

# FACTSHEET

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## Multi-resistant organisms (MROs)

Bacteria is a term to describe a group of cells.

Some bacteria (e.g. in our gut) are called commensal bacteria. They are resident and while in our gut neither benefit nor harm us. Other types of bacteria however can cause illness (e.g. severe flu and pneumonia).

We use antibiotics to destroy bacteria.

### What are multi-resistant organisms?

Multi-resistant organisms (MROs) are bacteria that are not destroyed by a number of different antibiotics. Some are better known than others, and are often called by their initials. Some examples are;

- MRSA (Methicillin-Resistant Staphylococcus Aurous);
- VRE (Vancomycin-resistant enterococci),
- CRE (Carbapenem-Resistant Enterobacteriaceae) &
- ESBL (Extended Spectrum Beta Lactamase producing organisms).

### Where do they come from?

Multi-resistant organisms grow naturally. The bacteria can be spread from person to person, usually on hands. In their transfer between people they can mutate or change, picking up resistance from one bacteria and passing it to another bacteria.

Multi-resistant organisms are becoming more common because of the frequent use of “broad spectrum” antibiotics in the community.

### Where do you find them?

Some multi-resistant organisms, such as MRSA, are found mainly in people’s noses or on their skin. Others, such as

VRE and ESBL, are found mainly in the gut (intestine). In all cases, they are most likely to be present without causing any disease at all, that is, they “colonise” the person who then is said to be a “carrier” of that bacteria. Only rarely do they invade and cause disease.

### Are they super-bugs?

The term super-bugs implies the bacteria are more powerful and cause more disease (doctors say “more virulent”) than other bacteria which are sensitive to antibiotics. This is not usually the case. Multi-resistant organisms are no more likely to cause serious infections than other sensitive bacteria. It is true that some MRSA can cause severe infection, but so can sensitive strains of the same bacterium, Staphylococcus aureus.

The main reason that doctors worry about multi-resistant organisms is that if a person colonised with a multi-resistant organism gets sick, we often have to start treatment with powerful, expensive antibiotics, which may have more side-effects, instead of our preferred antibiotics. If multi-resistant organisms become common in the community, commonly available and preferred antibiotics will not be effective. In addition, for some patients with underlying ill health e.g. they have a poor immune system due to a medical condition, multi-resistant bacteria are an additional and potentially serious problem for them.

### How can we stop them developing?

We try to stop multi-resistant organisms developing by using antibiotics only when necessary.

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## How do we stop them spreading?

The simplest way is to wash our hands well, both before and after handling any baby or child in the hospital. In hospital we try to separate babies or children who are colonised from other children. Sometimes we put children known to be colonized with the same MRO together in the same room (a process called “cohorting”). When a child is a carrier or is infected with an MRO and is hospitalised, we adopt special “infection control” precautions until the child is discharged from hospital.

Despite our best efforts, we sometimes find that babies and children become colonised with the multi-resistant organism after being admitted to a hospital. Since these bacteria are not usually highly virulent, in general this colonisation is a nuisance rather than being dangerous.

### **More information**

For more information, please consult the Infection Control team or the consultant in charge of your child.