

SESSION 01: Introduction to IPC

Module 1:

What is an infection?





Introduction

Learning outcome: *You will have a greater understanding of what an infection is.*

This workbook is designed to provide additional information to enhance your learning experience and should not be used as a standalone resource, nor should it replace local and national policies and guidelines. Each of the course modules reference relevant material in each workbook for ease of learning.

You can either use this as an interactive PDF which you can save or as a downloadable resource which you can print and complete. There is space at the end of each workbook for you to capture reflective thoughts and notes.

Key:



Throughout this workbook there will be some suggested activities, shown with the **lightbulb icon**. This icon encourages you to participate in interactive activities to further support the learnings in the module.



Definitions throughout the workbook will be marked with this **open book icon**.

What is an infection?



Infection - When the body is invaded by a harmful organism (pathogen) which causes disease or illness¹.

Think of it simply as a microorganism that is out of place. From chest infections to influenza to COVID-19, the chances are we all have had an infection at some point and probably looked after a patient with one too.

The invasion and growth of germs in the body may be from bacteria, viruses, yeast, fungi, or other microorganisms (we will discuss microorganisms in more detail in the next module).



Colonisation - The sustained presence of replicating infectious agents on a body surface without causing disease in the person.

Infections can begin anywhere in the body and can vary in severity.

What is an infection?



There are many different types of infections that you will encounter in healthcare such as:



Clostridioides difficile (C. diff)

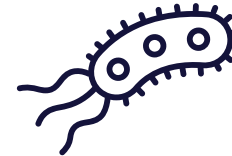
Clostridioides difficile (formerly *Clostridium difficile*) is a spore-forming bacterium that like many bacteria, lives harmlessly in 1 in 30 people's gut flora or microbiota². Gut flora or microbiota are communities of bacteria that live harmlessly or commensally in our gut³. Sometimes when you take antibiotics they can disturb the balance of flora in the gut, resulting in the proliferation of *C. diff* and the production of diarrhoea-causing toxins, resulting in an infection.



Staphylococcus

Staphylococcus usually lives harmlessly on the skin. If it enters the bloodstream through a cut or the insertion of an invasive medical device it can cause a bloodstream

infection or septicaemia, commonly known as sepsis. This can result in significant illness, hospitalisation stay and even death. In the UK, 5 people die every hour from sepsis⁴.



Escherichia coli (E.coli)

E. coli is a type of bacteria that normally lives inside our intestines, where it helps the body break down and digest the food we eat. However, certain types (or strains) of *E. coli* are infectious and spread through contaminated food or water, or from other infected people or animals. Infections due to *E. coli* bacteria can cause severe, bloody diarrhoea and some cases can lead to serious health problems. Fortunately, most healthy people who get the infection don't develop serious problems and recover on their own without needing treatment.

What is an infection?



What are the signs and symptoms of an infection?

Signs and symptoms vary depending on the organism causing the infection, but common signs and symptoms may include:



Fever



Cough, with phlegm



Shortness of breath



Pain when breathing



Shaking/ chills



Sweating



Headache



Muscle pain



Fatigue



Redness



Pus



Vomiting



Diarrhoea

However, on some occasions, depending on where the infection might be in the body, there may be no signs and symptoms.

Millions of people are affected every year by acquiring an infection in healthcare, yet these infections are often avoidable. Infections can have a major impact on both the affected patient and the providers of healthcare. For the patient, the infection can cause discomfort and anxiety, delays to their recovery and in some cases, it can sadly result in long-term morbidity, the condition of suffering from a disease⁵ or even death. GAMA Healthcare strives to help avoid the acquisition of infection which is why our mission statement is: "to help prevent infections to save and improve lives".



Consider times when you have had an infection and reflect on how you felt.



Think of other reasons how an infection can affect a patient, their family and healthcare providers.

References

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5. Hernandez JBR, Kim PY. Epidemiology Morbidity And Mortality. *Euro Respir Rev*. 2021;10(69):11-13. Accessed September 8, 2022. <https://www.ncbi.nlm.nih.gov/books/NBK547668/>

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