

1



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## Infection control principles in clinic settings

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2



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## Content

- Fundamental elements
- Two Tiers of Precautions
- Infection Control Measures
  - Hand Hygiene
  - PPE
  - Triaging
- Resources



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## Fundamental Elements

- Facility design
- Risk assessment and management
- Roles and responsibilities
- Education and training
- Staff health and safety
- Surveillance and disease reporting



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## 2 tiers of Precautions:

- Standard Precautions
- Transmission-Based Precautions



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## Standard Precautions

- the minimum infection prevention practices that apply to all patient care, regardless of their infection status, in any setting where healthcare is delivered



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## Standard Precautions

Define all the steps that should be taken to prevent spread of infection from person to person or from contaminated environmental surfaces/healthcare items, when there is an anticipated contact with:

- Blood
- Body fluids
- Secretions
- Excretions, such as urine and faeces (excluding sweat) whether or not they contain visible blood
- Non-intact skin
- Mucous membranes



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**Standard Precautions** consist of:

- hand hygiene;
- use of personal protective equipment (e.g. gloves, gowns, masks);
- respiratory hygiene and cough etiquette;
- safe injection practices, sharps handling and disposal;
- environmental cleaning;
- reprocessing of reusable instruments and equipment;
- waste management; and
- handling of linen.

  
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**Transmission-Based Precautions**

Applied in addition to standard precautions

- Contact Precautions,
- Droplet Precautions, and
- Airborne Precautions.

  
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9

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**Contact Precautions**

- To prevent disease transmission through direct patient contact indirect contact of contaminated environmental surfaces /healthcare items.
- Examples of infections chiefly transmitted by contact route include scabies, norovirus, methicillin resistant *Staphylococcus aureus* (MRSA), Vancomycin-resistant enterococci (VRE) and *Clostridium difficile*.


  
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**Droplet Precautions**

- To prevent the spread of organisms that are transmitted by large droplet particles (sizes > 5 microns).
- These particles do not remain suspended in the air for extended periods of time, and can only be propelled over a short distance (usually within 1 metre) from the patient.
- These droplets are generated when the patient coughs, talks, or sneezes.
- Examples :influenza, Group A streptococcus, pertussis and rubella


  
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11

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**Airborne Precautions**

- To prevent diseases that are transmitted by airborne droplet nuclei (sizes  $\leq$  5 microns), or dust particles containing the infectious agent.
- can be dispersed widely by air current within a room or over a long distance.
- Consider: special air handling and ventilation, aerosol-generating procedures
- Examples: pulmonary tuberculosis, chickenpox and measles.


  
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**Infection Control Measures**

- **Hand hygiene** 5 key moments:
  - before touching a patient.
  - before clean and aseptic procedures.
  - after contact with body fluids.
  - after touching a patient.
  - after touching patient surroundings.

  
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## Hand hygiene

- Alcohol-Based Handrub **vs** Wash hands with soap and water
- Pitfall: *Clostridium difficile*, Norovirus, HFM Disease

Techniques  
<http://www.chp.gov.hk/en/content/9/460/19728.html>

  
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14

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## Hand hygiene

- Facilities available point of Care
- Visual reminders
- Patient education

[http://www.chp.gov.hk/files/media/hh\\_video\\_ep1\\_clinic.mp4](http://www.chp.gov.hk/files/media/hh_video_ep1_clinic.mp4)

  
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15

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## Personal Protective Equipment

- provides a physical barrier
- reduces anticipated exposure or exposure risk
- Points to note
  - Adequate stock of PPE.
  - Selection based on risk assessment.
  - Storage
  - Hand hygiene and doffing

  
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**Summary of Recommended PPE Usage in Standard Precautions and Transmission-Based Precautions**

PPE		N95 Respirator	Surgical Mask	Goggles/ Face Shield	Gown	Gloves
Standard Precautions (SP)			Splashing procedure	Splashing procedure	Splashing procedure	Touching blood, body fluid, secretion, excretion and contaminated items
Transmission-Based Precautions	Airborne Precautions	<ul style="list-style-type: none"> <li>• Patient care</li> <li>• When performing aerosol generating procedure</li> </ul>	Place on the patient if transport is necessary			
	Droplet Precautions		<ul style="list-style-type: none"> <li>• Within one metre of patient</li> <li>• Place on the patient if transport is necessary</li> </ul>			
	Contact Precautions				Substantial contact	Touching infected materials or contaminated items

