physical non-invasive examination: taking pulse, blood pressure, chest auscultation, recording ECG.

**b. Before clean / aseptic procedure**

WHY? To protect the patient against infection with harmful germs, including his/her own germs, entering his/her body.

WHEN? Clean your hands immediately before accessing a critical site with infectious risk for the patient (e.g. a mucous membrane, non-intact skin, an invasive medical device).

*Situations when Moment 2 applies;*

- (a)** Before brushing the patient's teeth, instilling eye drops, performing a digital vaginal or rectal examination, examining mouth, nose, ear with or without an instrument, inserting a suppository / pessary, suctioning mucous.
- (b)** Before dressing a wound with or without instrument, applying ointment on vesicle, making a percutaneous injection / puncture.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

**(c)** Before inserting an invasive medical device (nasal cannula, nasogastric tube, endotracheal tube, urinary probe, percutaneous catheter, drainage), disrupting / opening any circuit of an invasive medical device (for food, medication, draining, suctioning, and monitoring purposes).

**(d)** Before preparing food, medications, pharmaceutical products, sterile material.

### **C. After body fluid exposure risk**

WHY? To protect you from colonization or infection with patient's harmful germs and to protect the health-care environment from germ spread.

WHEN? Clean your hands as soon as the task involving an exposure risk to body fluids has ended (and after glove removal)

*Situations when Moment 3 applies:*

**(a)** When the contact with a mucous membrane and with non-intact skin ends.

**(b)** After a percutaneous injection or puncture; after inserting an invasive medical device (vascular access, catheter, tube, drain, etc.); after disrupting and opening an invasive circuit.

**(c)** After removing an invasive medical device.

**(d)** After removing any form of material offering protection (napkin, dressing, gauze, sanitary towel, etc.).

**(e)** After handling a sample containing organic matter, after clearing excreta and any other body fluid, after cleaning any contaminated surface and soiled material (soiled bed linen, dentures, instruments, urinal, bedpan, lavatories, etc.)

### **d. After touching a patient**



DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
	<b>Issue No.</b>	01
<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>Rev. No</b>	00
	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
	<b>Date of Imp.</b>	
	<b>Rev. Date</b>	-

WHY? To protect you from colonization with patient germs and to protect the health-care environment from germ spread.

WHEN? Clean your hands when leaving the patient's side, after having touched the patient  
*Situations when Moment 4 applies, if they correspond to the last contact with the patient before leaving him / her:*

- (a) After shaking hands, stroking a child's forehead
- (b) After you have assisted the patient in personal care activities: to move, to bath, to eat, to dress, etc.
- (c) After delivering care and other non-invasive treatment: changing bed linen as the patient is in, applying oxygen mask, giving a massage.
- (d) After performing a physical non-invasive examination: taking pulse, blood pressure, chest auscultation, recording ECG.

**e. After touching patient surroundings**

WHY? To protect you from colonization with patient germs that may be present on surfaces / objects in patient surroundings and to protect the health-care environment against germ spread.

WHEN? Clean your hands after touching any object or furniture when leaving the patient surroundings, without having touched the patient.

*This Moment 5 applies in the following situations if they correspond to the last contact with the patient surroundings, without having touched the patient:*

- a) After an activity involving physical contact with the patients immediate environment: changing bed linen with the patient out of the bed, holding a bed trail, clearing a bedside



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

table.

b) After a care activity: adjusting perfusion speed, clearing a monitoring alarm.

c) After other contacts with surfaces or inanimate objects (note – ideally try to avoid these unnecessary activities): leaning against a bed, leaning against a night table / bedside table

**\*NOTE:** Hand hygiene must be performed in all indications described regardless of whether gloves are used or not.





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

**01**

**Rev. No**

**00**

**NABH Ref.**

**NABH 5<sup>TH</sup> EDITION**

**Date of Imp.**

**Rev. Date**

**-**

### c) How to Hand rub?

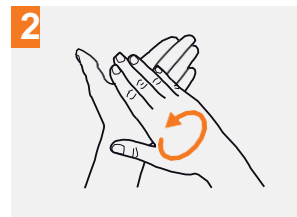
# How to Handrub?

**RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**

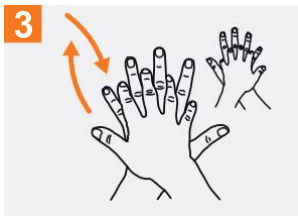
**🕒 Duration of the entire procedure: 20-30 seconds**



Apply a palmful of the product in a cupped hand, covering all surfaces;



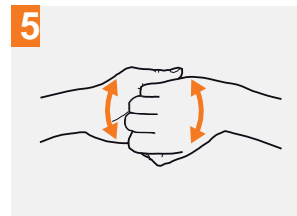
Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



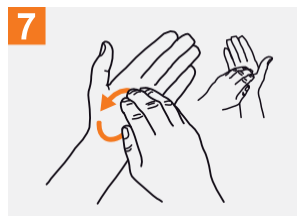
Palm to palm with fingers interlaced;



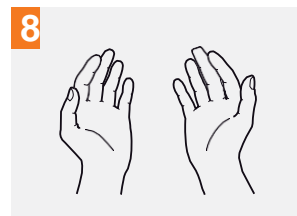
Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.



**World Health  
Organization**

**Patient Safety**  
A World Alliance for Safer Health Care

**SAVE LIVES**  
Clean Your Hands



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

**Fig. 4.2.** Steps of hand rubbing



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Advantages of ABHR
  - Easily accessible at point of care
  - Excellent antimicrobial activity against Gram-positive and Gram-negative vegetative bacteria, *M. tuberculosis* and a wide range of fungi
  - Generally good antimicrobial activity against enveloped viruses
- Disadvantages of ABHR
  - Lesser and/ or variable antimicrobial activity against non-enveloped viruses(such as norovirus).
  - No activity against protozoan oocysts and bacterial spores (such as *Clostridium difficile*).



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

#### **d) Surgical Hand Rub**

Hand scrubbing with an antiseptic agent before beginning a surgical procedure reduces the number of microorganisms, and inhibits the growth of microorganisms on hands under the gloves. Chlorhexidine or povidone-iodine-containing soaps are the most commonly used products for surgical hand scrub. The antimicrobialefficacy of alcohol-based formulations is superior to that of all other currently available methods of preoperative surgical hand preparation.

#### **Improving the implementation of hand hygiene**

Hand hygiene can be improved through a multimodal strategy suggested by WHO.

The key components are:

- **System change:** ensuring that the necessary infrastructure is in place to allow HCWs to practice hand hygiene. This has two essential elements:
  - Access to a safe, continuous water supply as well as to soap and towels;
  - Readily accessible alcohol-based hand rub at the point of care.
- **Training/Education:** Providing regular training on the importance of hand hygiene, based on the “My 5 moments for hand hygiene” approach (Fig. 4.1), and the correct steps for hand rubbing and handwashing, to all HCWs.
- **Evaluation and feedback:** Monitoring hand hygiene practices and Infrastructure, along with related perceptions and knowledge among HCWs, while providing performance and results feedback to staff.
- **Reminders at the workplace:** Prompting and reminding HCWs about the Importance of hand hygiene and about the appropriate indications and procedures for performing it.
- **Institutional safety climate:** Creating an environment and perceptions that facilitate raising awareness about patient safety issues while guaranteeing improvement of hand hygiene as a high priority at all levels, including



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- o Active participation at both the institutional and individual levels;
- o Awareness of individual and institutional capacity to change and improve(self-efficacy); and partnership with patients and patient organizations.
- o Partnership with patient and patient organization.
- o The WHO hand hygiene direct observation audit tool is given in annex 3. HCFs may adapt and use this tool locally for hand hygiene audits.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## e) Surgical hand wash

### Surgical hand wash (3-5 min)

1. Prior operative procedures.
2. Prior to treatment of all burns cases.
3. Before insertion of all invasive devices Cardiac catheterization, Insertion of all lines especially arterial and central venous catheterization).

### Method

1. Hands are washed up to the elbow freely using disinfectant.
2. Scrubbing of fingers, space between fingers and nails, brush used to scrub the nails.
3. Wash hand thoroughly with running water, after wash the tap should be closed with elbow.
4. Keep the hand finger upright position.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

**01**

**Rev. No**

**00**

**NABH Ref.**

**NABH 5<sup>TH</sup> EDITION**

**Date of Imp.**

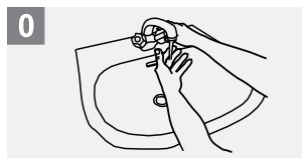
**Rev. Date**

**-**

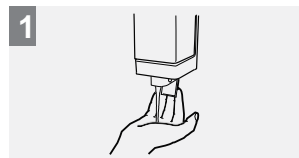
# How to Hand wash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

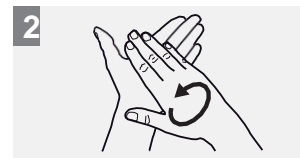
**Duration of the entire procedure: 40-60 seconds**



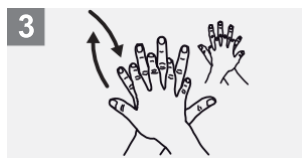
Wet hands with water;



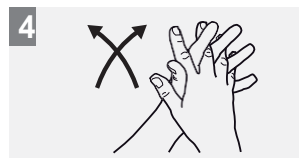
Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



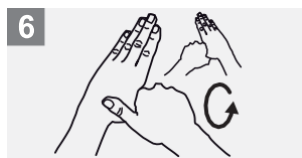
Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



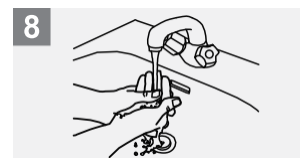
Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



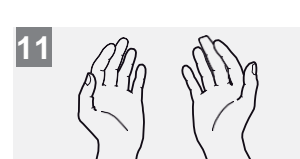
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.



**World Health  
Organization**

**Patient Safety**  
A World Alliance for Safer Health Care

**SAVE LIVES**  
Clean Your Hands



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

#### **4.2.2 PERSONAL PROTECTIVE EQUIPEMENT:**

Personal protective equipment (PPE) refers to physical barriers, which are used alone or in combination, to protect mucous membranes, airways, skin and clothing from contact with infectious agents. PPE should be used by:

- HCWs who provide direct care to patients and who may come in contact with blood, body fluids, excretions, and secretions;
- Support staff including cleaners, and laundry staff in situations where they may have contact with blood, body fluids, secretions, and excretions.
- Laboratory staff, who handle patient specimens;
- Family members who provide care to patients and are in a situation where they may have contact with blood, body fluids, secretions and excretions;
- HCWs in a haemodialysis unit, because of the high risk of transmission of blood-borne infections during the various activities associated with haemodialysis and handling of equipment; and
- Patients in a haemodialysis unit, in the form of a barrier over clothing during cannulation and decannulation, central line connection, disconnection/ dressing change.

PPE includes gloves, aprons and gown, facial protection, footwear and hair cover or cap.

##### **4.2.2.1 GLOVES**

- Gloves should be worn as an additional measure, not as a substitute for





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

handwashing.

- Gloves are not required for routine care activities in which contact is limited to a patient's intact skin.
- Wear gloves when touching blood, body fluids, secretions, excretions, mucous membranes, non-intact skin.
- Change gloves between tasks and procedures on the same patient after contact with potentially infectious material.
- If gloves become torn or heavily soiled and additional patient care tasks must be performed, then change them before starting the next task.
- Remove gloves immediately after completion of care or a specified task, at point of use before touching non-contaminated items and clean environmental surfaces and before moving to another patient or using a mobile phone.
- Perform hand hygiene immediately after removing gloves.

**Types and indications for wearing gloves**

There are three types of gloves:

1. Clean, non-sterile gloves should be worn:

- For examinations and non-surgical procedures;
- For handling items visibly soiled with blood, body fluids, secretions or excretions when the HCW has open skin lesions on the hands; and
- When the HCW has non-intact skin on the hands.

2. Sterile, single-use gloves should be used for aseptic procedures.

3. Heavy duty/ utility gloves should be used for decontamination of large equipment, cleaning of floors, walls, HCF furniture such as beds, etc. These gloves can be reused after cleaning.

**Gloves in haemodialysis units**



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- 1.Clean disposable gloves should be available for routine use.
- 2.Gloves must be worn in haemodialysis facilities whenever caring for a patient or touching the patient's medical equipment, handling lab specimens or used dialysers, cleaning machines, cleaning stations, and wiping up blood or other body fluid spills.
- 3.They must be changed whenever moving from one patient or machine to another.
4. They must be changed after cannulation.
5. Sterile gloves must be available and used during procedures requiring aseptic technique such as central line insertion.
6. Remove gloves after caring for a patient. Do not wear the same gloves for the care of more than one patient, and do not wash gloves between uses with different patients.
7. Perform hand hygiene after removing gloves.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

#### 4.2.2.2 Apron and gowns

International guidelines recommend that protective clothing (apron or gown) should be worn by all HCWs when:

- There is close contact with the patient, materials or equipment that may lead to contamination of skin, uniforms or other clothing with infectious agents; and
- There is a risk of contamination with blood, body substances, secretions or excretions (except sweat).

