

IPAC for Health Care Workers in Dental Clinic Settings

In-Person Training Course

Module 1: Introduction to IPAC and Routine Practices

Disclaimer

This learning module was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence. PHO assumes no responsibility for the results of the use of this learning module by anyone. This learning module may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to Public Health Ontario. **No changes and/or modifications/edits may be made to this learning module without explicit written permission from Public Health Ontario.**

Course Overview

This course consists of four modules covering essential Infection Prevention and Control (IPAC) topics, with opportunities for practical application.

- Modules 1–3 include:
 - presentation slides
 - practice activities
- Module 4 includes:
 - practical scenarios with multiple-choice questions
 - final quiz

Module Overview

- **Module 1: Introduction to IPAC and Routine Practices**
 - Chain of Transmission and point-of-care risk assessments
 - Personal protective equipment (PPE)
- **Module 2: Foundational Elements in Routine Practices**
 - Hand hygiene
 - Environmental controls
 - Occupational health and safety programs
- **Module 3: Additional Precautions in IPAC**
- **Module 4: Applying IPAC Principles in Dental Clinic Settings**

Learning Objectives

By the end of module one, you will be able to:

- Describe the six links in the Chain of Transmission and how to use IPAC strategies to break the links in the chain to prevent infections.
- Perform a risk assessment as a Routine Practice to evaluate the potential risk of infection.
- Use a risk assessment to determine the need for personal protective equipment (PPE).

What is IPAC?

- IPAC stands for Infection Prevention and Control.
- The goal of IPAC programs and IPAC practices and procedures is to stop or reduce the transmission (spread) of infectious agents.
- IPAC fulfills an essential function in all health care settings.



How are IPAC Best Practices Developed?

- Research, literature reviews and consultations with content experts.
- Example: The Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control (PIDAC-IPC)
- Best practices are evidence-based.

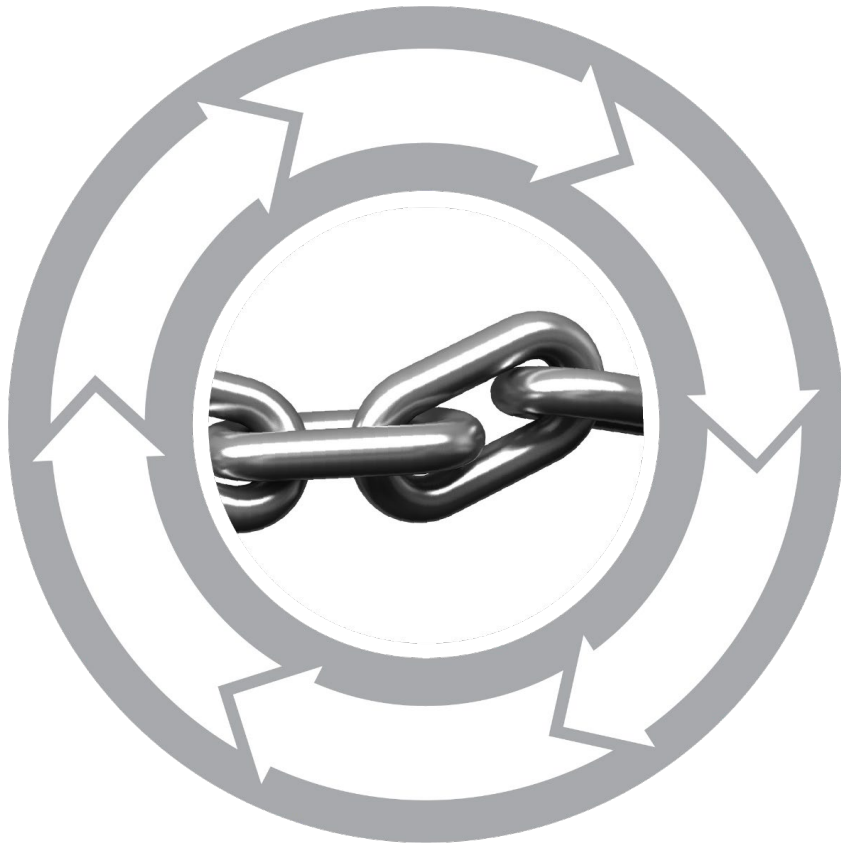


IPAC Practices Discussion Question

Why is it so important that health care workers understand and follow IPAC practices?

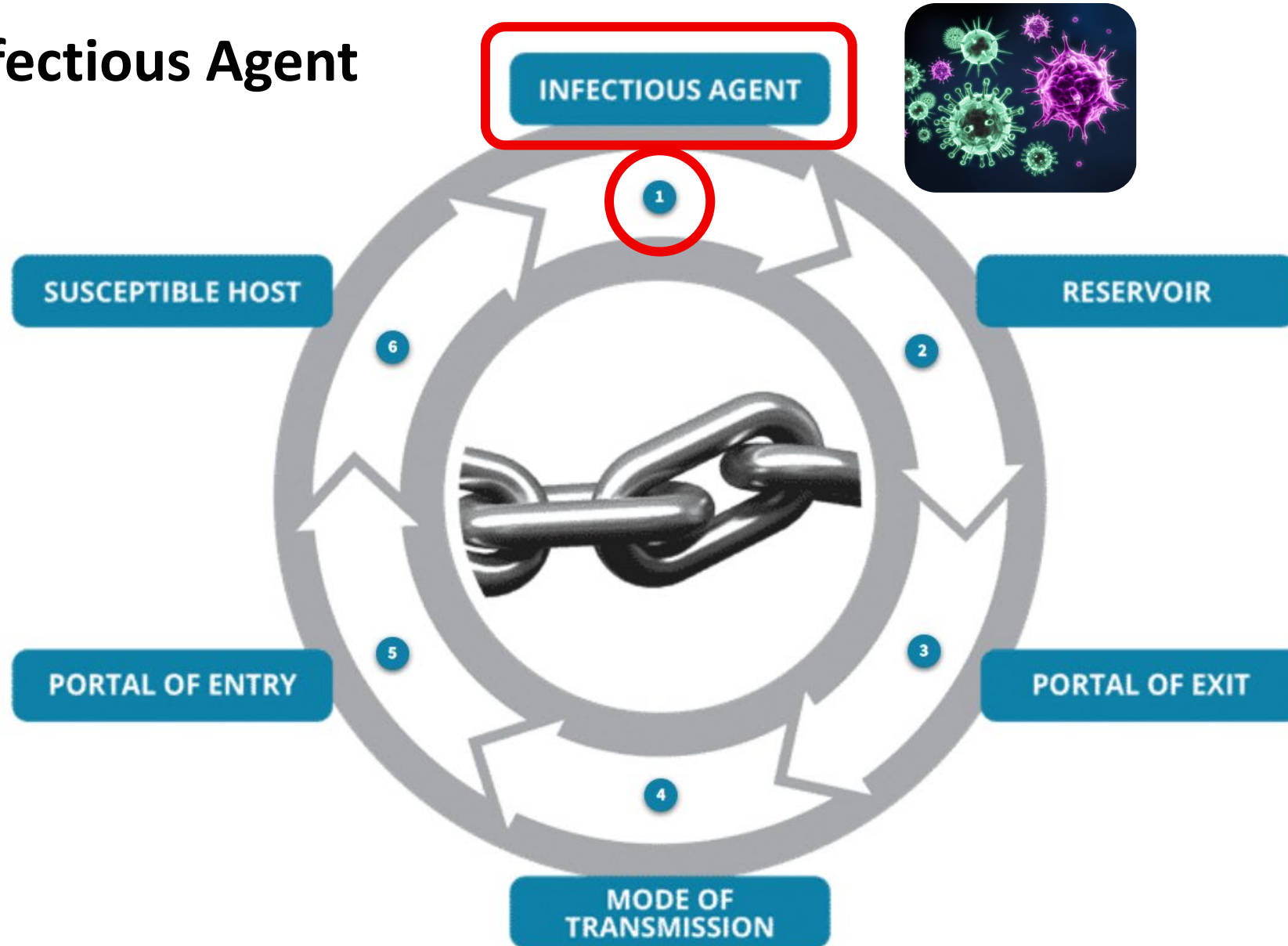


Chain of Transmission (COT)

