

Nurses' guide to: Anti-Microbial Resistance and Vaccination and Infection Control

Antimicrobial resistance (AMR) levels are climbing worldwide and pose a big threat to infection treatment, now and over the coming years. Combine this with increasing vaccine hesitancy, and the future for preventing and treating infectious diseases looks challenging. Nurses can play an important role in educating healthcare professionals, ancillary staff, patients and parents in the safe and sustainable use of antibiotics, the role of vaccinations in preventing microbial infections, and overall understanding of microbes.

The nurses' guide to antimicrobial resistance and vaccination will cover the basics of microbial infections and the methods of treatment, and issues around antimicrobial resistance (AMR). The guide will provide information and support communication around vaccination and infection control in infection prevention.

The guide will start with **Module one**, an introduction to microbes. This module will include bacteria, viruses, fungi, yeasts, parasites, and prions. The first module will also include approaches to diagnosis, and highlight which patients are at most risk of infection.

Module two on medication treatment begins with an overview of vaccines, antibiotics and other antimicrobials and the different ways that they work. Vaccines are used to prevent infectious disease, and can be used against bacteria and viruses. Vaccines are also in development against fungi and parasites. Antibiotics are only effective against bacterial infections, and this can be an education and communication challenge. The module completes with a discussion of the responsibilities of nurses, nurse specialists and physicians.

Module three takes a closer focus on infections and preventable measures by vaccination, exploring the different types of vaccines, their role in infection prevention, and their storage and handling. One of the arguments often used in vaccine hesitancy is the safety and effectiveness of vaccines. This module covers the monitoring mechanisms for vaccine, safety, and also discusses ways to improve people's confidence in vaccines. It closes with the nurse's role in educations, advice and administration, including the importance of leading by example.

Module four outlines the issues of AMR, how it develops, and how it spreads, and includes a number of case studies. The module discusses how patients with AMR infections should be treated. It also looks at prevention and containment of AMR, including the role of the One Health approach, which co-ordinates action across sectors, including veterinary health, agriculture and environmental health. Module four closes with an overview of stewardship programs, and the specialist nurses' engagement in European Union initiatives and international health organisations.

Module five provides an overview of infection prevention, and how this can be put in place within healthcare settings. It introduces the chain of infection, and then discusses the principles of hygiene. This begins with hand hygiene and personal protective equipment, and includes the role of aseptic no-touch techniques to safeguard both patients and healthcare professionals. Nurses play a critical role in infection control, both through practical roles, and as educators for healthcare professionals, patients and carers.

The European Specialist Nurses Organisation (ESNO) is a non-profit organisation and the goal is to facilitate and provide an effective framework for communication and co-operation between the European Specialist Nurses Organisations and its constituent members. ESNO represents the mutual interests and benefits of these organisations to the wider European community in the interest of the public health. Members of ESNO consist of individual European specialist nurses organizations.

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