The type of apron or gown required depends on the degree of risk, including the anticipated degree of contact with infectious material and the potential for blood and body substances to penetrate through to clothes or skin.

- A clean non-sterile apron or gown is generally adequate to protect skin and prevent soiling of clothing during procedures and/ or patient-care activities that are likely to bring contact with blood, body substances, secretions or excretions(except sweat).
- A fluid-resistant apron or gown should be worn when procedures are likely to generate splashing or sprays of blood or body substances and there is a risk that clothing may become contaminated with blood and body substances.
- Gowns and aprons preferably must be changed between patients.

Table 1.1 gives detailed characteristics of aprons and gowns.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

**Table: Characteristics of aprons and gowns.**

Plastic apron	<ul style="list-style-type: none"> <li>• Impervious/fluid-resistant</li> <li>• Single-use, for one procedure or episode of patient care</li> <li>• Disposable</li> <li>• Worn when there is a risk that clothing may become exposed to blood or body substances (usually from the environment) during low-risk procedures and where there is low risk of contamination to the HCW's arms</li> <li>• Worn when contact with the patient or the patient environment is likely to occur</li> </ul>
Gown	<ul style="list-style-type: none"> <li>• Single-use</li> <li>• Disposable</li> <li>• Worn to protect skin and prevent soiling of clothing during procedures and/or patient-care activities that are likely to generate splashing or sprays of blood or body substances</li> <li>• Choice of sleeve length depends on the procedure being undertaken and the extent of risk of exposure of the HCW's arms</li> </ul>
Full-body gown	<ul style="list-style-type: none"> <li>• Fluid-resistant</li> <li>• Single-use</li> <li>• Long-sleeved</li> <li>• Worn when there is a risk of contact of the HCW's skin with a patient's broken skin, extensive skin to skin contact (e.g. lifting a patient with scabies or non-intact skin), or a risk of contact with blood and body substances which are not contained (e.g. uncontrolled vomiting or passage of stools)</li> <li>• Worn when there is the possibility of extensive splashing of blood and body substances</li> <li>• Worn when there is a risk of exposure to large amounts of body substances, e.g. in some operative procedures</li> </ul>
Sterile gown	<ul style="list-style-type: none"> <li>• Pre-packaged</li> <li>• Used for procedures requiring an aseptic field</li> </ul>



DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
	<b>Issue No.</b>	01
<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>Rev. No</b>	00
	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
	<b>Date of Imp.</b>	
	<b>Rev. Date</b>	-

#### 4.2.2.3 Mouth, Nose, Eye Protection

- a. Use PPE to protect the mucous membranes of the eyes, nose, and mouth during procedures and patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions and excretions. Select masks, goggles, face shields, and combinations of each according to the need anticipated by the task performed
- b. During aerosol-generating procedures (for example, bronchoscopy, suctioning of the respiratory tract [if not using in-line suction catheters], endotracheal intubation) in patients who are not suspected of being infected with an agent for which respiratory protection is otherwise recommended (for example, M.tuberculosis, SARS or hemorrhagic fever viruses), wear one of the following: a face shield that fully covers the front and sides of the face, mask with attached shield, or a mask and goggles (in addition to gloves and gown).



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
 HOSPITAL**

**HOSPITAL INFECTION CONTROL  
 MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
 HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

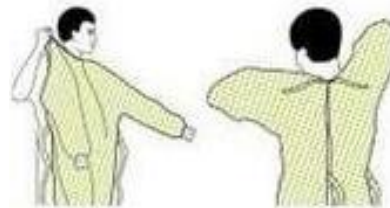
-

## SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE

### 1. GOWN

- Fully cover torso from neck to knees, arms to end of wrist, and wrap around the back
- Fasten in back of neck and wrist



### 2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



### 3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



### 4. GLOVES

- Extend to cover wrist of isolation gown





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
 HOSPITAL**

**HOSPITAL INFECTION CONTROL  
 MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
 HIC /03**

**Issue No.**

**01**

**Rev. No**

**00**

**NABH Ref.**

**NABH 5<sup>TH</sup> EDITION**

**Date of Imp.**

**Rev. Date**

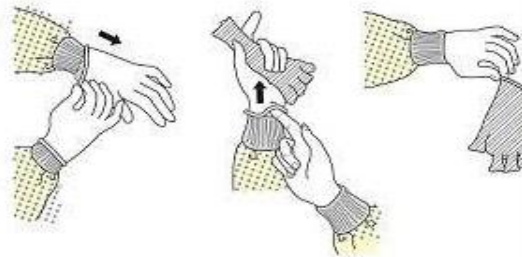
**-**

## SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom.  
 Remove respirator after leaving patient room and closing door.

### 1. GLOVES

- Outside of gloves is contaminated.
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glovet
- Discard gloves in waste container



### 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container



### 3. GOWN

- Gown front and sleeves are contaminated
- Unfasten ties
- Pull away from neck and shoulder, touching inside of gown only
- Turn gown inside out
- Fold or roll into bundle and discard





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
 HOSPITAL**

**HOSPITAL INFECTION CONTROL  
 MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

#### 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated – DO NOT TOUCH
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container



#### 4.2.2.4 Footwear

- A closed footwear, which can be easily cleaned and disinfected, must be used whenever work processes or environments could cause foot injuries or spillage of blood or body fluids.
- Personal footwear should be changed when entering clean areas such as OTs, labour rooms, ICU.
- Shoe covers may be used over street shoes to protect clean areas from soil and dirt brought in by shoes.

#### 4.2.2.5 Hair covers

- Long hair must be secured with a rubber band and hair cover worn to protect the hair and to protect the patient from falling hair.

#### 4.2.2.6 Selection and safe use of PPE

The type of PPE should be selected on the basis of estimated risk of contamination of the HCW's hands, clothing or other areas of the body by blood, body fluid, excretions or secretions of the patient. The route of transmission of the infectious agent is an important factor in selecting the PPE.

Although PPE is the most visible control used to prevent transmission of infection, it must be used in conjunction with administrative and engineering controls. PPE must be correctly selected and used in a safe manner, and must be available and accessible to HCWs and visitors.





Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### 4.2.3. Respiratory hygiene and cough etiquette

Respiratory hygiene and cough etiquette means the measures taken by a person having signs and symptoms of respiratory infection to contain respiratory secretions and prevent the transmission of the infection to other persons. The following measures are recommended:

- Cover mouth and nose with a tissue when coughing or sneezing.
- Dispose the tissue after use in the nearest waste container.
- Perform hand hygiene after contact with respiratory secretions and contaminated objects or materials.
- If resources permit, HCFs should ensure the availability of materials such as tissues and foot-operated waste bins for adhering to respiratory hygiene and cough etiquette in waiting areas for patients and visitors.
- In the absence of handkerchief or tissues, patients should be instructed to cover their nose and mouth with their arm during coughing and sneezing.
- Provide conveniently located dispensers of ABHR.
- Where sinks are available, ensure that water and soap for hand washing are available at all times.
- Posters elaborating cough etiquette and hand hygiene must be displayed. Posters in the local language should be put up at appropriate locations such as the OPD entrance, emergency department and doctors' clinics with instructions for patients and their attendants to inform the healthcare staff if they have symptoms of respiratory infection and on how to practice respiratory hygiene and cough etiquette.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

#### 4.2.5. Guidelines for Collection of Blood Samples

Use gloves and take special care if there are cuts or scratches on the hands. Take care to avoid contamination of hands and surrounding area with the blood.

- (1) Use disposable or autoclaved syringes and needles.
- (2) Use 70 percent ethanol or isopropyl alcohol swabs or sponges for cleaning the site of needle puncture.
- (3) Use thick dressing pads or adsorbent cotton below the forearm when drawing blood and tourniquet above.
- (4) Tourniquet must be removed before the needle is withdrawn.
- (5) Place dry cotton swab and flex the elbow to keep the swab in place till bleeding stops.
- (6) Place used needles and syringes in a puncture-resistant container containing disinfectant.
- (7) Do not recap used needles.

#### Proper Disposal of Needles – Prevention of Injuries from Sharps-

- (1) Needles and sharps are the commonest mode of transmission of blood-borne pathogens to the healthcare worker.
- (2) Precautions should be taken to prevent injuries by sharp instruments, especially hollowbore needles that have been used for venipuncture or other vascular access procedures.
- (3) Needles should not be recapped, bent or broken by hand. Disposable needles and other sharps should be disposed immediately after use into puncture-resistant containers which should be located at the site of the procedure.
- (4) When a needle has to be removed from a syringe, do it with utmost care.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### **Good Practice for Safe Handling and Disposal of Sharps-**

- (1) ALWAYS dispose of your own sharps.
- (2) NEVER pass used sharps directly from one person to another.
- (3) During exposure-prone procedures, the risk of injury should be minimized by ensuring that the operator has the best possible visibility; for example, by positioning the patient, adjusting the light source, and controlling bleeding.
- (4) Protect fingers from injury by using forceps instead of fingers for guiding suturing.
- (5) Locate sharps disposal containers close to the point of use, for example, in patient's room, on the medicine trolley, and in the treatment room.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

#### **4.2.6. Safe Handling of Patient-Care Equipment**

- (1) Equipment that has been in contact with a patient should be disinfected or sterilized as appropriate before use for another patient.
- (2) A new equipment or serviced and repaired equipment should be cleaned and disinfected before patient use as per hospital policy.
- (3) Heavy duty or strong utility gloves must be worn during decontamination, cleaning and disinfection of instruments.
- (4) Soiled patient-care equipment should be handled in a manner that prevents exposure of skin and mucous membranes and contamination of clothing and environment.
- (5) Disposable patient-care equipment should not be reused and must be
- (6) Discarded into an appropriate container in accordance with the hospital waste management policy and the Biomedical Waste Management and Handling Rules 2016, 2018.
- (7) Patient-care supplies (e.g. lotion, cream, soap) shall not be shared by patients.

#### ***Injection safety***

Injection safety is an important component of standard precautions.

#### ***Use of injection devices***

Practical guidance on the use of injection devices is given below:

- Use a new injection device for each procedure, including for the reconstitution of a unit of medication or vaccine.
- Inspect the packaging of the injection device to ensure that the protective barrier has not been breached.

Discard the device if the package has been punctured, torn or damaged by exposure to moisture, or if the expiry date has passed.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

***Single-dose and multi-dose vials***

- Whenever possible, use a single-dose vial for each patient, to reduce cross-contamination between patients.
- Open only one vial of a particular medication at a time in each patient-care area.
- If possible, keep one multi-dose vial for each patient, and store it with the patient's name on the vial in a separate treatment or medication room.
- Do not store multi-dose vials in the open ward or general patient-care area, where they could be inadvertently contaminated.
- Before use, examine the vial for turbidity, particulate matter or discoloration, and discard if any are present.
- Never leave a needle or cannula inserted into a medication vial via the rubber stopper.
- Discard a multi-dose vial:
  - If sterility of contents is compromised;
  - If the expiry date or time has passed;
  - If found to be without a specific date or time, improperly stored or contaminated regardless of the expiry date.
- The date of discard from the opening of a multi-dose vial should be decided by the HICC of the facility. Normally, it is 28 days from the date of opening, even if it is within the expiry date.
- Single-dose vials for reconstitution should be used instead of fluid or solution bags for routine injection.

***Labelling***

After reconstitution of a multi-dose vial, label the final medication container with:

- Date and time of preparation;
- Final concentration;
- Expiry date and time; and



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
 HOSPITAL**

**HOSPITAL INFECTION CONTROL  
 MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Name and signature of the person reconstituting the drug.

For multi-dose medications that DO NOT require reconstitution, add a label with:

- Date and time of first piercing the vial;
- Name and signature of the person first piercing the vial.

***Injection preparation and administration***

Injections should be prepared in a designated clean area where contamination by blood and body fluids is unlikely.

***Practical guidance on preparing injections***

The steps to be followed when preparing injections are:

- Before starting the injection session, and whenever there is contamination with blood or body fluids, clean the preparation surfaces with 70% alcohol (isopropyl alcohol or ethanol) and allow to dry.
- Assemble all equipment needed for the injection: sterile single-use needles and syringes, reconstitution solution such as sterile water or specific diluent, alcohol swab or cotton wool, sharps container.
- Do not use alcohol skin disinfection for administration of live attenuated vaccines.
- Do not pre-soak cotton wool in a container as these can become contaminated.

***Practical guidance on administering injections***

Aseptic techniques should be followed for all injections.