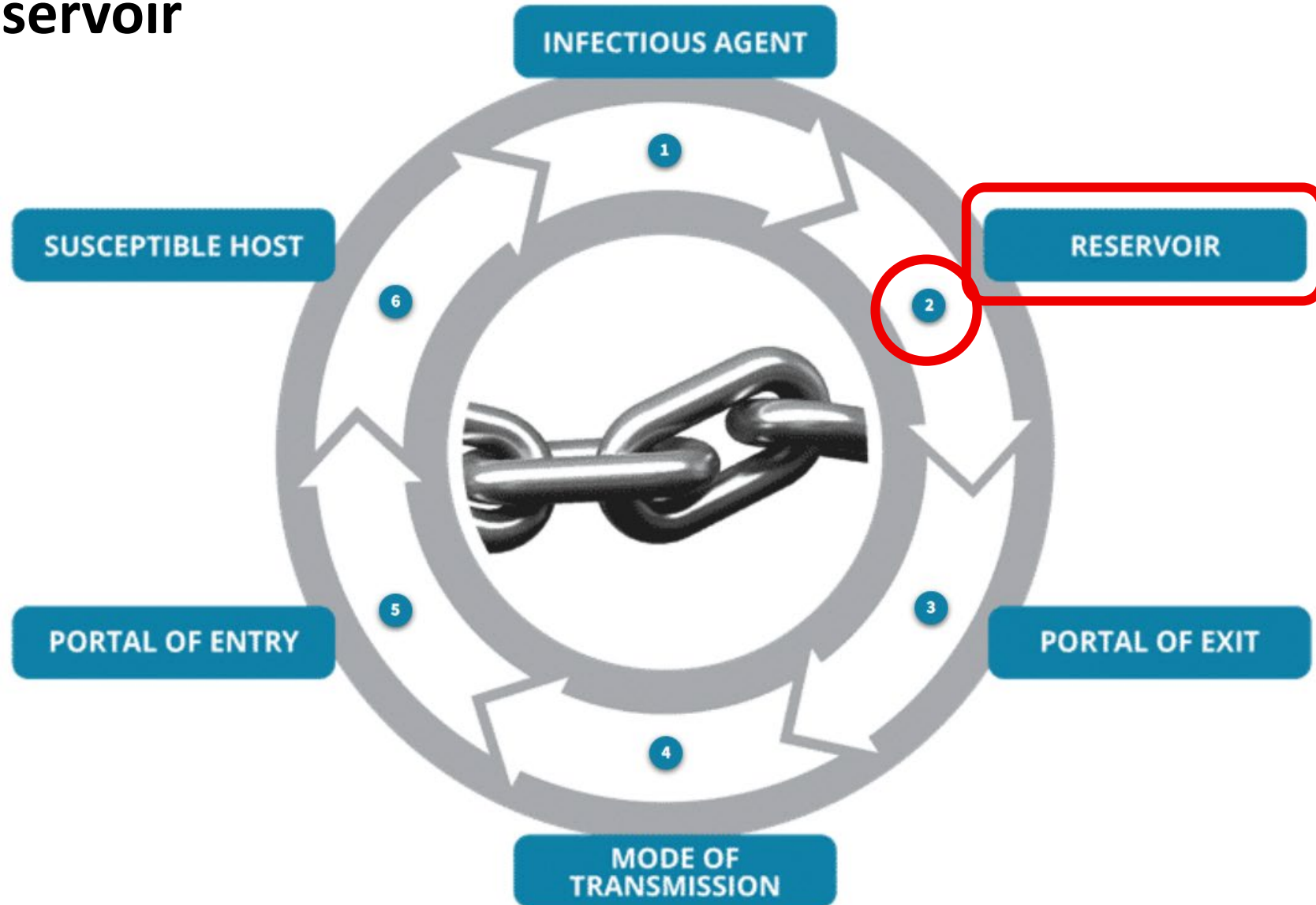


- Explains how infections spread.
- All six links in the chain are required for an infection to spread.