17

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## Triage

- A high index of suspicion for identifying potentially infectious individuals
- Adequate training and information to the reception staff
- Pay attention to the announcement of the epidemic and related response level
- Specific triage policies : visual alerts, info collection, designated persons



visual alert

  
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## Triage

If Suspected Case is identified:

- Assess needs of additional precautions
- Accommodation in designated area away from other patients
- Respiratory hygiene and cough etiquette eg surgical masks to patient
- Minimize the stay of infectious patients

  
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## Cap 599: Prevention and Control of Disease Ordinance

- All registered medical practitioners are required to notify the Centre for Health Protection all suspected or confirmed cases of the notifiable infectious diseases.
- Medical practitioners are also advised to report other diseases and conditions that are of public health concern.
- The Centre for Health Protection will conduct surveillance and control of these diseases.



## Statutory Notifiable Diseases (as of March 2016)

- |  |   |
|--|---|
| 1. Acute poliomyelitis   | 25. Meningococcal infection (invasive)                      |
| 2. Amoebic dysentery   | 26. Middle East Respiratory Syndrome                        |
| 3. Anthrax   | 27. Mumps   |
| 4. Bacillary dysentery   | 28. Novel influenza A infection                             |
| 5. Botulism  | 29. Paratyphoid fever                                       |
| 6. Chickenpox  | 30. Plague  |
| 7. Chikungunya fever   | 31. Psittacosis   |
| 8. Cholera   | 32. Q Fever   |
| 9. Community associated methicillin-resistant <i>Staphylococcus aureus</i> infection | 33. Rabies  |
| 10. Creutzfeldt-Jakob disease  | 34. Relapsing fever   |
| 11. Dengue fever   | 35. Rubella and congenital rubella syndrome                 |
| 12. Diphtheria   | 36. Scarlet fever   |
| 13. Enterovirus 71 infection   | 37. Severe Acute Respiratory Syndrome                       |
| 14. Food poisoning   | 38. Shiga toxin-producing <i>Escherichia coli</i> infection |
| 15. <i>Haemophilus influenzae</i> type b infection (invasive)                        | 39. Smallpox  |
| 16. Invasive pneumococcal disease  | 40. <i>Streptococcus suis</i> infection                     |
| 17. Hantavirus infection   | 41. Tetanus   |
| 18. Japanese encephalitis  | 42. Tuberculosis  |
| 19. Legionnaires' disease  | 43. Typhoid fever   |
| 20. Leprosy  | 44. Typhus and other rickettsial diseases                   |
| 21. Leptospirosis  | 45. Viral haemorrhagic fever                                |
| 22. Listeriosis  | 46. Viral hepatitis   |
| 23. Malaria  | 47. West Nile Virus Infection                               |
| 24. Measles  | 48. Whooping cough  |
|  | 49. Yellow fever  |
|  | 50. <u>Zika Virus Infection</u>                             |



## Some other Communicable Diseases of Topical Public Health Concern

- medical practitioners are urged to report suspected or confirmed cases for arrangement of investigation and control as appropriate:
  - Acute flaccid paralysis
  - Brucellosis
  - Cryptosporidiosis
  - Vibrio vulnificus* infection
  - Severe paediatric enterovirus infection (other than EV71 and poliovirus)
  - Severe paediatric influenza-associated complication/death



## Central Notification Office (CENO)

CENO On-line

[https://cdis.chp.gov.hk/CDIS\\_CENO\\_ONLINE/ceno.html](https://cdis.chp.gov.hk/CDIS_CENO_ONLINE/ceno.html)

Fax 2477 2770

Tel 2477 2772

Email [diseases@dh.gov.hk](mailto:diseases@dh.gov.hk)

Mail 3/F, 147C Argyle Street, Kowloon

Outside office hours, report urgent cases to Medical Control Officer (7116 3300 call 9179)



## Electronic platform

- All registered medical practitioners (General Practitioners/private hospitals) :  
:CDIS CENO On-line
- Public hospitals (Hospital Authority) :  
: NDORS Notifiable Diseases & Outbreak Reporting System



## Resources:



[www.chp.gov.hk](http://www.chp.gov.hk)

25

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### Mobile Application---HKelC

- User-friendly tool
- Easy access to infection control information easily
- Step-by-step guide on hand hygiene, donning and doffing of Personal Protective Equipment (PPE)
- Users can obtain updates in news and notifications on Infection Control,



  
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26

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## Thank You!

  
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