***General***

When administering an injection:

- perform hand hygiene;
- wipe the top of the vial with 70% alcohol (isopropyl alcohol or ethanol) using a swab or cotton-wool ball.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
	<b>Issue No.</b>	01
<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>Rev. No</b>	00
	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
	<b>Date of Imp.</b>	
	<b>Rev. Date</b>	-

**Box . Don'ts for injection safety**

**DO NOT:**

- Allow the needle to touch any contaminated surface;
- Reuse a syringe, even if the needle is changed;
- Touch the diaphragm after disinfection with 70% alcohol (isopropyl alcohol or ethanol);
- Use the same needle and syringe for several multi-dose vials;
- Use the same mixing syringe to reconstitute several vials;
- Use bags or bottles of intravenous solution as a common source of supply for multiple patients (except in pharmacies using laminar flow cabinets);
- Use a single loaded syringe to administer medication to several patients (i.e. Ensure one needle, one syringe, one patient!);
- Change the needle to reuse the syringe; and
- Store left over medications for later use.

- use a sterile syringe and needle, withdraw the medication from the ampoule or vial.

***Reconstitution***

- If reconstitution is necessary, withdraw the reconstitution solution from the ampoule or vial using a sterile syringe, insert the needle into the rubber septum in the single or multi-dose vial and inject the necessary amount of reconstitution fluid.
- Remove the needle and syringe and discard them immediately as a single unit into a sharps container.
- Mix the contents of the vial thoroughly until all visible particles have dissolved.

***Needle-free system***

- Wipe the rubber septum of the multi-dose vial with an alcohol swab.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Insert the spike into the multi-dose vial.
- Wipe the port of the needle-free system with an alcohol swab.
- Remove a sterile syringe from its packaging.
- Insert the nozzle of the syringe into the port.
- Withdraw the reconstituted drug.

***Delay in administration***

- If the dose cannot be administered immediately for any reason, cover the needle with the cap using a one-hand scoop technique.
- Store the device safely in a dry kidney dish or similar container.

**Environmental infection control**

***General principles***

• **Spacing between beds**

In open plan wards, there should be adequate space between each bed to reduce the risk of cross-contamination/infection occurring from direct or indirect contact or droplet transmission. Space between beds should be 1–2 meters.

• **Single rooms**

Single rooms reduce the risk of transmission of infection from the source patient to others by reducing direct or indirect contact transmission. Single rooms should have:

- o Hand-washing facilities
- o Toilet and bathroom facilities.

• **Anterooms**





Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

Single rooms used for isolation purposes may include an anteroom to support the use of PPE.

***Placement with regular admissions***

- A room should be cleaned before admitting a patient. There should be a policy for cleaning the room (i) after patient discharge (terminal cleaning) and (ii) before admission.
- All patient-care items used by the previous patient should be removed and replaced with clean items, e.g. bed linen, waterproof covering, oxygen humidifiers, face mask, etc. as per the housekeeping policy.

Patient-care equipment and articles should be cleaned, disinfected or sterilized according to the disinfection policy (see Annex 5.1).

***Transport of patients***

Movement and transportation of patients from the isolation room or area should be restricted to essential purposes only. This will reduce the possibility of transmission of microorganisms in other areas of the HCF.

Appropriate precautions should be taken during transportation to reduce the risk of transmission of microorganisms to other patients, HCWs or the hospital environment (surfaces or equipment).

***Infection control precautions during transport of patients***

- It is appropriate to place a surgical mask on the face of a patient with pulmonary tuberculosis during transit.
- Care should be taken of drainage and shunts and IV lines as these are potential sources for contamination of the environment, trolleys, etc. during transportation, also a source of infection for the patient. Closed sterile drainage is to be maintained at all times. Shunts and IV lines should be covered with sterile dressing during transportation. A trolley should have the facility for hanging IV bottles, tying of urine bags below bladder level which helps in proper draining of urine and prevents stagnation of urine.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Change trolley cover between patients.
- Spills of blood and body fluid should be taken care of immediately.
- Routine cleaning schedules for trolleys and wheel-chairs should be maintained.

***Policy for visitors***

The HCF should have a visitors' policy depending upon the type of services and the type of patients in the hospital (see Annex 6 for "Policy for visitors and attendants").



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## Transmission- based precautions:

These precautions for aseptic techniques and device management for clinical procedures are applied in addition to standard precautions, depending upon the epidemiology and route of transmission of the agent/ disease. These precautions are relevant to high-risk procedures (e.g. use of indwelling catheters and other devices, surgery, and other invasive procedures) and special settings (e.g. OTs, ICUs, neonatal wards, hemodialysis units and central reprocessing units).

### Recommended Isolation Precautions: Routes of Transmission

Microorganisms are transmitted by three main routes:

1. Contact
2. Air
3. Droplet

In nosocomial infections, transmission by contact, droplet, and air plays a major role.

**Infection by direct or indirect contact:** Infection occurs through direct contact between the source of infection and the recipient or indirectly through contaminated objects.

**Air-borne infection:** Infection usually occurs by the respiratory route, with the agent present in aerosols (infectious particles less than 5 µm in diameter).

**Droplet infection:** Large droplets carry the infectious agent (greater than 5 µm in diameter).

### 1. Contact Precautions

Contact transmission of microorganisms during patient care is responsible for the majority of HAIs in patients and healthcare staff. Contact transmission can be direct or indirect.

#### ***Direct Transmission***



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

This occurs when infectious agents are transferred from one person to another without a contaminated intermediate object or person. For example, blood or other body substances from an infectious person may come into contact with a mucous membrane or breaks in the skin of another person.

### ***Indirect Transmission***

This involves the transfer of an infectious agent through a contaminated intermediate object (fomite) or person. These include:

- Hands of hcws;
- Clothing after care of a patient colonized or infected with an infectious agent, which can then be transmitted to subsequent patients;
- Patient-care devices that are shared between patients without cleaning and disinfection; and
- Environmental surfaces that are inadequately disinfected.

Diseases transmitted through contact

- Colonization or infection with multidrug-resistant organisms, enteric infections and skin infections
- Hand hygiene is important since contact transmission can occur in respiratory viral infections when respiratory secretions or droplets contaminate surfaces, which can contaminate hands of hcws.

### ***Combination of contact, droplet and airborne precautions***

Contact, droplet and airborne precautions may be combined for diseases that have multiple routes of transmission or in case of epidemiologically important organisms, risk group 4 organisms or where transmission routes are unknown. Combined precautions are recommended in case of Ebola and Nipah virus disease. They are always to be used in addition to standard precautions and should be applied to all suspects, probable and confirmed cases



DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03	
	<b>Issue No.</b>	01	
	<b>Rev. No</b>	00	
	<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

## 2. Droplet Transmission

In the case of droplets (large particle droplets more than 5µm in size), the mechanism of transfer of the organism is quite distinct from either direct or indirect contact transmission. Droplets are generated from the patient primarily during coughing, sneezing, and during certain procedures such as suctioning and bronchoscopy. Transmission occurs when droplets containing microorganisms generated from the infected person are propelled a short distance through the air and deposited on the host's conjunctiva, nasal mucosa, or mouth. Because droplets do not remain suspended in the air, special air handling and ventilation are not required.

### ***Droplet precautions***

These should be applied to patients known or suspected to be infected with a pathogen that can be transmitted by the droplet route. These precautions include, but are not limited to:

- Respiratory viruses (for example, influenza, parainfluenza virus, adenovirus, respiratory syncytial virus, human metapneumovirus).
- Bordetella pertussis.
- For first 24 hours of therapy: *Neisseria meningitides*, group A streptococcus.

Place the patient in an examination room with a closed door as soon as possible (prioritize patients who have excessive cough and sputum production); if an examination room is not available, the patient should be provided a face mask and placed in a separate area as far from other patients as possible while awaiting care.

### ***PPE use***

- a. Wear a face mask, such as a procedure or surgical mask, when in close contact with the patient; don the face mask upon entering the examination room.
- b. If substantial spraying of respiratory fluids is anticipated, gloves and gown as well as goggles (or face shield in place of goggles) should be worn.
- c. Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and contaminated objects or materials. Use soap and water when hands are visibly



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

DVPMH / NABH / DM /  
HIC /03

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

soiled (for example, with blood, body fluids).

- d. Instruct the patient to wear a face mask when exiting the examination room, avoid coming into close contact with other patients, and practice respiratory hygiene and cough etiquette.
- e. Clean and disinfect the examination room accordingly (in addition to Standard Precautions).

***Patient placement***

- a. Single Room. Special air handling or ventilation is not necessary. Only cohort with patient/patients who are infected with the same organism.
- b. Mask. Wear a mask when working within three feet of a patient with meningococcal meningitis.
- c. Spacing between beds. In open wards there should be adequate spacing between each bed to reduce the risk of cross-contamination or infection occurring from direct or indirect contact or droplet transmission. Optimum spacing between beds is 1-2 meters.

***Patient transport purposes only.*** If transport or movement is necessary minimize dispersal of droplets from the patient.

**3. Air-Borne Transmission**

This occurs through dissemination of either air-borne droplet nuclei (small particle residue less than 5µm in size) of evaporated droplets containing microorganisms that remain suspended in the air for long periods of time, or dust particles containing the infectious agent. Microorganisms carried in this manner can be dispersed widely by air currents and may be inhaled by a susceptible host within the same room or over a longer distance from the source patient. Microorganisms transmitted by air-borne transmission include mycobacterium tuberculosis, measles, and the varicella virus.

***Air-borne precautions***



<p style="text-align: center;">DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
	<b>Issue No.</b>	01
	<b>Rev. No</b>	00
	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
	<b>Date of Imp.</b>	
	<b>Rev. Date</b>	-

Apply to patients known or suspected to be infected with a pathogen that may be transmitted by the air-borne route; these include, but are not limited to:

- Tuberculosis
  - Measles
  - Chickenpox (until lesions are crusted over)
  - Localized (in immunocompromised patient) or disseminated herpes zoster (until lesions are crusted over)
- a. Have the patient enter through a separate entrance to the facility (for example, dedicated isolation entrance) if available, to avoid the reception and registration area.
  - b. Place the patient immediately in an air-borne infection isolation room (AIIR).
  - c. If AIIR is not available, provide a face mask (for example, procedure or surgical mask) to the patient and place the patient immediately in an examination room with a closed door.
  - d. Initiate protocol to transfer patient to a healthcare facility that has the recommended infection-control capacity to properly manage the patient

***PPE use***

- a. If substantial spraying of respiratory fluids is anticipated, gloves and gown, as well as goggles or face shield should be worn.
- b. Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and/or body fluids and contaminated objects or materials. Use soap and water when hands are visibly soiled (for example, with blood, body fluids).
- c. Instruct patient to wear a face mask when exiting the examination room, avoid coming in close contact with other patients, and practice respiratory hygiene and cough etiquette.
- d. Once the patient leaves, the examination room should remain vacant for generally one hour before anyone enters; however, adequate wait time may vary depending on the ventilation rate of the room and should be determined accordingly.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- e. If staff must enter the room during the wait time, they should use respiratory protection (in addition to Standard Precautions).

***Patient Placement***

- Single room. Negative air pressure.
- Self-closing devices on doors to keep the door closed.
- Ventilation system should provide a means to discharge air from the room to the outside, such as an exhaust fan. Exhaust fan should be on emergency power.
- Ensure that all doors and windows remain properly closed in the isolation room. The slit at the bottom of the door is sufficient to provide a controlled airflow path.
- The TB isolation room needs to be checked for negative pressure.
- Tissues Test to check negative pressure: A thin strip of tissue should be held parallel to the door with one end of the tissue in front of the gap. The direction of the tissue's movement will indicate the direction of air movement.

***Respiratory Protection***

- Heavy duty N95 or N97 masks should be used for Open Pulmonary Tuberculosis or suspected Pulmonary Tuberculosis, Surgical Mask for Meningococcal or suspected Meningococcal Meningitis.
- Non-immune or pregnant staff should not enter the room of patients known or suspected to have rubella or varicella. Persons with immunity to varicella and rubella do not require masks.

***Patient Transport***





DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
	<b>Issue No.</b>	01
<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>Rev. No</b>	00
	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
	<b>Date of Imp.</b>	
	<b>Rev. Date</b>	-

- a. Limit movement or transport of patient from the room to essential purposes only.
- b. If transport or movement is necessary, minimize patient dispersal of organisms.

### **Triage and patient placement**

A high index of suspicion is needed to identify potentially infectious individuals (including colonization of MDRO) in order to ensure their safe and timely placement.

Specific triage policies such as provision of visual alert to remind patient to inform staff of fever or respiratory symptoms should be developed for early detection and isolation, so as to minimize transmitting communicable diseases to other patients and HCWs in the outpatient setting. During triage, the following should be observed:

- Patients should be assessed for conditions that require transmission-based precautions to prioritize those who may require urgent care and isolation.
- Patients with high suspicion of transmissible infection should be accommodated in designated areas to minimize transmission of infection to other patients.
- Patients with respiratory symptoms should be provided a medical/surgical mask and educated in cough etiquette.
- Minimize the stay of infectious patients in OPD by decreasing the waiting time before consultation and facilitate early departure from clinics.