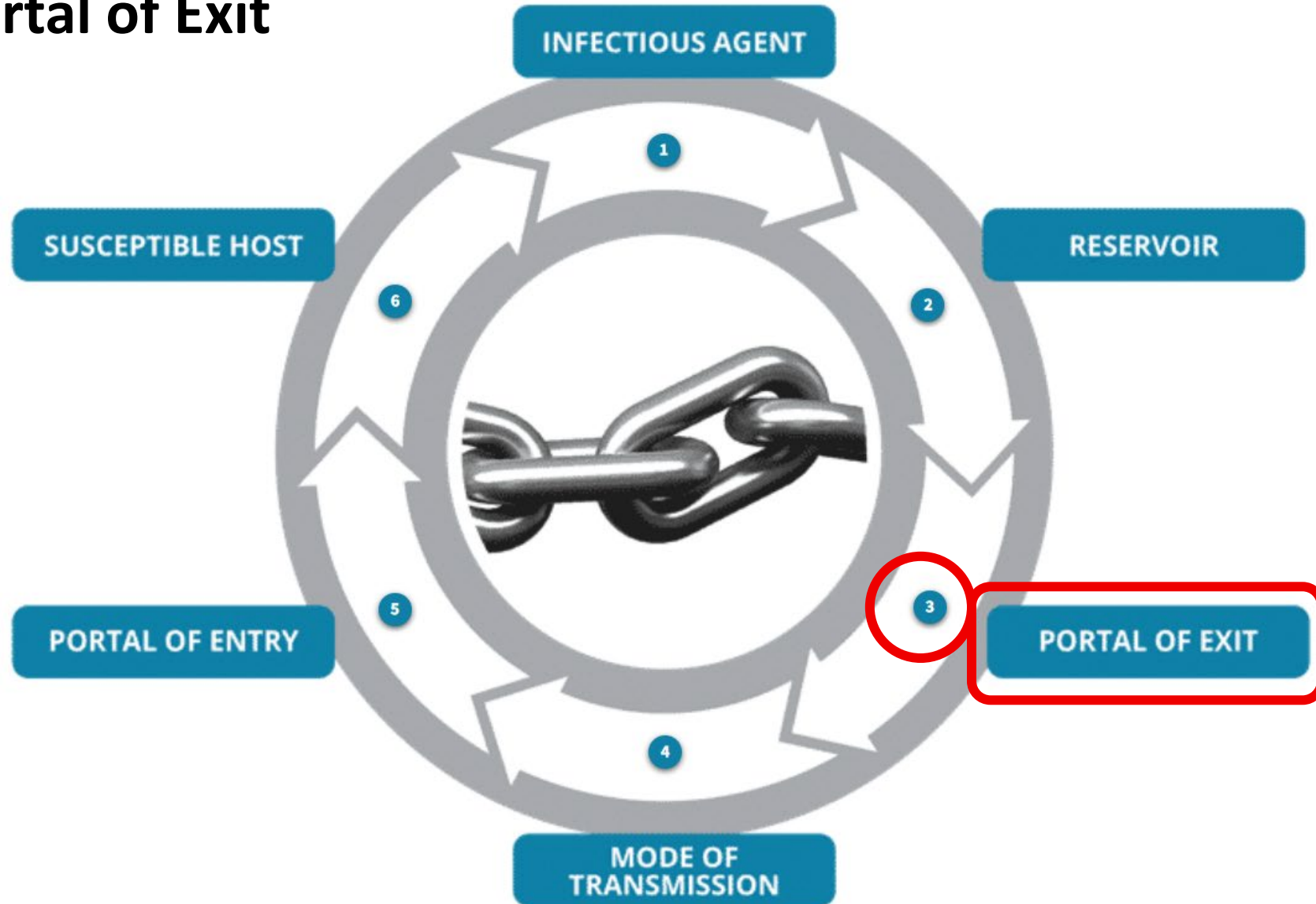
COT: Infectious Agent



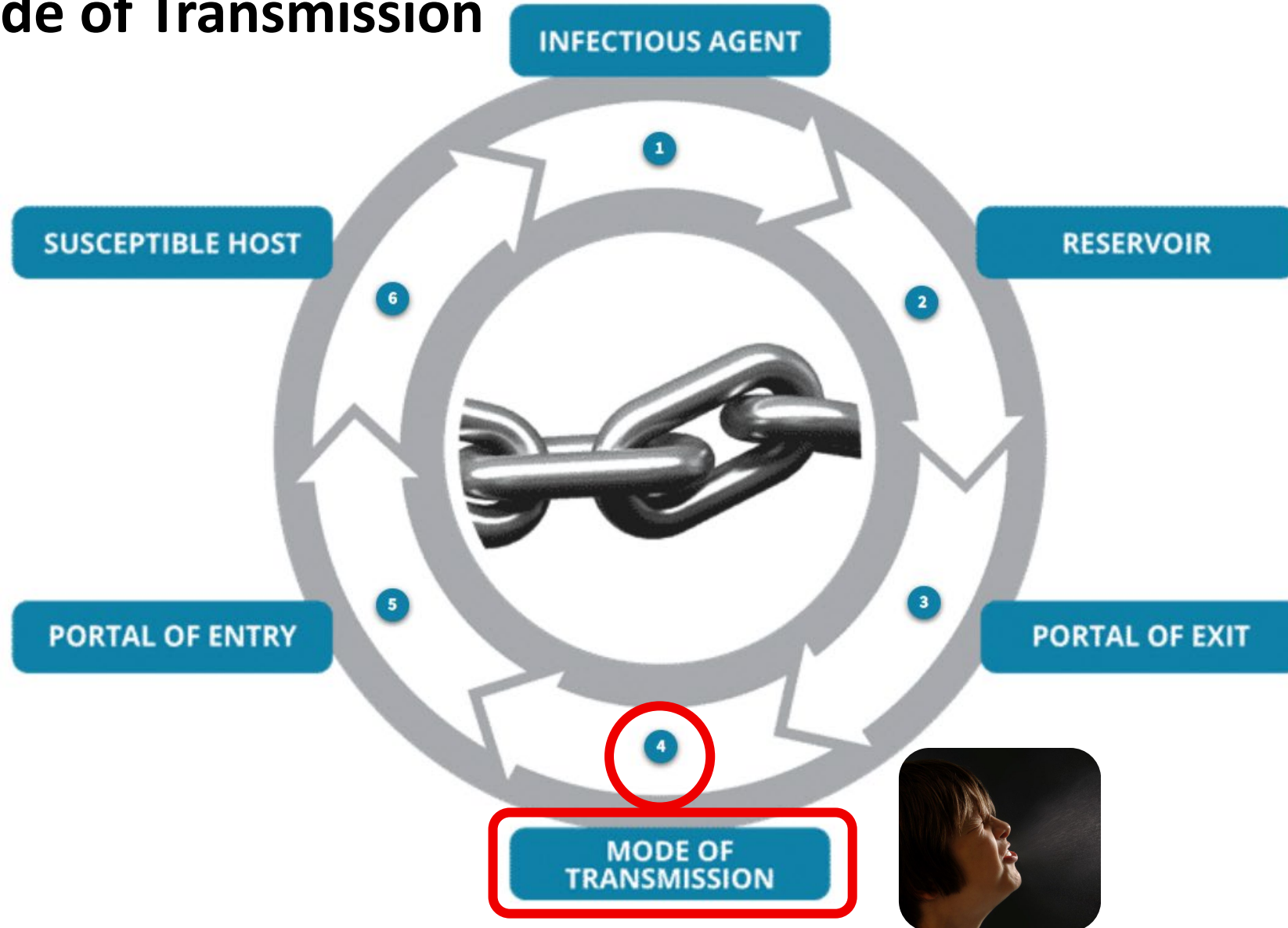
COT: Reservoir



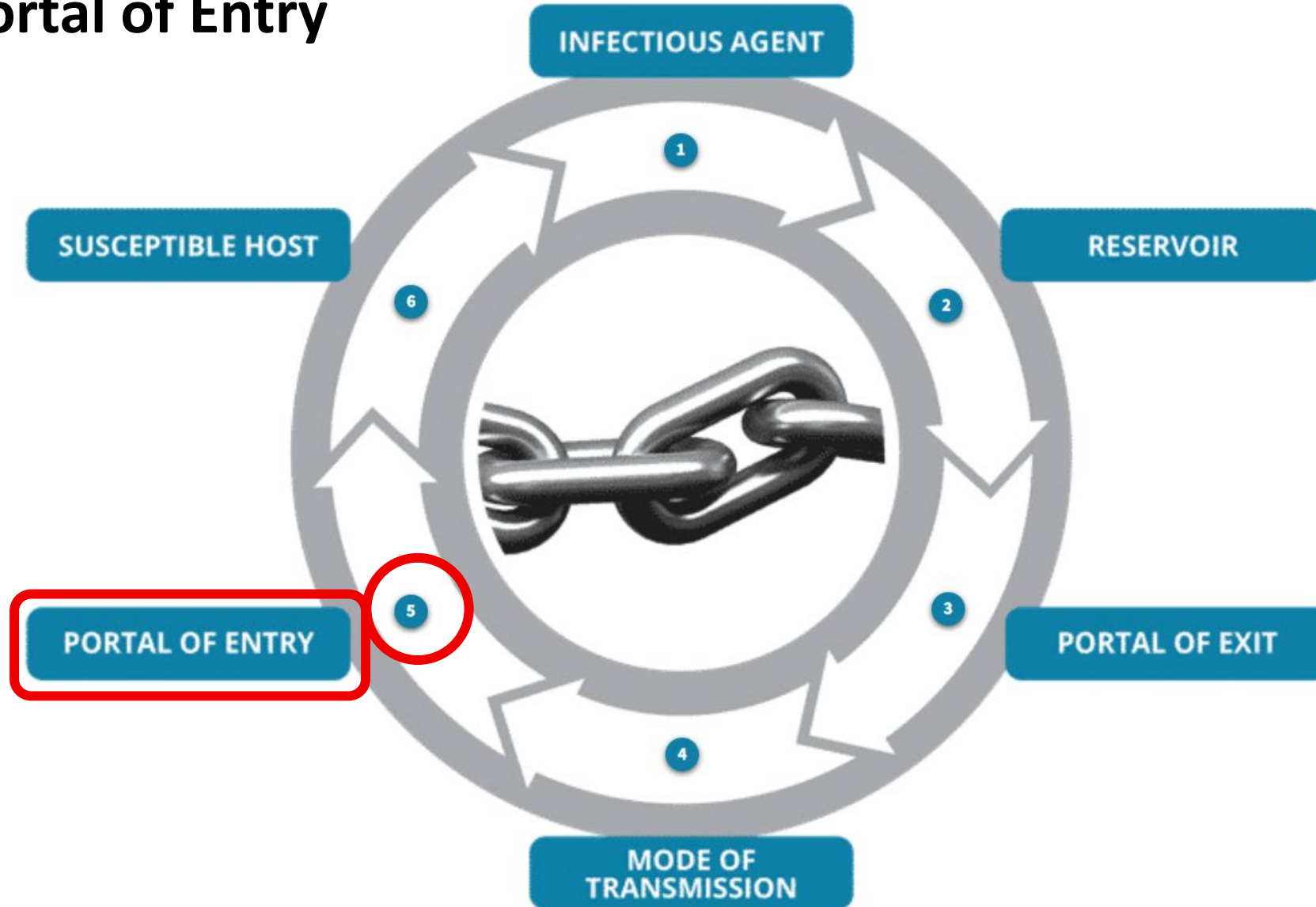
COT: Portal of Exit



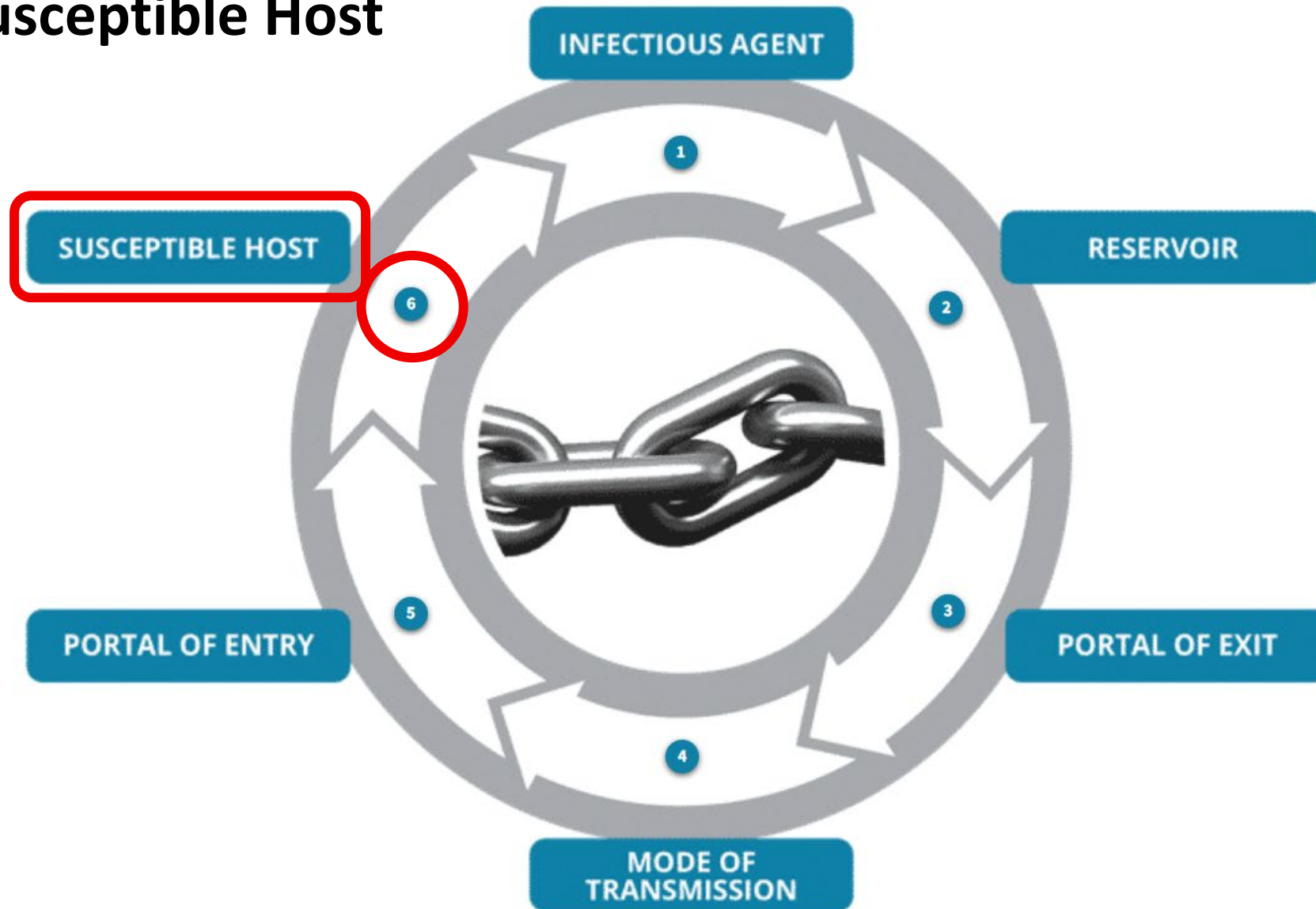
COT: Mode of Transmission



COT: Portal of Entry



COT: Susceptible Host



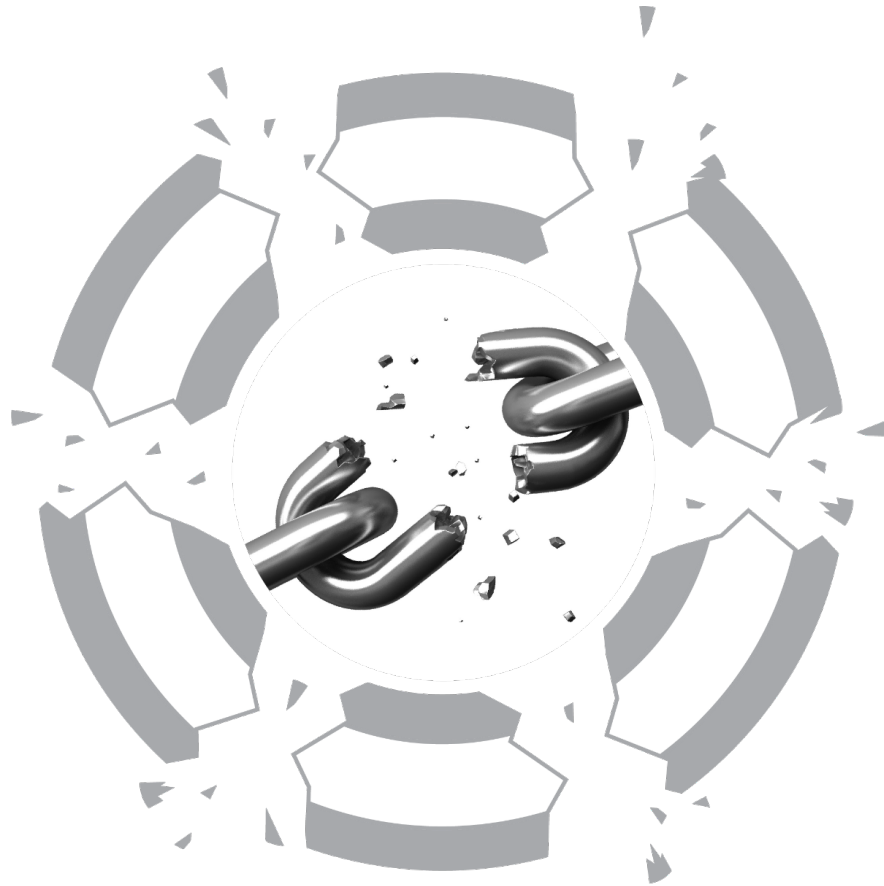
Chain of Transmission Discussion Questions

Think of the last time you or someone you know had an infection.

- What type of infectious agent was it?
- Where did it live and grow and how did it exit?
- What mode or modes of transmission did it use to move around?
- How might it have entered another susceptible person?
- Who are the people who seem to get infections easily?

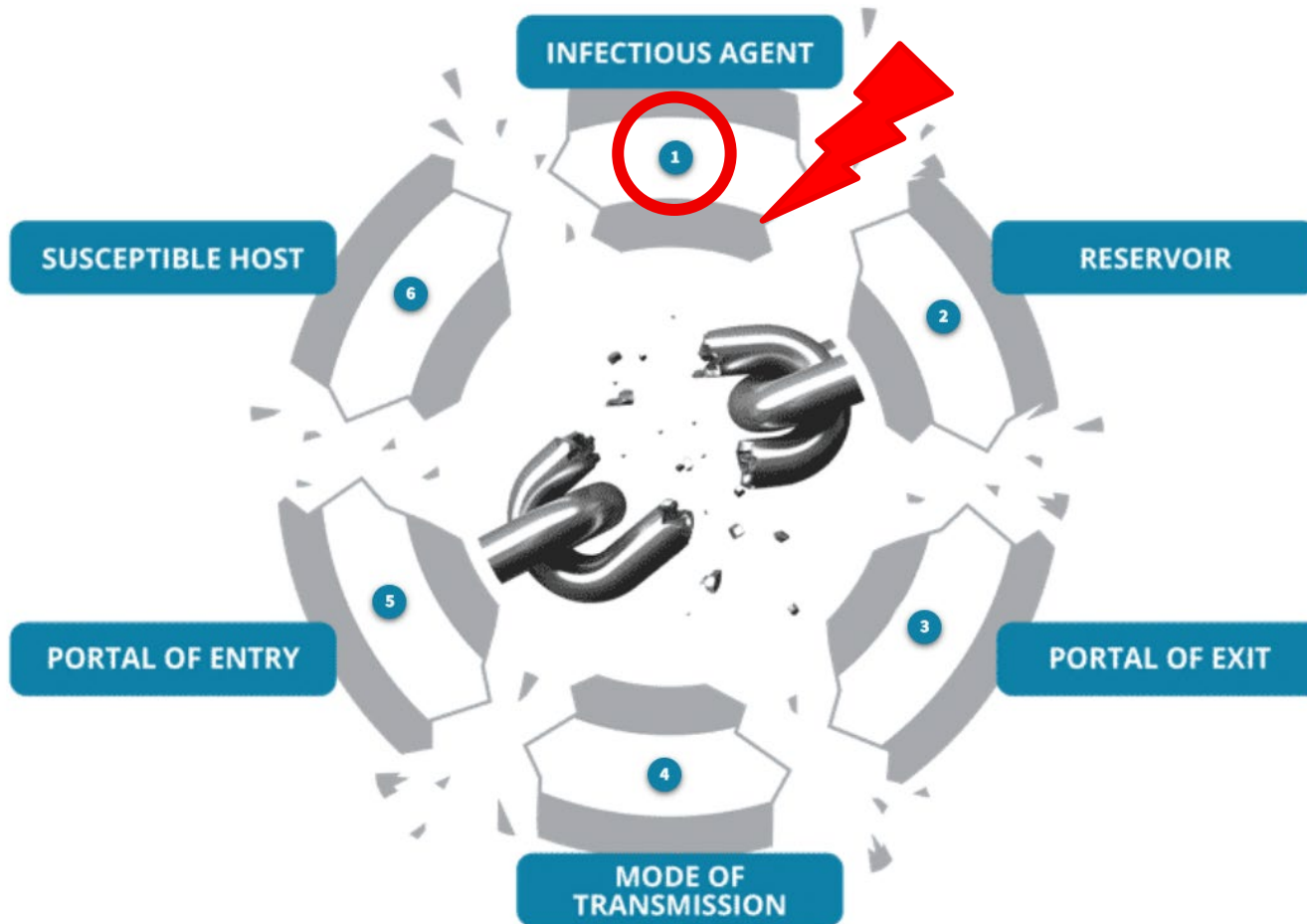


Breaking the Chain of Transmission (COT)



- The goal of IPAC is to break one or more links in the COT to prevent the spread of infectious agents.
- Infectious agents cannot spread, and infection cannot develop if any links in the chain are eliminated or broken.

Breaking the COT: Infectious Agent

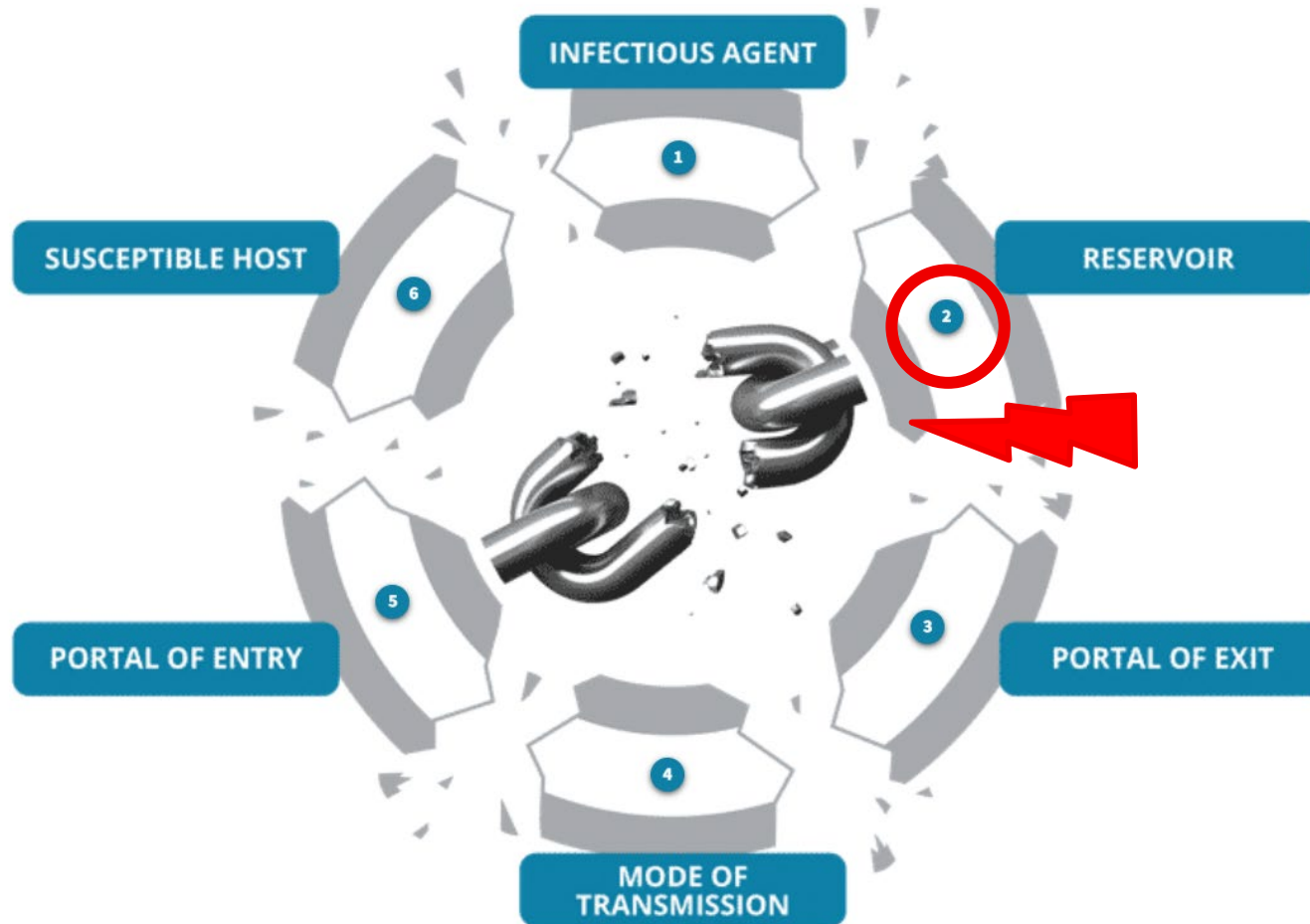


Break this link by killing or removing the infectious agent.

The chain can be broken by:

- treating infections
- disinfecting the environment
- sterilizing medical equipment