### **Decision for patient placement**

A decision on the placement of a patient suffering from a transmissible disease needs to be based on the transmissibility, route of transmission, condition of the patient that is whether the patient needs intensive care or end-of-life support.<sup>60</sup>

Factors to be considered for decision on patient placement are:

- Mode and route of disease transmission;
- Clinical factors



<p style="text-align: center;">DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
	<b>Issue No.</b>	01
	<b>Rev. No</b>	00
	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
	<b>Date of Imp.</b>	
	<b>Rev. Date</b>	-
<b>HOSPITAL INFECTION CONTROL MANUAL</b>		

- e.g. Diarrhoea, cough, exudates, broken skin, mental impairment and incontinence
- immune status of the patient or cohorts
- Room availability;
- Requirement as per public health advisory
  - e.g. Pandemic influenza, Ebola and Nipah.

Placement In protective environment and isolation

A protective environment with ultra clean unidirectional air may be required for neutropenic patients and in some units such as transplant and oncology according to the level of immunosuppression of the patients.<sup>61</sup>

To minimize airborne particles, air must be circulated in the room with a velocity of at least 0.25 m/s through a HEPA filter. The HEPA filter removes particles of up to a certain defined size. If particles >0.3 microns in diameter are removed, the air entering the room can be classified as being clean and free of bacterial contamination.

Other ways of protecting patients with severely lowered immune systems are:

- Visitors should avoid contact with the patient if they have infections (e.g. upperrespiratory tract infections or herpes simplex blisters).
- Where appropriate, staff and visitors should wear PPE to protect the patient from microorganisms.
- Flowers or plants should not be put in the patient's room and a cleanenvironment must be ensured.
- Environmental cleaning should be done twice daily and should consist of dampdusting and floor mopping to avoid creating aerosols.
- Strict aseptic techniques must be used for all clinical procedures

**Placement of patient with transmissible disease**



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

Appropriate patient placement is a significant component of isolation precaution. A patient with a highly transmissible disease (e.g. chicken pox, TB, measles) should be placed in a single room with hand washing and toilet facility and airborne isolation.

- Cohorting patients: When a single room is not available, an infected patient is placed with another patient infected with the same microorganism. Only assigned HCWs must take care of those patients, especially during outbreaks.
- If a single room is not available, then arrangements can be made for isolating such patients at the corner of a ward where ventilation is adequate.
- Patient's relatives/ attendants should be educated on mode of transmission, hand hygiene and PPE



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

## Infection Prevention and Control in Special Units or Situations

### A. IPC in Surgical Units

#### Aseptic protocols

##### Personnel

Hand/forearm antisepsis for surgical team members is of crucial importance.

- Nails should be kept short and all jewellery, artificial nails or nail polish should be removed before surgical hand preparation.
- Hands should be washed and debris should be removed from underneath fingernails using a nail cleaner (not brushes), preferably under running water. Sinks should be designed to reduce the risk of splashes.
- Surgical hand antisepsis should be performed using either a suitable Antimicrobial soap or ABHR, before donning sterile gloves.
- A preoperative surgical hand scrub should be done for at least 5 minutes using an appropriate antiseptic scrub. Hands and forearms should be cleaned up to the elbows.
- After performing the surgical hand scrub, hands should be kept up and away from the body (elbows in flexed position) so that water runs from the tips of the fingers toward the elbows and not vice versa.
- If running water is not available, clean stored water can be used. Water should be stored in a bucket with a tap at one side to dispense water. If such a bucket is not available, clean water can be poured on the hands with the help of a container with a long handle. Another person should pour the water.
- If the quality of water is not assured in the OT, surgical hand antisepsis using ABHR is recommended. A sufficient amount of ABHR should be applied to dry hands and forearms for the length of time recommended by the manufacturer, typically 1.5 minutes, and hands and forearms allowed to dry before donning sterile gloves. (Steps for performing the surgical hand scrub are given in Annex 9.1.)



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

### Scrubs

Microorganisms are constantly shed from the hair and skin of persons and also from their clothes. Microorganisms are also expelled through respiratory secretions while breathing, talking, coughing and laughing.

“Scrubs” refers to the sanitary clothing worn by the OT staff, usually comprising a short-sleeve, V-neck shirt and loose-fitting, drawstring pants. The design of scrubs minimizes places where contaminants can hide, and they are easy to launder. They should be changed after a likely contamination and should always be cleaned in a healthcare laundering facility.

### Surgical attire

The surgical attire includes gloves, gowns, caps, mask, eye protection, waterproof aprons and footwear. It protects the patient from risk of infection from the hair, skin, clothes and respiratory secretions of the surgical team. The surgical attire also protects the surgical team from risk of exposure to blood and tissues of the patient during operation. (Steps for wearing the surgical attire are given in Annex 9.1.)

### The sterile field

It is important to maintain a sterile field to prevent contamination of surgical incision.

- A sterile field is the area prepared around the surgical procedure site and where the sterile instruments and other items needed during the operation are placed.
- It is created by placing sterile towels or sterile drapes on the prepared procedure site on the patient and includes a stand nearby.
- Only sterile objects and persons in surgical attire (scrubbed team) are allowed within this field.
- Areas above the chest and below the waist of the scrubbed team are considered non-sterile. Items outside and below the draped area are considered non-sterile.
- The field is considered non-sterile if a non-sterile object or non-scrubbed person comes within the sterile field.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-


## Cleaning and disinfection

A clean operating environment is essential to prevent SSI. The OT is cleaned and disinfected to prevent microbial contamination. Exogenous sources of infection in the OT are: people, anesthesia equipment, surfaces such as walls floors and furniture, air and dust, instruments supplies and medications. There should be no dust in the OT; dust settling on the sterile field can carry microorganisms particularly in operations of long duration.

### General principles

- Surfaces must be routinely cleaned first with detergent to remove any foreign and organic matter. Disinfection should follow cleaning. Do not apply disinfectant without cleaning as organic matter such as pus, blood urine, amniotic fluid, etc. inhibits the action of the disinfectant by protecting microorganisms. A detergent disinfectant combination solution if available can be used for convenience.
- Spills must be cleaned immediately. Apply higher concentration of disinfectant to the spill, then clean with detergent.
- Disposable or freshly laundered washable cloths or mops should be used with freshly prepared solution for each task.
- OTs must be cleaned daily. This includes furniture, lights, equipment, windowsills, ledges, scrub rooms and sinks. Thorough cleaning of the entire OT should be done once a week.
- Wet vacuuming is the preferred method to clean the floors, wet mopping can be done if wet vacuum is not available.
- Collections of water should be dried immediately. Leaking faucets and sinks should be fixed as wet areas encourage microbial growth and can be a source of infection.

(Cleaning procedures for OTs are given in Annex 9.2.)

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

## Infrastructure of OT's

The OT areas are distributed into zones depending upon the level of sterility and cleanliness required.

### Zones

#### Concept of zoning

The features of the different zones in order of their cleanliness are:

- Zone 3 is the cleanest or ultra-clean zone. It is also called the aseptic zone and includes the OT and areas where the operation team and patient are prepared for surgery. The areas for packaging and sterilizing surgical instruments are also included in this zone. The different areas in this zone are physically separated from each other. Within this zone, the cleanest is the OT where the patient's tissues are exposed during surgery.
- Zone 2 is the restricted zone where entry is restricted. It is the transitional area between the outer zone and the aseptic zone. Persons entering this zone have to change to protective clothing and footwear to prevent contamination of the surroundings.
- Zone 1 is also called the outer zone and has similar level of cleanliness as other patient-care areas in the hospital. It is the zone where patients are received and administrative functions are carried out. Toilets are located in this zone.
- Zone 4 or disposal zone is a relatively dirty zone. Staff working in this area need to wear special protective wear for their protection. There should be no movement of staff or equipment from this zone to cleaner zones of the OT. This zone is connected by a separate corridor (also called "dirty corridor") leading out of the OT.

### Surgical antimicrobial prophylaxis

- Surgical antimicrobial prophylaxis (SAP) should be administered before the surgical incision when indicated (depending on the type of operation). This is based on the hospital antibiotic policy.
- The initial dose of prophylactic antimicrobial agent should be administered by the intravenous route, timed such that a bactericidal concentration of the drug is established in serum and tissues when the incision is made.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Administration of SAP should be within 120 minutes of incision, while considering the half-life of the antibiotic.
- SAP should not be prolonged after the completion of the operation and is not recommended in the presence of a wound drain for the purpose of preventing SSI.

To reduce the stay in hospital, patients are discharged before incision has healed. The patient should be educated as to how to take care of the incision site, personal hygiene, about signs and symptoms of infection and whom to contact if infection occurs (see Chapter 7 for details of SSI).

## B. IPC in ICU

Intensive care units (ICUs) house patients that are particularly vulnerable and at five- to ten-times at higher risk of HAI. With defences compromised due to various invasive devices such as peripheral and central lines, urinary catheters and mechanical ventilators, they are particularly prone to device-related infections. Intrinsic factors such as immunosuppression and comorbidities compound their vulnerabilities. Patients in the ICU are also exposed to broad-spectrum antibiotics and are susceptible to multidrug-resistant organisms such as *Acinetobacter* spp. and *Pseudomonas* spp.

### Patients at risk of HAI

Patient, therapy and environment-related risk factors for the development of HAI are:

- Age >70 years
- Shock, major trauma, acute renal failure, coma
- Prior antibiotics
- Mechanical ventilation
- Indwelling catheters
- Immunocompromised patients on steroids or chemotherapy
- Prolonged ICU stay (>3 days)





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

## IPC practices

Standard precautions should be applied for all patients in the ICU. In addition, transmission-based precautions should be applied to standard precautions to prevent infections where route of transmission is known (see also Chapter 4).

### ICU footwear

- Special well-fitting footwear with impervious soles should be worn in the ICU.
- Footwear should be regularly cleaned to remove splashes of blood and body fluids.
- The ICU footwear must not be taken out of the ICU to other areas of the hospital.

## Bundle approach to prevent device-associated infections

Since device-associated infections form a major burden of HAIs, a bundled care approach has proven to achieve high levels of compliance with better outcomes.

### What is a care bundle?

A care bundle identifies a set of key interventions deriving from evidence-based guidelines that, when implemented, are expected to improve health outcomes of patients. The aim of care bundles is to improve health outcomes by facilitating and promoting changes in patient care and to encourage compliance to guidelines.

Implementation of care bundles creates an important opportunity to deliver evidence-based and safe healthcare to patients using a multimodal or multidisciplinary approach. Training of staff is one of the most important components of a care bundle for prevention of HAI.

Care bundles for prevention of device-associated infections are:

- 1) Ventilator-associated pneumonia (VAP) bundle
- 2) Central line-associated bloodstream infection bundle
- 3) Catheter-associated urinary tract infection bundle



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

## 1) Ventilator-associated Pneumonia

- a) Pneumonia is the second most common HAI reported in the world and is associated with substantial morbidity and mortality.
- b) Pneumonia due to infective causes occurring in a patient on mechanical ventilation is termed ventilator-associated pneumonia or VAP.
- c) Most patients with healthcare-associated pneumonia are those with extremes of age, severe underlying disease, immunosuppression, depressed sensorium and cardiopulmonary disease, and those who have had thoraco-abdominal surgery.
- d) Most bacterial healthcare- associated pneumonia occur by aspiration of bacteria colonizing the oropharynx or upper gastrointestinal tract of the patient.
- e) Intubation and mechanical ventilation greatly increase the risk of bacterial pneumonia because they alter first-line patient defences.

### Prevention of VAP

Strategies to prevent VAP are:

#### 1. Maintenance of in-use respiratory therapy equipment

- Fluids, nebulized or used in a humidifier should be sterile and dispensed aseptically.
- Fluid reservoirs should be filled immediately before use. Fluid should not be added to replenish partially filled reservoirs. Residual fluid should be discarded and the reservoir filled with fresh fluid.
- Water that has condensed in tubing should be discarded and not allowed to drain back into the reservoir.
- Disposable supplies such as nasal prongs, tubing, masks, ventilator and breathing circuits are for single patient use only.
- When a respiratory therapy machine is used to treat multiple patients, the breathing circuit must be changed between patients.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Maintain ventilator circuits
  - Change the ventilator circuit only if visibly soiled or malfunctioning.
  - Changing the ventilator circuit as needed rather than on a fixed schedule has no impact on VAP rates or patient outcomes but decreases costs.

2. Processing reusable equipment

- All equipment to be sterilized or disinfected should be thoroughly cleaned first to remove organic material such as blood, secretions or other residue/ soil.
- Respiratory therapy equipment that touches mucous membranes or is a non-disposable part of a breathing circuit should receive high-level disinfection or be sterilized.
- Coolant chambers for ultrasonic nebulizers are difficult to disinfect adequately and should have at least 30 minutes contact with a high-level disinfectant or be gas-sterilized (ethylene oxide). This is not necessary if a disposable chamber is used.
- Hand-powered resuscitation bags that have been used for a patient should receive high-level disinfection or be sterilized (unless disposable).