Breaking the COT: Reservoir

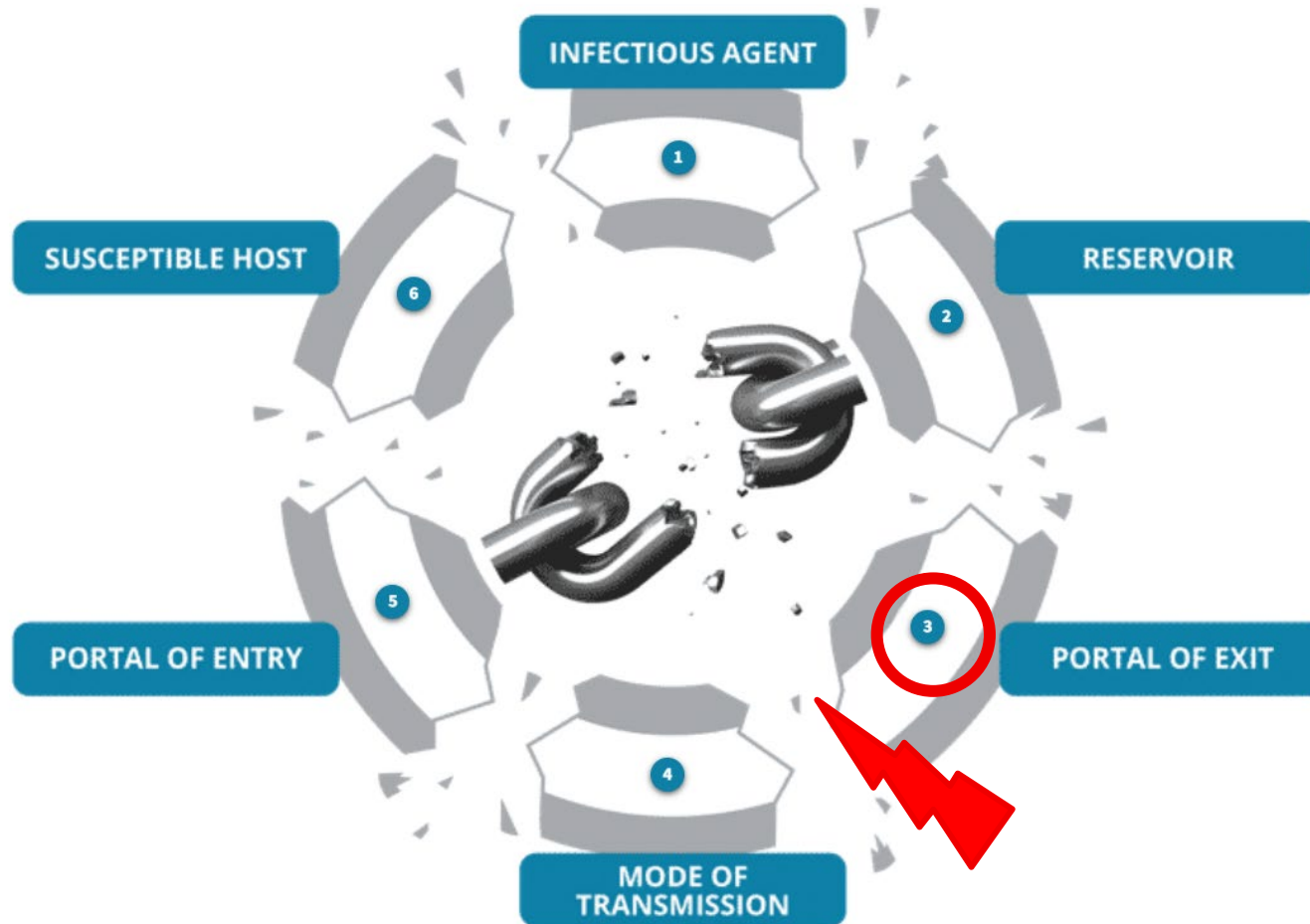


Eliminating the reservoir can prevent the infectious agent from persisting, multiplying and infecting cells.

The chain can be broken by:

- environmental cleaning and disinfection
- proper food storage
- water treatment

Breaking the COT: Portal of Exit

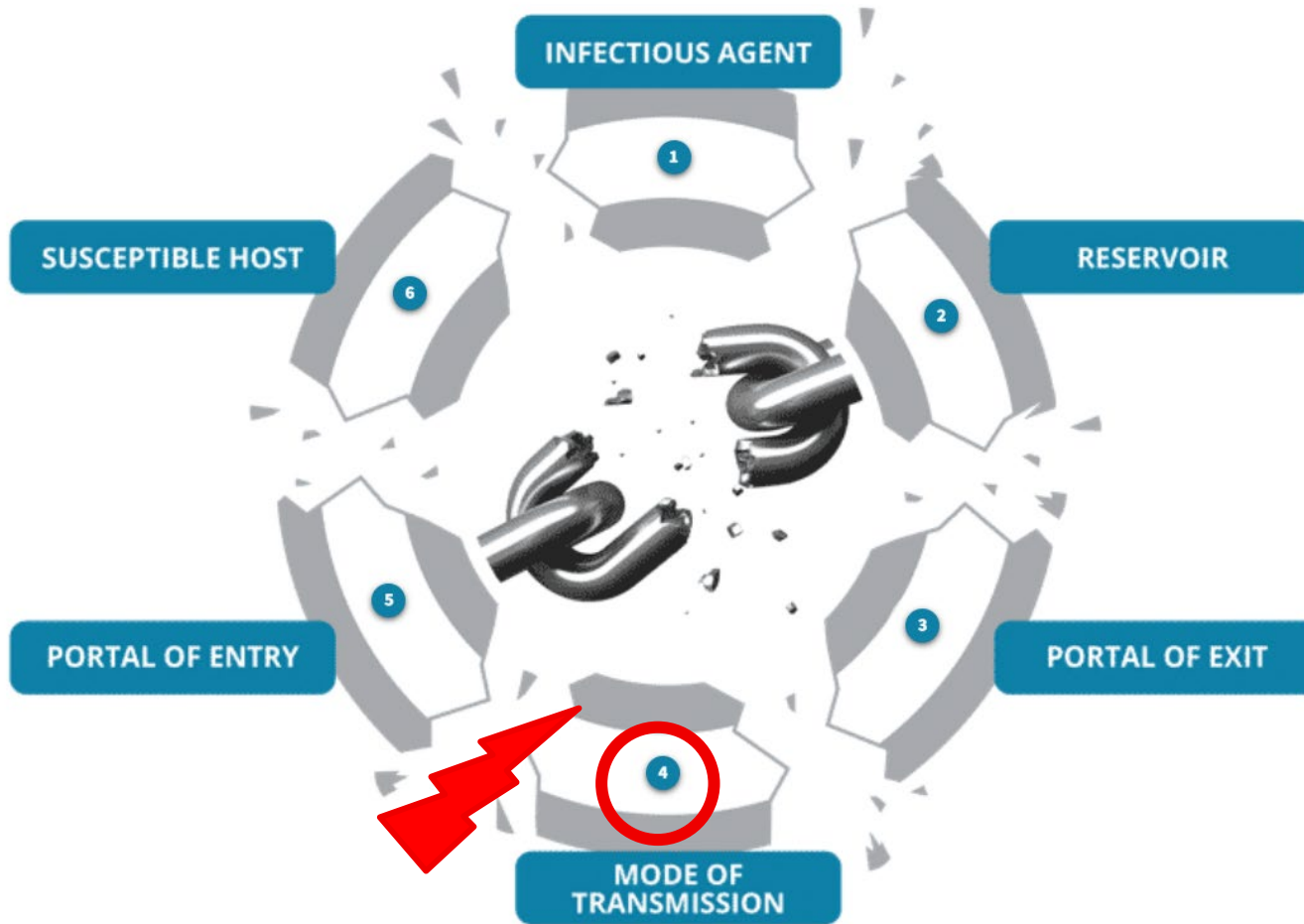


Manage all bodily fluids to minimize infection risk and break the third link.

The chain can be broken by:

- hand hygiene
- safe disposal of waste
- respiratory etiquette (e.g., covering your coughs and sneezes with a tissue)