3. Suctioning of the respiratory tract

- Frequent suctioning causes excessive trauma and risk of cross contamination. Suctioning should be done only when needed to reduce excessive secretions.
- Suctioning should be performed using gloves on both hands and protective eyewear and mask.
- A sterile catheter should be used for each series of suctioning (defined as a single suctioning or repeated suctioning done with only brief periods intervening to clear or flush the catheter).
- Catheter should be flushed with sterile fluid in case flushing is required. Fluid that has been used for one series of suctioning should be discarded.
- Suction connecting tubing and suction canisters should be changed between patients, and daily for ongoing patients.
- Unless disposable, suction canisters should be thoroughly cleaned to remove organic material,



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

then receive high-level disinfection or be sterilized.

**Bundle of care for prevention of VAP**

- Elevation of the head of the bed between 30 and 45 degrees
- Peptic ulcer disease prophylaxis
- Deep venous thrombosis (DVT) prophylaxis unless contraindicated
- Daily mouth care with chlorhexidine

**2) Catheter-related bloodstream infection and CLABSI**


Central line-associated bloodstream infection (CLABSI) may be caused by cutaneous microorganisms that contaminate the catheter during insertion or migrate along the catheter track or by microorganisms from the hands of HCWs during interventions. The most frequently implicated organisms are: *Coagulase-negativestaphylococci*, particularly *Staph. epidermidis*. Other organisms are *Staph. aureus*, *Candida spp.*, *Enterococci* and *Gram-negative* organisms.

**Routes of contamination of catheters**

There are four recognized routes for contamination of catheters:

- Migration of skin organisms at the insertion site into the cutaneous cathetertract and along the surface of the catheter with colonization of the catheter tip(most common route of infection for short-term catheters)
- Direct contamination of the catheter or catheter hub by contact with hands or contaminated fluids or devices
- Through the bloodstream from another focus of infection
- Contaminated infusate

**Types of vascular catheters**

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	<p>DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b></p>	<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<p><b>HOSPITAL INFECTION CONTROL MANUAL</b></p>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

**Table 6.1** gives details of various types of catheters used for venous and arterial access.

### Selection of catheter type

- Polytetrafluoroethylene or polyurethane catheters have been associated with fewer infectious complications than catheters made of polyvinyl chloride or polyethylene but there is no evidence that demonstrates conclusively that CLABSI rates vary with different materials.
- Generally polyurethane is considered suitable for short-term use, and silicone for long-term use.

### Prevention of catheter-related infections


Strategies to prevent CLABSI are:

#### *Education, training and staffing*

- Educate HCWs regarding the indications for intravascular catheter use, proper procedures for the insertion and maintenance of intravascular catheters, and appropriate infection control measures to prevent intravascular catheter-related infections.
- Periodically assess knowledge of and adherence to guidelines for all personnel involved in the insertion and maintenance of intravascular catheters.
- Designate only trained personnel who demonstrate competence for the insertion and maintenance of peripheral and central intravascular catheters.
- Ensure appropriate nursing staff levels in ICUs.

#### *Selecting the best insertion site: peripheral catheters and midline catheters*

- Use an upper extremity instead of a lower-extremity site for catheter insertion.
- Replace a catheter inserted in a lower-extremity site to an upper-extremity site as soon as possible.
- In paediatric patients, the upper or lower extremities or the scalp (in neonates or young infants) can be used as the catheter insertion site.

 <p>Dr. Vithalrao Vikhe Patil Foundation Ahmednagar</p>	DR.VITHALRAO VIKHE PATIL FOUNDATION'S <b>DR VIKHE PATIL MEMORIAL HOSPITAL</b>	<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
		<b>Issue No.</b>	01
		<b>Rev. No</b>	00
	<b>HOSPITAL INFECTION CONTROL MANUAL</b>	<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
		<b>Date of Imp.</b>	
		<b>Rev. Date</b>	-

**Table 6.1.** Catheters used for venous and arterial access

Sr No	Catheter type	Entry site	Length	Comments
1)	Peripheral venous catheters	Usually inserted in veins of forearm or hand	<7.5 cm	Phlebitis with prolonged use; rarely associated with bloodstream infection (BSI)
2)	Peripheral arterial catheters	Usually inserted in radial artery; can be placed in femoral, axillary, brachial, posterior tibial arteries	<7.5 cm	Low infection risk; rarely associated with BSI
3)	Midline catheters	Inserted via the antecubital fossa into the proximal basilic or cephalic veins; does not enter central veins, peripheral catheters	7.5–20 cm	Anaphylactoid reactions have been reported with catheters made of elastomeric hydrogel; lower rates of phlebitis than short peripheral catheters
4)	Non-tunnelled central venous catheters (CVCs)	Percutaneously inserted into central veins (subclavian, internal jugular or femoral)	28 cm depending on patient size	Account for majority of CLABSI
5)	Pulmonary artery catheters	Inserted through an introducer in a central vein (subclavian, internal jugular or femoral)	30 cm depending on patient size	Usually heparin bonded; similar rates of BSI as CVCs; subclavian site preferred to reduce risk of infection
6)	Peripherally inserted central venous catheters (PICC)	Inserted into basilic, cephalic, or brachial veins and enter the superior vena cava	20 cm depending on patient size	Lower rate of infection than non-tunnelled CVCs
7)	Tunnelled CVCs	Implanted into subclavian, internal jugular or femoral veins	28 cm depending on patient size	Cuff inhibits migration of organisms into catheter tract; lower rate of infection than non-tunnelled CVC



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

Sr No	Catheter type	Entry site	Length	Comments
8)	Totally implantable	Tunnelled beneath skin and have subcutaneous port accessed with a needle; implanted in subclavian or internal jugular vein	22-28 cm depending on patient size	Lowest risk for CLABSI; improved patient self-image; no need for local catheter- site care; surgery required for catheter removal
9)	Umbilical catheters	Inserted into either umbilical vein or umbilical artery	2-6 cm depending on patient size	Risk for CRBSI similar with catheters placed in umbilical vein versus artery

*Aseptic technique during catheter (CVC/umbilical) insertion*

- Aseptic technique during CVC placement significantly reduces the risk of infection.
- Strict adherence to hand decontamination and aseptic technique shall be practised.
- Maximal sterile barrier precautions shall be used, regardless of whether the placement takes place in the OT or ward. This should include the use of a sterile gown, gloves, cap, mask and a sterile full body drape for insertion of CVCs or PICCs.
- Use sterile sleeve to protect pulmonary catheters during insertion.

*Skin preparation*

- Prepare clean skin with an antiseptic (70% alcohol, tincture of iodine, an iodophor or chlorhexidine gluconate) before insertion of a peripheral venous catheter.
- Prepare clean skin with a >0.5% chlorhexidine preparation with alcohol before insertion of a central venous catheter or peripheral arterial catheter and during dressing changes. If there is a contraindication to chlorhexidine, use tincture of iodine, an iodophor or 70% alcohol.
- Antiseptics should be allowed to dry according to the manufacturer's recommendation before



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

placing the catheter.

### *Antibiotic prophylaxis*

- Systemic antimicrobials should not be routinely administered before insertion or during use of a central venous catheter to prevent catheter colonization or CLABSI.

### *Care of pressure monitoring systems*

- Keep all components of the pressure monitoring system (including calibration devices and flush solution) sterile.
- Minimize the number of manipulations of and entries into the pressure monitoring system. Use a closed-flush system (i.e. continuous flush), rather than an open system (i.e. one that requires a syringe and stopcock) to maintain the patency of the pressure monitoring catheters.
- When the pressure monitoring system is accessed through a diaphragm rather than a stopcock, wipe the diaphragm with an appropriate antiseptic before accessing the system.
- Do not administer dextrose-containing solutions or parenteral nutrition fluids through the pressure monitoring circuit.

### **Types of gloves**

Table 6.2 gives the types of gloves that should be used for procedures and for catheter care.

### **Bundle of care for prevention of CLABSI**

#### ***Insertion bundle***

- Maximal sterile barrier precautions (surgical mask, sterile gloves, cap, sterile gown, and large sterile drape).
- Skin cleaning with alcohol-based chlorhexidine (rather than iodine).
- Avoidance of the femoral vein for central venous access in adult patients; use of subclavian rather





Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

than jugular veins.

- Dedicated staff for central line insertion and competency training/assessment.
- Standardized insertion packs.
- Availability of insertion guidelines (including indications for central line use) and use of checklists with trained observers.
- Use of ultrasound guidance for insertion of internal jugular lines.

***Maintenance bundle***

- Daily review of central line necessity
- Prompt removal of unnecessary lines
- Disinfection before manipulation of the line
- Daily **chlorhexidine** washes (in ICU, patients >2 months)
- Disinfect catheter hubs, ports, connectors, etc. before using the catheter
- Change dressings and disinfect site with alcohol-based chlorhexidine every 5–7 days (change earlier if soiled)
- Replace administration sets within 96 hours (immediately if used for blood products or lipids)
- Ensure appropriate nurse-to-patient ratio in ICU (1:2 or 1:1)

**Table 6.2.** Characteristics of gloves

Clean gloves	Peripheral intravascular catheter (if access site not touched after application of skin antiseptics)
Sterile gloves	Arterial catheter Central catheter Midline catheter
Sterile gloves	Guide-wire exchange
Clean or sterile gloves	Changing dressing on intravascular catheter



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### 3) Catheter-associated urinary tract infection

Catheter-associated urinary tract infection (CAUTI) is usually defined as a UTI (significant bacteriuria plus symptoms and/or signs attributable to the urinary tract with no other identifiable source) in a patient with current urinary tract catheterization or who has been catheterized in the past 48 hours.

#### Risk factors for CAUTI

**Table 6.3** gives the risk factors for symptomatic UTI and asymptomatic bacteriuria.

#### Strategies for prevention of CAUTI

##### *Catheter indications*

- Urinary catheters shall be inserted only when necessary and left in place for as long as necessary. They should not be used solely for the convenience of patient-care personnel.

Symptomatic UTI	Bacteriuria
Prolonged catheterization	Disconnection of drainage system
Female gender	Lower professional training of inserter
Older age	Placement of catheter outside of OT
Impaired immunity	Incontinence
	Diabetes
	Meatal colonization
	Renal dysfunction
	Orthopaedic/ neurology services

- Avoid use of urinary catheters for the management of urinary incontinence.
- Use urinary catheters in operative patients only when necessary rather than routinely.
- For operative patients who have an indication for an indwelling catheter, remove the catheter



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use.

***Catheter Insertion***

- Thoroughly wash hands or use ABHR before inserting the catheter.
- Catheters should be inserted using aseptic technique and sterile gloves and equipment.
- Sterile gloves, drapes, sponges, an appropriate antiseptic solution for periurethral cleansing, and a single-use packet of lubricant jelly should be used for insertion. The patient should be appropriately draped and sterile personal protective equipment shall be worn by the HCW inserting the catheter
- Indwelling catheters should be properly secured after insertion to prevent movement and urethral traction.

***Urinary catheter maintenance***

- Maintain a closed drainage system
- If breaks in aseptic technique, disconnection or leakage occur, the catheter and the collecting system should be replaced using aseptic technique.
- Keep the catheter and collecting tube free from kinking. The collecting bag should be kept below the level of bladder at all times. The collecting bag should be emptied regularly using a separate, clean, collecting container for each patient. Never place the drainage bag in a place that can contaminate it, e.g. the floor
- Indwelling catheters or drainage bags should not be changed at routine/ fixed intervals.
- Unless clinical conditions exist (e.g. in patients with bacteriuria on catheter removal post-urological surgery), systemic antimicrobials should not be administered to prevent CAUTI.
- The periurethral area should not be cleaned with antiseptics to prevent CAUTI. Routine hygiene (e.g. cleansing of meatal surface during daily bathing or showering) is appropriate.
- Irrigation should be avoided unless obstruction is anticipated (e.g. as might occur with bleeding after prostatic or bladder surgery); closed continuous irrigation may be used to prevent



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

obstruction.

- Intermittent irrigation should only be used to relieve obstruction due to clots, mucus or other causes. A large-volume sterile syringe and sterile irrigate should be used and then discarded. Aseptic technique shall be used. The catheter-tubing junction should be disinfected before disconnection.
- If the catheter becomes obstructed, it should be changed if it is likely that the catheter is contributing to the obstruction (e.g. formation of concretions).
- Small volumes of fresh urine for examination can be obtained from the sampling port. The port should be disinfected and urine aspirated with a sterile needle and syringe or other collection device (e.g. vacutainer).
- Larger volumes of urine for special analyses (not culture) should be obtained aseptically from the drainage bag.

***Other issues***

- Change the drainage bag when inserting a new catheter. Also, change the drainage bag when it becomes stained, clouded by sediment or leaks.
- Encourage fluids within limits the patient can medically tolerate. Flush the urinary system from the inside out, the so-called "natural flush". Normal fluid intake should be around 2000 ml daily.
- Avoid clamping before catheter removal.

**4) Bundle of care for prevention of CAUTI**

***CAUTI insertion bundle***

- Verification of need prior to insertion
  - Urinary retention/obstruction
  - Severely ill/immobility
  - Lack bladder control



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

- Patient request/end of life
- Perioperative – selected surgical procedure
- Assisting with pressure ulcer healing for incontinent patients
  
- Insert urinary catheter using aseptic technique
  - Hand hygiene
  - Catheter insertion kit with sterile gloves, drape, cleaning supplies
  - Sterile lubricant
  - Sterile urinary catheter attached to a drainage bag
  
- Maintain urinary catheter based on recommended guidelines
  - Secure catheter to prevent irritation of the urethra
  - Maintain an unobstructed flow
  - Maintain the drainage bag below the level of the bladder and off the floor
  - Perform hand hygiene before and after each patient contact
  - Provide individual labelled collection container at the bedside
  - Review urinary catheter necessity daily, remove catheter promptly when not needed

***CAUTI maintenance bundle***

- Daily documented assessment of need
- Catheter secured – device to secure catheter in place
- Hand hygiene performed for patient contact
- Daily meatal hygiene performed with soap and water
- Drainage bag emptied using a clean container
- Unobstructed flow maintained



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

### C. IPC in Material and Neonatal Units

**Table 6.4.** Summary of WHO recommendations for prevention and treatment of maternal peripartum infections·

Context	Recommendation
Prevention of peripartum infections	1. Routine perineal/pubic shaving prior to giving vaginal birth is not recommended.
	2. Digital vaginal examination at intervals of four hours is recommended for routine assessment of active first stage of labour in low-risk women.
	3. Routine vaginal cleansing with chlorhexidine during labour for the purpose of preventing infectious morbidities is not recommended.
	4. Routine vaginal cleansing with chlorhexidine during labour in women with group B Streptococcus (GBS) colonization is not recommended for prevention of early neonatal GBS infection.
	5. Intrapartum antibiotic administration to women with GBS colonization is recommended for prevention of early neonatal GBS infection.
	6. Routine antibiotic prophylaxis during the second or third trimester for all women with the aim of reducing infectious morbidity is not recommended.
	7. Routine antibiotic administration is not recommended for women in preterm labour with intact amniotic membranes.
	8. Antibiotic administration is recommended for women with preterm pre-labour rupture of membranes.
	9. Routine antibiotic administration is not recommended for women with pre-labour rupture of membranes at (or near) term.
	10. Routine antibiotic administration is not recommended for women with meconium-stained amniotic fluid.
	11. Routine antibiotic prophylaxis is recommended for women undergoing manual removal of the placenta.
	12. Routine antibiotic prophylaxis is not recommended for women undergoing operative vaginal birth (caesarean section).



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

Context	Recommendation
	13. Routine antibiotic prophylaxis is recommended for women with a third-or fourth-degree perineal tear.
	14. Routine antibiotic prophylaxis is not recommended for women with episiotomy.
Prevention of peripartum infections	15. Routine antibiotic prophylaxis is not recommended for women with uncomplicated vaginal birth.
	16. Vaginal cleansing with povidone-iodine immediately before caesarean section is recommended.
	17. The choice of an antiseptic agent (povidone-iodine or chlorhexidine) and its method of application for skin preparation prior to caesarean section should be based primarily on the clinician's experience with that particular antiseptic agent and method of application, its cost and local availability.
	18. Routine antibiotic prophylaxis is recommended for women undergoing elective or emergency caesarean section. <ul style="list-style-type: none"> <li>• For caesarean section, prophylactic antibiotics should be given prior to skin incision, rather than intra-operatively after umbilical cord clamping.</li> <li>• For antibiotic prophylaxis for caesarean section, a single dose of first-generation cephalosporin or penicillin should be used in preference to other classes of antibiotics.</li> </ul>
Treatment of peripartum infection	19. A simple regimen such as ampicillin and once-daily gentamicin is recommended as first-line antibiotics for the treatment of chorioamnionitis.
	20. A combination of clindamycin and gentamicin is recommended as first-line antibiotics for the treatment of postpartum endometritis.

- Cord Care
  - o Perform hand hygiene before and after cord care



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

- o Keep cord stump clean and dry
- o Do not cover the cord stump with dressing or bandage
- o Educate the mother to examine the stump for redness or presence of pus/blood and to report to the clinic as soon as possible if this happens

## **Prevention of infection during procedures in Neonatal unit**

### **Preparation of intravenous fluids**

- Intravenous (IV) administration of fluids and drugs are a potent source of infection for the vulnerable neonate. Outbreaks of sepsis have often implicated IV fluids as either the source or vehicles of transmission between neonates. Strict attention to aseptic technique is essential in the preparation and administration of IV fluids.
- As far as possible procure base solutions such as IV glucose, saline solutions in paediatric packings/ small amounts rather than use adult packaging and transfer into smaller aliquots. Avoid procurement of multi-dose vials as far as possible; single use ampoules/ vials are preferred.
- Have a designated area to prepare IV infusions. Clean area with a disinfectant before a procedure.
- Gather the necessary materials (IV fluids, drugs, syringes, needles, swabs, 70% alcohol, etc.).
- Examine the IV fluid containers, ampoules and vials for expiry date, cracks, leaks, cloudy consistency, flakes, etc.
- Perform hand hygiene either by hand washing using medicated soap followed by drying with a single-use towel, or ABHR (it is important that hands are dry before starting the procedure).
- Disinfect the port of IV bottles/bags with 70% alcohol immediately before removing/adding fluids.
- Wear sterile gloves.
- Use sterile, needle/ syringe for each IV fluid bottle and ampoule/ vial using the no-touch technique during mixing of IV fluids and medications.
- Never enter IV fluids and bottles with a needle, except through a designated port.





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Label the prepared bottle with patient's name, registration number, date and time of preparation.
- If need to be stored in fridge, do not refrigerate for more than 24 hours. Discard after 24 hours in fridge and after 8 hours at room temperature.
- The improper use of multi-dose vials can be a cause and source of infection in the neonate. (Recommendations for the use of multi-dose vials are given in Chapter 4.)
- Strict aseptic technique to be followed during administration of IV fluids, and closed system to be maintained at all times.

#### **IV Therapy and umbilical catheter care**

Umbilical vessel catheters are frequently used in the initial management of the sick neonate. There is increased potential of bacterial colonization as this site is non-sterile and there is presence of devitalized cord tissue. Umbilical catheters should be replaced by percutaneous peripheral or central venous catheters in neonates requiring long-term access.

- Umbilical catheters should be inserted using sterile techniques.
- Umbilical catheters should only be replaced if catheter site is infected or catheter malfunctions.
- Do not replace umbilical catheter if there are signs of CRBSI or thrombosis. In addition, for the umbilical artery catheter, do not replace if there are signs of vascular insufficiency.
- Clean umbilical site before insertion with appropriate disinfectant avoiding tincture of iodine due to its potential effect on neonatal thyroid. Povidone-iodine can be used.
- Do not use topical antibiotic or creams due to potential for fungal infection and AMR.
- Low-dose heparin can be added to the fluid infused through umbilical arterial catheter.
- Umbilical arterial catheters should be removed as soon as possible and not be left in place for more than 5 days. Remove the catheter if there are signs of vascular insufficiency in the lower limbs.
- Umbilical venous catheters should be removed as soon as possible and left in place for not more than 14 days



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## D. IPC in Dialysis Units

Infection is the most common cause of hospitalization and the second most common cause of mortality among haemodialysis (HD) patients, after cardiovascular disease. HD patients are exposed to different types of infection, which include BSI and localized infections of the vascular access, blood-borne infections (HBV, HCV and/ or HIV) and airborne infections such as tuberculosis.

Outbreaks of HCV infections in HD facilities, which occur frequently, have often been due to poor infection control practices. Sources of infections could be contaminated water, equipment and environmental surfaces in the treatment area and patients with infections who pose a risk to other nearby patients.

### IPC programme in the dialysis unit

Patients undergoing haemodialysis are at increased risk of HAIs.

A doctor or a senior nurse working in the unit should be given responsibilities of IPC activities. The role of this link person includes

- Monitoring of IPC practices
- training of new staff and ongoing training of all staff
- Periodic surveillance to assess risk
- Implementation of preventive bundles

It is important that this link person communicates and networks with the facility IPC team and all members of the HD team.

### Measures to reduce risk of infection in HD patients

In the haemodialysis setting, contact transmission plays a major role in transmission of blood-borne



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

pathogens. Transmission occurs via hands of HCWs, contaminated with infected blood directly or indirectly from contaminated surfaces and equipment.

- Standard precautions are to be used routinely on all patients and include use of gloves, disposable plastic aprons or gown, mask (whenever needed), to prevent contact of HCWs with blood, secretions, excretions or contaminated items.
- Respiratory etiquette should be observed routinely.
- Patient identified with an airborne illness should be masked immediately and separated from other patients in a single room which is preferably under negative pressure.
- The patient and nurse must wear a mask when a catheter (not fistula or graft) is connected or disconnected from the blood lines during dialysis.

***IPC for patients with blood-borne infections***

Besides standard precautions, the following points should be kept in mind.

- HBsAg-positive patients should undergo dialysis in a separate room using separate machines, equipment, instruments and supplies.
- Dialysers are discarded in biomedical waste after treatment and cannot be reprocessed or reused.
- Staff caring for HBV patients should be HBV-immune, and cannot care for HBV-positive and -negative patients at the same time.

***Dialysis water***

The patient is exposed to more than 100 litres of water during each session of dialysis. Therefore, water must be purified and filtered. Contaminants must be removed by deionization and reverse osmosis.

Perform bacterial culture and endotoxin assay on dialysate and reverse osmosis water at least monthly and during outbreaks using standard quantitative methods, as per available guidelines. Dialysate should be tested at the end of the treatment day.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### ***Reprocessing and reuse of dialyser sets***

- Reprocessing is performed outside of the dialysis treatment area in a dedicated room. It is the act of cleaning, testing and filling the dialyser with disinfectant solution.
- Reuse is performed in the treatment area. It refers to verification of disinfection, rinsing and testing to ensure the complete removal of all disinfectants, and “reusing” the reprocessed dialyser for the designated (same) patient. Reuse and reprocessing must follow all applicable standard.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

### E. IPC in Immunocompromised Patient

Transplant recipients are at increased risk of HAIs, which can occur due to inadequate engineering controls, improper systems or procedures, breaks in established procedures, lack of monitoring for known contaminants, or inadequately trained and educated staff. In addition to other HAIs, transplant patients may have intra-abdominal infection among liver, small bowel, or other visceral transplant recipients.

Given the high risk of infection in transplant patients, meticulous adherence to IPC practices is an essential requirement for the transplant unit. The unit should have knowledgeable, well-trained staff that understands the implications of deviating from established infection control procedures.

### F. IPC Practices in HCFs during Epidemics/Pandemic

Hospitals and other HCFs play a critical role in national and local responses to emergencies, such as communicable disease epidemics. Primarily, there is a sudden surge of sick persons seeking care resulting in serious challenge to HCFs in maintaining their services to the community and for the staff. Diagnosis and management of patients may also be challenging as the epidemic may be due to a new/emerging or re-emerging disease. The focus of this guidance is on IPC and preparedness during these epidemics.

#### Preparing HCFs for an epidemic

- **Identify the hospital's role** in the overall national and local community response. Some hospitals may be designated by the health authorities to receive only suspected or only confirmed cases of an epidemic disease.
- **Implement IPC measures.** Appropriate measures should be taken to prevent the spread of infection to hospital staff, patients and visitors. The HICC and the hospital management should review and, if required, revise the hospital's IPC protocols. Additional prevention and control measures may be required to cope with the specific nature of an epidemic.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

- **Train hospital staff.** All staff members, irrespective of their individual routine duties, need training in implementing procedures and protocols described in the Hospital Emergency Response Plan. They must also participate in regular drills and exercises needed to maintain a state of readiness for fulfilling their role in the emergency.
  