Breaking the COT: Mode of Transmission

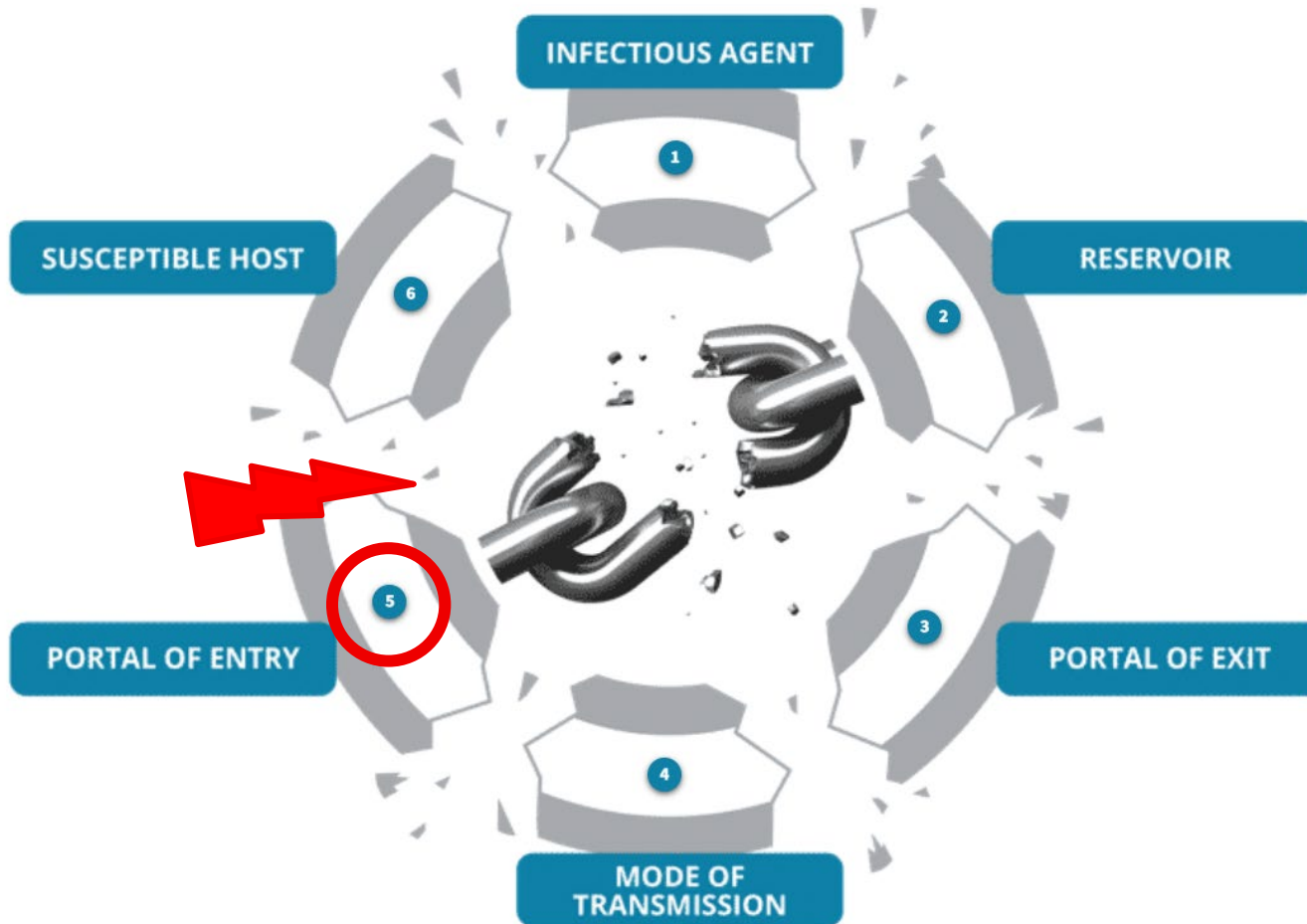


Prevent infectious agents from spreading to susceptible hosts to break the fourth link.

The chain can be broken by:

- spatial separation
- environmental cleaning
- equipment disinfection or sterilization
- PPE
- hand hygiene

Breaking the COT: Portal of Entry

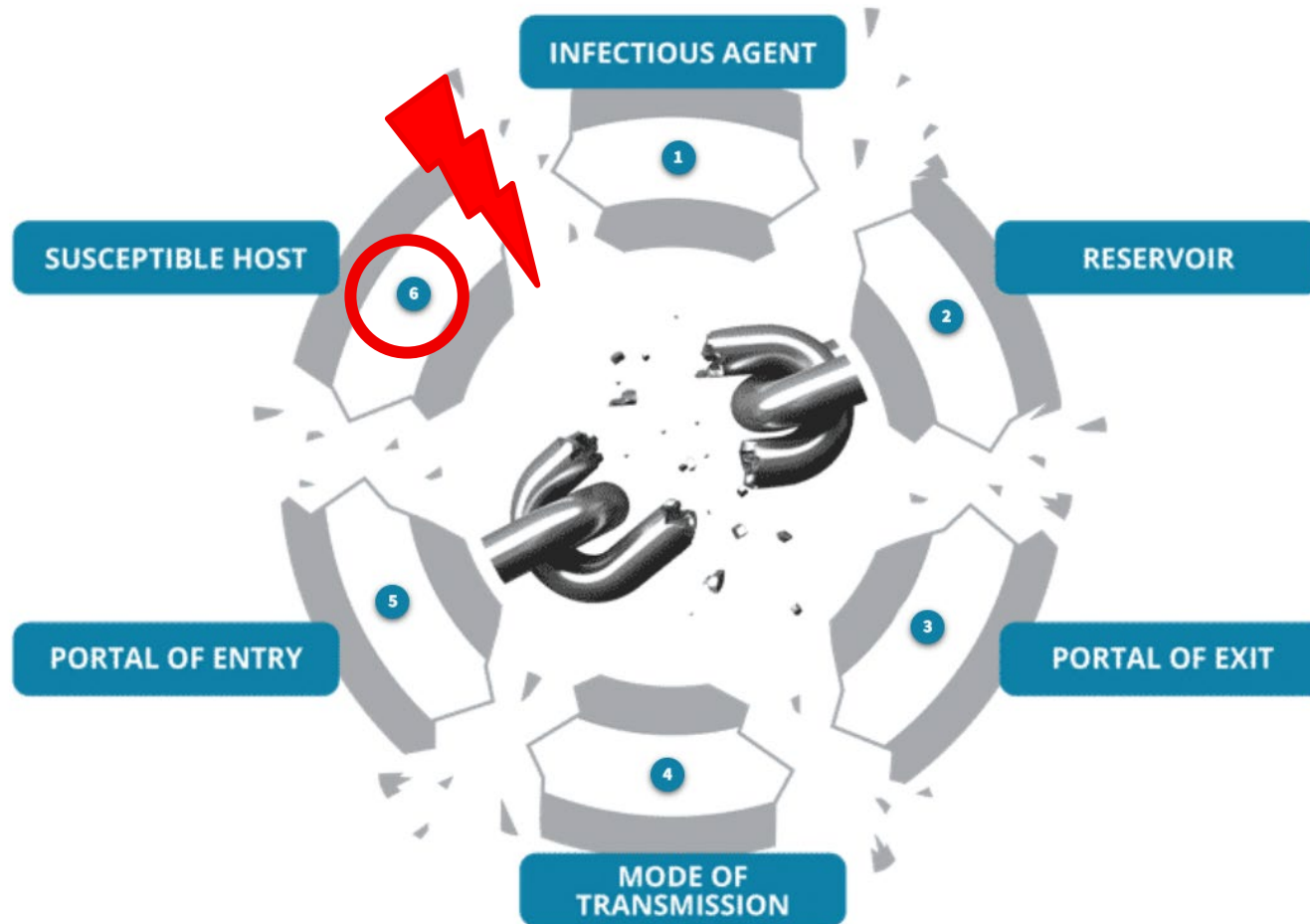


To break the fifth link, the infectious agent needs to be kept from entering a susceptible host.

The chain can be broken by:

- hand hygiene
- aseptic or sterile technique
- proper wound care
- PPE

Breaking the COT: Susceptible Host



Reduce the susceptibility of potential hosts to getting an infection.

The chain can be broken by:

- immunization
- proper nutrition
- recognition of high-risk patients
- appropriate treatment of underlying conditions

Routine Practices



Routine Practices are the IPAC practices we perform regularly to prevent and control the spread of infectious agents.

These practices are considered “Routine” because they are applied:

- During all activities
- For all interactions with patients/clients
- In all health care settings

Routine Practices Categories

Routine Practices can be grouped into five main categories:

1. Risk Assessment
2. PPE
3. Hand Hygiene
4. Environmental Controls
5. Administrative Controls



Point-of-Care Risk Assessment (PCRA)

- Is a thought process performed by every health care worker.
- Must be performed before every interaction with a patient/client or before entering their environment.
- Involves the health care worker asking questions about their own abilities and needs when performing tasks and duties.
- Enables health care workers to choose interventions which help prevent the spread of infectious agents.



PCRA Discussion Questions

Consider how you assess risk every day.

1. Think about some of the questions you ask yourself as part of your own mental checklist to stay safe when crossing the street?
2. Can you think of other examples of risk assessments you perform routinely in your day-to-day life to keep yourself and others safe?



Common PCRA Questions (1 of 2)

1. Could you be exposed to bodily fluids through a sneeze, splash, spray, or cough from the patient/client you will be interacting with?
2. Will there be contact, or risk of contact with:
 - blood
 - mucous membranes
 - non-intact skin
3. Could you come into contact with surfaces or equipment that may be contaminated with infectious agents?