- **Develop a hospital emergency response plan**
  - Set up of a Hospital Emergency Coordination Centre for holding meetings and managing the emergency response (including information and communication)
  - Develop an SOP for emergencies
  - Develop protocols for patient triage (including the designation of triage areas) and for patient traffic flow within and in the vicinity of the hospital
  - Define measures to ensure the safety of hospital staff
  - Maintain continuity of essential services and routine procedures
  - Develop capacity needed to cope with information and communication activities, human resource issues and logistics
  
- **Establish an epidemic response group and action plan**
  - Develop an Epidemic Action Plan adapted to the specific nature of the epidemic
  - Implement measures to ensure that the hospital has the capacity to meet a sudden increase (“surge”) in the demand for specific services, equipment or supplies created by the emergency/ epidemic
  - Define the roles and responsibilities of the key departments and individuals involved in the response.
  - Identify patient referral pathways within the hospital:  
Casualty → Triage → Emergency → Ward/ ICU/ Isolation
  - Mechanism of referral to other HCFs
  - Mechanism of communication with and reporting to public health authorities.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## **G. IPC Practices in Clinical laboratory**

The clinical laboratory is a workplace where many potential pathogens are encountered on a daily basis. Therefore prevention of laboratory-associated infections has an individual as well public health impact.

### **General laboratory safety practices**

Good personal habits, housekeeping practices and laboratory techniques can all help ensure that the laboratory is a safe place to work.

### **Laboratory design and facilities**

In designing a laboratory, special attention should be paid to conditions that are known to pose safety problems. Overcrowding and too much equipment must be avoided. Infestation with rodents and arthropods must be prevented.

*(Refer Laboratory Manual)*



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## Healthcare-associated infections and their surveillance

### A. Surveillance of healthcare-associated infections

#### Introduction

Surveillance of HAIs allows the health system to (i) estimate the burden of diseases in terms of cases reported, deaths occurred and costs incurred; (ii) detect outbreaks and emerging pathogens and pattern of resistance; and (iii) monitor the quality of IPC measures/ strategies.

Surveillance of HAIs is a basic requirement for organizing and maintaining an effective IPC programme and to substantially reduce morbidity and mortality.

Routine HAI surveillance in HCFs should be conducted by an infection control officer or ICN by systematically collecting patient-based, prospective, priority-directed data that yield risk-adjusted rates of incidence.

#### Types of surveillance appropriate for HAIs

- **Active surveillance.** This involves systematic collection of data by a designated trained hospital infection control professional/nurse. Information is accumulated by using a variety of data sources within and beyond the wards.  
(Passive surveillance consists of reporting of any occurrence of suspected HAI by clinicians or ward staff nurses, and is not an efficient method to track HAIs.)
- **Process and outcome surveillance.** This is an audit of a practice or process of IPC such as hand hygiene or care bundles. Outcome surveillance aims to detect an HAI event such as BSI, UTI, etc.
- **Clinical/patient-based surveillance.** This involves counting of HAIs, assessing risk factors, and monitoring patient care procedures and practices for adherence to the principles of IPC. This also requires ward rounds and discussion with caregivers.
- **Laboratory-based surveillance.** This surveillance is based solely on the findings of laboratory studies of clinical specimens. The microbiology laboratory also carries out studies on patterns of AMR for common isolates and new or emerging pathogens and patterns of resistance. This information is reported to the HICC and various clinical units of the HCF.
- **Priority-directed and comprehensive surveillance.** Priority-directed surveillance, also called targeted, focused or surveillance by objectives, focuses on specific events, processes, organisms and/ or patient populations.





DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### **HAI surveillance with limited resources-**

HCFs with limited resources and minimal trained staff should carry out the following basic surveillance.

#### **Process surveillance**

This involves auditing certain IPC practices (e.g. hand hygiene) against a standard such as an evidence-based practice, guideline or policy. This guidance or policy should be available to the staff and they must have received the training according to their role in the HCF (doctor, nurse, attendant, housekeeping, etc.).

The practices to be monitored include the following.

- Hand hygiene
- Urinary catheter insertion
- Using multi-dose vials
- Safe injection practice
- Preparation of surgical incision site
- Insertion of vascular catheter
- Waste segregation
- Handling of sharps

Observational forms or checklists should be developed for each IPC practice that is subjected to process surveillance

#### **Outcome surveillance**

This includes surveillance for HAI rates for the following common types of HAIs.

- Surgical site infection
- Urinary tract infection
- Respiratory infection
- Bloodstream infection
- Gastrointestinal infection



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### **Prevalence survey**

HCFs that have not started outcome surveillance, have limited resources and do not have any data on HAI rates in their facility, can undertake a prevalence survey.

### **Data to be collected**

- Clinical chart review for patients having fever and on antimicrobial therapy (which is a sensitive indicator of HAIs).
- Review the microbiology reports if available.
- Data collected for a probable case includes patient number, age, gender, location, associated comorbidity such as diabetes, type of infection, site and severity of infection, investigations done for infection.
- In case of an SSI, whether surgery was performed at the hospital within the preceding 30 days (or within 1 year if an implant was in place), the date of surgery and type of surgery are recorded.

### **Denominators**

- Number of patients present/ admitted in the ward on that day
- For device-related HAIs: total device days of the existing patients in the ward
- Reporting and feedback

Reporting to the HICC and feedback to the wards/ units is essential. This gives:

- An estimate of the burden of HAIs in the hospital;
- Comparison between wards and units;
- The interventions that are needed; and
- Priority for interventions.

Prevalence surveys should be repeated at specified intervals for trends and effectiveness of interventions.

### **Incidence surveys**

The minimum outcome incidence rates that should be calculated on a continuing basis are SSI and device-related infections in the ICU.

### **Minimum requirements**



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Administrative support
- Surveillance coordinator: Infection control physician/ doctor or ICN in collaboration with the link nurse from the unit/ department and other clinical members.
- Data entry and analysis. It is helpful to have a hospital information system. At least a computer system is required to enter and analyse data.
- Microbiology laboratory: This is one of the core components of an IPC programme. Besides an adjunct to diagnosis and treatment, the microbiology laboratory is essential for the detection of the source and mode of transmission of infection. This is possible only through microbiology culture and identification and further characterization at the minimum through an antibiogram. The laboratory also detects emerging pathogens and resistance.

## Data sources

### Clinical ward

- Patients who have devices inserted and undergone procedures which have risk of infection such as indwelling vascular or urinary catheters, surgical operations
- Record of fever and other clinical signs consistent with infection
- Antimicrobial therapy
- Laboratory tests such as microbiology cultures
- Medical and nursing chart reviews

### Laboratory reports

Daily review of laboratory reports may be helpful in identifying HAIs.

- Review of patients who have isolation of organisms potentially associated with infection.
- Patterns of AMR can help in identifying issues of emerging resistance.

Laboratory reports alone cannot be relied upon for the following reasons.

- Specimens may not be appropriate
- Some pathogens may be difficult to isolate
- Isolation of an organism may represent colonization and not infection



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

Laboratory reports are necessary for the diagnosis of UTI, BSI and MDRO surveillance.

**Data to be collected**

- Patient number, date of admission to hospital
- Demographic details and risk factors: age, gender, severity of underlying illness, diabetes and any primary diagnosis, indwelling devices, operative procedure, other treatments such as chemotherapy, date, type of HAI event, microorganisms isolated and antimicrobial susceptibility.

The infections should meet the basic definition of HAI, i.e. should be detected after 48 hours (>2 calendar days) of hospitalization.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

## **Surgical site infections**

SSIs are potential complications associated with any type of surgical procedure. HAIs, they still represent a significant burden in terms of patient morbidity, mortality and additional costs to health systems.

### **Definition**

SSI refers to an infection that occurs after surgery in the part of the body where the surgery took place. SSIs can sometimes be superficial infections involving the skin only. Other SSIs are more serious and can involve tissues under the skin, organs, or implanted material.

SSI is also defined as an infection that occurs within 30 days after the operation and involves the skin and subcutaneous tissue of the incision (superficial incisional) and/ or the deep soft tissue (for example, fascia, muscle) of the incision (deep incisional) and/or any part of the anatomy (for example, organs and spaces) other than the incision that was opened or manipulated during an operation (organ/ space).

In some cases, SSI may appear up to 90 days after surgery. These are operations involving surgical implants and these conditions are listed at the end of this chapter.

### **Superficial incisional SSI**

- Drainage of pus from the superficial incision
- Pain, tenderness, localized swelling, redness or heat
- Positive culture from aseptically collected specimen

### **Deep incisional SSI**

Infection appears within 30 days\* of the procedure or within one year if there is an implant or foreign body, such as prosthetic heart valve or joint prosthesis

- Pus discharge from the deep incision (muscle and fascial layers)
- Spontaneous dehiscence or “gaping” of wound
- Fever >38°C, localized pain or tenderness
- Positive culture from aseptically collected specimen



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

**Doc. no**

**DVPMH / NABH / DM /  
HIC /03**

**Issue No.**

01

**Rev. No**

00

**NABH Ref.**

NABH 5<sup>TH</sup> EDITION

**Date of Imp.**

**Rev. Date**

-

### Organ/space SSI

Infection appears in an organ or space within 30 days\* of the procedure in the organ/space that is opened or manipulated during the operative procedure

- Purulent drainage from a drain that is placed into the organ/ space.
- Organisms are identified from fluid or tissue in the organ/ space by a culture.
- An abscess or other evidence of infection involving the organ/ space that is detected on gross anatomical or histopathological examination, or imaging test evidence suggestive of infection.

#### Box. Calculation of SSI rates

- SSI rates per 100 operative procedures are calculated by dividing the number of SSIs by the number of specific operative procedures and multiplying the result by 100.
- SSIs will be included in the numerator of a rate based on the date of procedure, not the date of the HAI event.
- SSI rates can be calculated separately for different types of operative procedures and stratified by the wound classification (clean, clean contaminated, contaminated, dirty).

### Classification of the surgical wound

All surgical wounds are not uniformly prone to infection.

- The type of wound influences the risk of infection.
- It also aids in finding the source of infection.
- It permits the diagnosis of infection even if culture facilities are not available.
- It helps in determining whether antibiotics are necessary.

**Table.** Gives the classification of surgical wounds into various types based on contamination with microorganisms and risk of infection.



DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

Class	Classification	Definition
Class I	Clean	Uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital or uninfected urinary tracts are not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow non-penetrating (blunt) trauma should be included in this category if they meet the criteria.
Class II	Clean-contaminated	Operative wounds in which the respiratory, alimentary, genital or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.
Class III	Contaminated	Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique (for example, open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, non-purulent inflammation is encountered, including necrotic tissue without evidence of purulent drainage (e.g. dry gangrene), are included in this category.
Class IV	Dirty-infected	Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation.

### Risk factors for SSI

Many factors influence surgical wound healing and determine the potential for infection. These include patient-related and process/ procedural-related variables that affect a patient's risk of developing an SSI.

Risk factors for SSI are:

- Host factors
  - Extremes of age
  - Concurrent disease, malnutrition
  - Underlying clinical condition



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	<b>DVPMH / NABH / DM / HIC /03</b>
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

- Skin infections
- Surgical procedure
  - Surgical category: clean, clean contaminated or dirty
  - Implant or prosthesis
  - Poor surgical technique
  - Excessive use of diathermy
  - Duration of surgical procedure
  - Haemorrhage, necrosis, haematoma
  - Presence of drains
- Preoperative preparation
  - Inadequate skin preparation – e.g. inappropriate skin disinfectant
  - Shaving the day before surgery
  - Inappropriate antibiotic prophylaxis – inappropriate choice, inadequate dose, inappropriate timing (not within 60 minutes of incision)
- OT – design, discipline, staff
  - Increased traffic and movement of staff
  - Inappropriate clothing
  - Inadequate ventilation
  - Inadequate sterilization and disinfection
  - Open containers of sterile solutions
  - Inadequate cleaning and “breathing time”

**Data to be collected**

- Patient details: age, gender and location
- The severity and the extent of the infection in the patient
- The type of operation and location of the operation (surgical OT, emergency, gynae OT,





Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S  
**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

<b>Doc. no</b>	DVPMH / NABH / DM / HIC /03
<b>Issue No.</b>	01
<b>Rev. No</b>	00
<b>NABH Ref.</b>	NABH 5 <sup>TH</sup> EDITION
<b>Date of Imp.</b>	
<b>Rev. Date</b>	-

etc.)

- Classification of operation: clean, clean contaminated, contaminated, dirty
- The time period between the operation and the development of the infection (the beginning of the operation is the time the surgical incision is made and the end of operation is when the sponge counts are made after wound closure).
- Underlying patient status whether diabetic, infection elsewhere in the body, other comorbidities.
- Microbiological culture: type of specimen, date, organism, antimicrobial susceptibility.

Operated patients should be followed up for at least 30 days after the procedure.

## **Recommendations for the prevention of SSIs**

The following recommendations are important for preparing SSIs and are based on WHO global guidelines on the prevention of SSIs.

### **Preoperative recommendations**

Whenever possible, efforts shall be made to identify and treat all infection remote to the surgical site before elective operation and postpone elective operations on patients with remote site infections until the infection has resolved.

- Ensure adequate control of serum blood glucose levels in all diabetic patients.
- Preoperative bathing of patient by a plain or antimicrobial/medicated soap.
- Administration of surgical antimicrobial prophylaxis (SAP) is prior to the surgical incision when indicated (depending on the type of operation). Various antimicrobials have different half-lives. The timing of administration should be within 120 minutes before incision, while considering the half-life of the antimicrobial.
- Mechanical bowel preparation alone (without the administration of oral antibiotics) should NOT be used in adult patients undergoing elective colorectal surgery.