Common PCRA Questions (2 of 2)

4. Does the person you will be interacting with have a known infection, or signs and symptoms of infection, such as a fever or a cough?
5. Could you be spreading potentially infectious agents in the environment or to others?
6. Are there any factors related to the person you will be interacting with that may increase your risk of exposure to infectious agents?
7. How confident and skilled are you performing the task at hand?



Personal Protective Equipment (PPE)



The choice of appropriate PPE should be based on:

- Your point-of-care risk assessment.
- The nature of the interaction between you and the patient/client.
- The likely modes of transmission of infectious agents.

Gloves



Wearing gloves protects the hands from:

- Infectious agents that may be present in blood, body fluids, non-intact skin, mucous membranes, secretions or excretions.
- Contaminated equipment or environmental surfaces.

Glove Selection

- Select the best gloves for the task you are about to do.
- Sterile gloves are used for aseptic procedures.
- Gloves should fit well, especially for tasks that may put stress on the gloves.
- Use glove type that tolerates chemicals in use.
- Avoid gloves that are:
 - ✗ co-polymer ("sandwich gloves")
 - ✗ powdered latex gloves (associated with latex allergy)



Glove-to-Glove and Skin-to-Skin Technique for Doffing Gloves



When Are Gloves Not Required?

- During social touch (e.g., shaking hands)
- Pushing a wheelchair
- Touching intact skin
- Using a computer
- When not providing direct care (e.g., talking to the patient/client)



Gowns

- Protect your clothing/uniform and forearms from infectious agents.
- Are to be used when your point-of-care risk assessment determines that an activity is likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.



Facial Protection

- May include:
 - medical mask
 - N95 respirator
 - eye protection
- Used to protect the mucous membranes of your eyes, nose, and mouth during activities where you may be exposed to splashes or sprays of blood or body fluids.
- Worn when within close contact (e.g., within two metres) of someone with respiratory symptoms (e.g., coughing).



Medical Masks

- Well-fitting medical masks protect the nose and mouth from:
 - Splashes or sprays of blood, body fluids, secretions or excretions.
 - Potentially infectious respiratory secretions and particles from coughing or sneezing patients/clients.
- Conduct a risk assessment to determine if a medical mask is required.
- Patients/clients with a new acute respiratory illness who are coughing should wear a mask (if tolerated):
 - If they must wait in the waiting room
 - While waiting for the dentist/hygienist
 - While exiting the clinic

Respirators

- Filter out small airborne particles.
- Prevent inhalation of airborne infectious agents (e.g., *Mycobacterium tuberculosis*).
- N95 respirators are commonly used in health care settings.
- You must be fit-tested before wearing an N95 respirator and you must perform a seal-check each time you put one on.
- Patients/clients should not wear N95 respirators because they have not undergone proper fit testing.

Eye Protection

- Selection should be based on your point-of-care risk assessment.
- Needs to protect both in front of the eyes and at the sides.
- May include:
 - safety glasses
 - safety goggles
 - face shields
 - visors attached to masks
- Can be disposable or reusable.



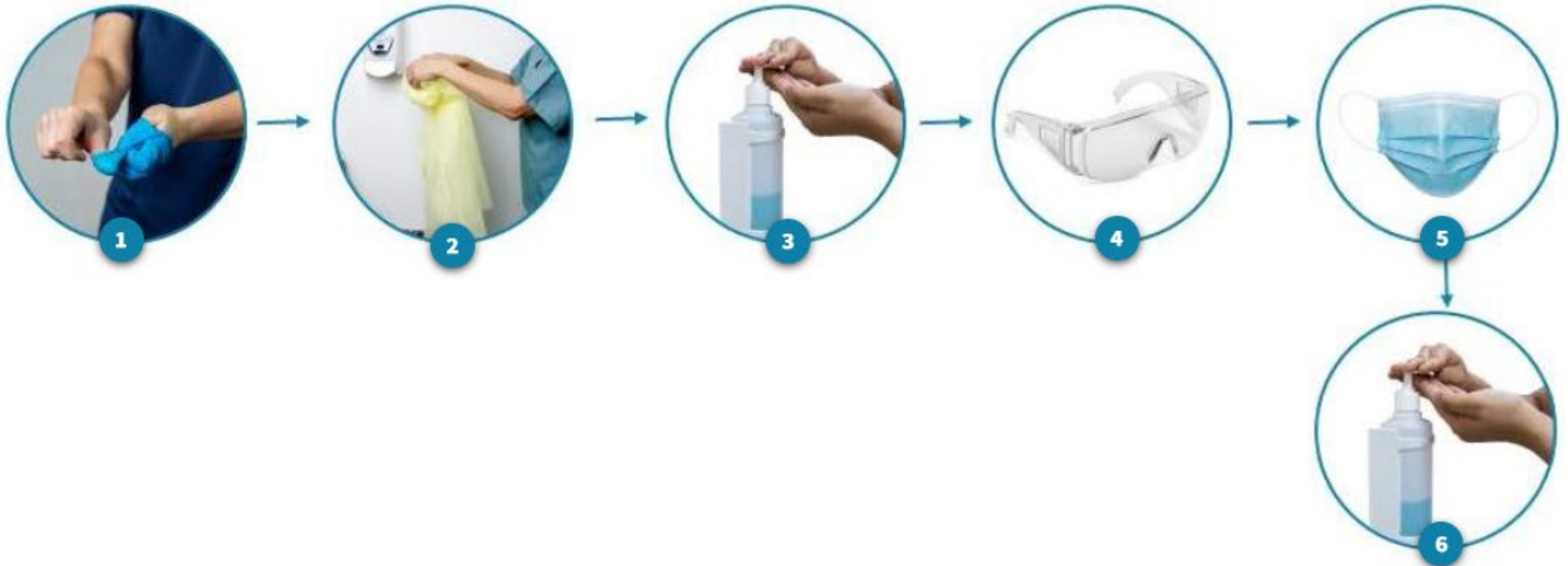
Putting On PPE

It is important to put on and take off PPE in the correct order to avoid cross-contamination.



Taking Off PPE

PPE should be discarded and hand hygiene performed immediately after PPE is removed.



Summary

In this module, we discussed:

- Understanding the Chain of Transmission and how to use IPAC strategies to break links in the chain to prevent infections.
- Key elements of Routine Practices:
 - Performing a PCRA.
 - Using a PCRA to determine the need for PPE and other precautionary measures.
 - Best practices for using PPE.



References

- Public Health Ontario [Internet]. Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control (PIDAC-IPC). 2026 [cited 2026 Feb 18]. Available from: <https://www.publichealthontario.ca/en/About/External-Advisory-Committees/PIDAC-IPC>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Putting on Gloves [Video]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2026 Feb 18]. 1 min. Available from: <https://www.youtube.com/watch?v=15a7BkBrKdk>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Taking Off Gloves [Video]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2026 Feb 18]. 1 min. Available from: <https://www.youtube.com/watch?v=onhBTfage3w>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Putting on Gown and Gloves [Video]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2026 Feb 18]. 2 min. Available from: https://www.youtube.com/watch?v=k9_EHb6NPWk
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Taking off Gown and Gloves [Video]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2026 Feb 18]. 1 min. Available from: <https://www.youtube.com/watch?v=sk4A96IW8bQ>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Putting on mask and eye protection [Video]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2026 Feb 18]. 1 min. Available from: <https://youtu.be/1YiLjpLXvg4>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Taking off mask and eye protection [Video]. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2026 Feb 18]. 1 min. Available from: <https://www.youtube.com/watch?v=RFHPrzdlbgc>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Putting on full PPE [Video]. Toronto, ON: Queen's Printer for Ontario; 2017 [cited 2026 Feb 18]. 2 min. Available from: <https://www.youtube.com/watch?v=s2z1uM1fXN8>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Taking off Full PPE [Video]. Toronto, ON: Queen's Printer for Ontario; 2017 [cited 2026 Feb 18]. 1 min. Available from: https://www.youtube.com/watch?v=crGIUX3_4DA