Dr. Vithalrao Vikhe Patil  
Foundation  
Ahmednagar

DR.VITHALRAO VIKHE PATIL FOUNDATION'S

**DR VIKHE PATIL MEMORIAL  
HOSPITAL**

**HOSPITAL INFECTION CONTROL  
MANUAL**

Doc. no	DVPMH / NABH / DM / HIC /03
Issue No.	01
Rev. No	00
NABH Ref.	NABH 5 <sup>TH</sup> EDITION
Date of Imp.	
Rev. Date	-

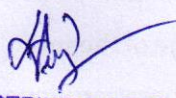
- In patients undergoing any surgical procedure, hair should either NOT be removed or, if absolutely necessary, should only be removed with a clipper. Shaving is strongly discouraged at all times, whether preoperatively or in the OT.
- Patients undergoing cardiothoracic and orthopedic surgery with known nasal Carriage of *Staph. Aureus* should receive perioperative intranasal applications of mupirocin 2% ointment with or without a combination of chlorhexidine (CHG) body wash.<sup>116</sup>
- Preparation of the surgical site: alcohol-based antiseptic solutions based on CHG for surgical site skin preparation in patients undergoing surgical procedures (CHG is a better choice than povidone-iodine because of rapid onset and persistent antimicrobial activity).
- Antimicrobial sealants should not be used after surgical site skin preparation for reducing SSI.
- Enhance nutritional support for underweight patients who undergo major surgical operations by administration of oral or enteral multiple nutrient-enhanced nutritional formulas.


## UTI

Positive urine culture limited to one-two species of organisms with  $10^5$  CFU/ml, with or without clinical symptoms.

At least one of following factors with no other recognized cause:

- Fever ( $>38^\circ\text{C}$ )
- Suprapubic tenderness
- Urgency
- Frequency
- Dysuria

  
MEDICAL SUPERINTENDENT  
DR. VIKHE PATIL MEMORIAL HOSPITAL  
AHMEDNAGAR

	Dr. Vithalrao Vikhe Patil Foundation's	Doc. No.	E/HCO/DVPMH/PRE/ 1-2
	<b>PATIENTS AND FAMILY RIGHT TO INFORMATION AND EDUCATION</b>	Issue No.	01
Rev. No		00	
Date		08.03.2020	
Page		Page 1 of 10	

## PROTECTION OF PATIENT FROM PHYSICAL ABUSE AND NEGLECT

### 1.0 PURPOSE:

To define policies guiding the Protection of patient from Physical abuse and Neglect

### 2.0 SCOPE:

- 1.1 The entire scope of services provided In Patient, Out Patient & Emergency Patient care areas in the hospital.

### 3.0 RESPONSIBILITY:

- 3.1 Management
- 3.2 Medical staff
- 3.3 Nursing staff

### 4.0 ABBREVIATION:

- 4.1 NABH : National Accreditation Board For Hospitals and Healthcare providers
- 4.2 PRE : Patient Rights and education

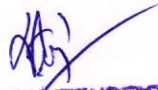
### 5.0 DEFINITION:


Patient falling from the bed/trolley due to negligence, assault, repeated internal examinations (unwarranted), manhandling, etc. Special precautions shall be taken especially with respect to vulnerable patients, e.g. elderly, neonates, physically and mentally challenged patients, comatose patients, patients under anaesthesia etc.

### 6.0 POLICY:

#### Protection from physical abuse or neglect

1. Vulnerable patients will not be left alone at any given time.
2. Female patients and children of both genders will be attended for
3. Their physical interventions such as bathing and toilet by a female attendant.
4. All minors will only be admitted along with an attendant approved by the family (except in NICU).
5. Special requests made by the patient/family will be respected.
6. Regular monitoring will be ensured by supervisory staff to ensure the safety and security of vulnerable patients. Mentors will be allotted.

  
 MEDICAL SUPERINTENDENT  
 DR. VIKHE PATIL MEMORIAL HOSPITAL  
 AHMEDNAGAR

	Dr. Vithalrao Vikhe Patil Foundation's	Doc. No.	E/HCO/DVPMH/PRE/ 1-2
	<b>PATIENTS AND FAMILY RIGHT TO INFORMATION AND EDUCATION</b>	Issue No.	01
Rev. No		00	
Date		08.03.2020	
Page		Page 2 of 10	

### 6.1 LIST OF VULNERABLE PATIENTS


- New born babies
- Postnatal mothers
- Pregnant ladies
- Children with cerebral palsy
- Hyper active children
- Autistic children
- Post OP Patients
- Post partum patients showing signs of psyche
- Elderly functionally dependent
- High risk of abuse, injury, decline
- Being in a dangerous position
- Patients on mechanical ventilation
- Patient above 65 years of age
- Children below 12 years of age
- People with limited physical mobility
- People with impaired mental function
- People with impaired communication
- People with reduced levels of consciousness

### 6.2 ASSESSMENT OF VULNERABLE YOUNG CHILDREN

1. General condition
2. Medical/Surgical Conditions
3. Assessment for a suspected abuse or maltreatment

### 6.3 CARE AND POLICY FOR VULNERABLE PATIENTS

1. Within the hospital the all vulnerable children will be given all-necessary care needed with consideration.
2. If the patient's condition demands further care which is not available in our hospital patient will be transferred to the other hospital/facilities.
3. While transferring the patients a staff nurse will be accompanied by the patient along with the caregiver if needed.
4. Staff taking care
5. of high risk patients must have adequate training and skills.
6. The identified vulnerable patients will be under close monitoring at all times during their hospitalization to minimize risk of health care services.
7. All health care providers will maintain a safe environment related but not limited to equipment, wheelchairs, but rails, mobility needs, fall precautions.

	Dr. Vithalrao Vikhe Patil Foundation's	Doc. No.	E/HCO/DVPMH/PRE/ 1-2
	<b>PATIENTS AND FAMILY RIGHT TO INFORMATION AND EDUCATION</b>	Issue No.	01
Rev. No		00	
Date		08.03.2020	
Page		Page 3 of 10	

8. All health care providers will encourage family involvement and support in care delivery, education as appropriate.
9. Special consent considerations will be taken when needed for each individual case following the hospital approved consenting policies.
10. Once the patient is stabilized with the disease process, they will be fit for the discharge.
11. The discharge patient will be discharged with follow-up advice.
12. All documentation required for the team to work and communicates effectively in the care of high risk patients must be maintained as per hospital documentation policy.


**6.4 For providing care to the vulnerable patients:** The hospital has provided a safe and secured environment of such group including protective measures such as:

- Provisions of beds with padded side rails and wheels in all Intensive care unit and in few wards beds.
- All vulnerable patients shall be received and treated in those wards where the facility is available.
- Ramps in the premises with railing for the disabled.
- Calling bells placed within the hand distance of the patient.
- Frequent visit from the nursing staff for every half an hours.
- Wheel chair accessibility is possible within the hospital.
- The hospital doesn't encourage the admission falling in the above categories, without an attendant.
- Only in case of an emergency the hospital provides immediate medical treatment and refers to appropriate authority and the liaison officer try to locate his / her family member or responsible attendant. And the case is informed to police. The mentally challenged are not admitted in the hospital, as per the Hospital Policy.

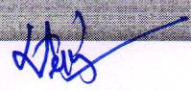
#### 6.5 SAFETY MEASURES

Reduce the risk of patient harm resulting from falls by using safety measures such as adequate light, ventilation, stairs with hand rails, window-door-closer, bed-rails, safety belts on wheel chair, dry floor to prevent from slips or trip, toilet Seat raiser, grab bars in toilets, call bell system, adequate number of bed screens to maintain privacy of the patient, fire extinguishers and fire alarms are available to ensure the safety of the vulnerable patients.



	Dr. Vithalrao Vikhe Patil Foundation's	Doc. No.	E/HCO/DVPMH/PRE/ 1-2
	<b>PATIENTS AND FAMILY RIGHT TO INFORMATION AND EDUCATION</b>	Issue No.	01
Rev. No		00	
Date		08.03.2020	
Page		Page 6 of 10	



  
**MEDICAL SUPERINTENDENT  
 DR. VIKHE PATIL MEMORIAL HOSPITAL  
 AHMEDNAGAR**



Dr. Vithalrao Vikhe Patil Foundation's

Doc. No.

E/HCO/DVPMH/PRE/

1-2

Issue No.

01

Rev. No

00

Date

08.03.2020

Page

Page 4 of 10

## PATIENTS AND FAMILY RIGHT TO INFORMATION AND EDUCATION



# DR. VIKHE PATIL MEMORIAL HOSPITAL & MEDICAL COLLEGE

## VULNERABLE PATIENTS

**DEFINITION** – A patient who is or may be due to any reason unable to protect and take care of him or herself against significant harm or exploitation.

### TYPES OF VULNERABLE PATIENT

1. Below 12 years
2. Above 65 years
3. Terminally ill patients
4. Patient with intense and chronic pain
5. Women experiencing termination and pregnancy
6. Patient with emotional psychiatric disorders
7. Patient receiving chemotherapy
8. Patient suspected of Drug dependency



### CARE OF VULNERABLE PATIENT

#### 1. IDENTIFYING VULNERABLE PATIENT –

- ID band of a yellow color.
- Mention on their medical file

#### 2. SAFETY OR CARE OF VULNERABLE PATIENT -

- Hospital must be disabled friendly environment as many patients categorized as vulnerable will be disabled.
- Such patient should be monitored more frequently for ensuring that they are safe.
- They shall be accompanied by an attendant while going to washroom or any other area.
- The washroom that they use must have grab bars, anti-skid mats and call alarm system.
- While being transported on wheel chairs or stretchers, safety belt shall be put up.
- While transferring the patient a staff nurse will accompany the patient along with the care giver.
- If the patient's condition is critical, will be escorted by a doctor.
- The identified vulnerable patient will be under close monitoring at all time during their hospitalization to minimize risk of health care services.



## असुरक्षित रुग्ण

**परिभाषा** – असुरक्षित रुग्ण म्हणजे जो कोणत्याही कारणारतच लक्षणीय हानी किंवा शोषणापासून स्वतःची काळजी घेऊ शकत नाही.

### असुरक्षित रुग्णाचे प्रकार

१. १२ वर्षांपेक्षा कमी
२. ६५ वर्षांपेक्षा जास्त
३. अतिभ्रंजारी रुग्ण
४. तीव्र वेदना असलेले रुग्ण
५. गर्भपात आणि गर्भधारणा असलेल्या महिला
६. भावनिक मानसिक विकारांनी ग्रस्त
७. केमोथेरपी घेणाऱ्या रुग्ण
८. औषधे अवलंबित्वाचा संशय असलेला रुग्ण


### असुरक्षित रुग्णांची काळजी

१. असुरक्षित रुग्ण करारा ओळखावा
- निष्क्रिय रंगाचा आयडी बँड
- रवाच्या वैद्यकीय फाईलवर उल्लेख करा

#### २. असुरक्षित विधिलेची सुरक्षा किंवा काळजी


- असुरक्षित रुग्णांसाठी अनुकूल वातावरण असावे.
- अशा रुग्णांचे वाचन करीत राहणे गरजेचे आहे.
- स्वच्छतागृहामध्ये किंवा इतर कोणत्याही दिव्यानी जाताना त्यांच्या सोबत माता/मावशी असावे.
- ते वापरत असलेल्या स्वच्छतागृहामध्ये घसरू नये म्हणून घड्याटासाठी धाबक्या असावी व न घडल्याने फरती असावी आणि गरजेची सुविधा असावी व्हीलचेअर किंवा स्ट्रॉलरने नेताना रोस्टी घेतल्या जाव्यात.
- रुग्णात स्थलांतरित करताना नर्स, माता/मावशीने त्यांची काळजी घ्यावी
- जर रुग्णाची प्रकृती गंभीर असेल तर डॉक्टरांनी सोपत घ्यावी.
- आरोग्यसोयीचा धोका कमी करण्यासाठी रुग्णांसाठी दखल होताना रुग्णांची नेहमी देखरेख करावी.

**MEDICAL SUPERINTENDENT  
DR. VIKHE PATIL MEMORIAL HOSPITAL  
AHMEDNAGAR**

	Dr. Vithalrao Vikhe Patil Foundation's	Doc. No.	E/HCO/DVPMH/PRE/ 1-2
	<b>PATIENTS AND FAMILY RIGHT TO INFORMATION AND EDUCATION</b>	Issue No.	01
Rev. No		00	
Date		08.03.2020	
Page		Page 5 of 10	



OPPO A5 2020 • ©nitu

  
**MEDICAL SUPERINTENDENT  
DR. VIKHE PATIL MEMORIAL HOSPITAL  
AHMEDNAGAR**