

# EMERGING ANTIBIOTIC RESISTANT BUGS

## **ESBLs – ( Extended Spectrum Beta-Lactamase producing bacteria).**

### **Introduction**

Extended Spectrum Beta-Lactamase (ESBL) is an enzyme (chemical) which is produced by some bacteria. This enzyme destroys some antibiotics such as penicillins and cephalosporins that are used to treat infections. ESBL can be produced by some strains of bacteria that normally live in the bowel, e.g. E.coli. This resistance can make it harder to treat any infection caused by these bacteria.

### **How the infection is spread**

In the community, we do not know how or why some people are colonised by ESBLs. In hospitals or care homes ESBLs can be spread from person to person (directly or indirectly) coming into contact with infected patients, wash basins or contaminated surfaces. Treatment with broad spectrum penicillin antibiotics and cephalosporins may result in making ESBLs prominent by killing other bacteria.

### **Symptoms and Diagnosis**

ESBLs can cause infections in any part of the body. They are most commonly associated with urinary infections.

ESBLs are detected by testing specimens such as urine, wounds and blood in the laboratory. The laboratory can also perform tests that identify antibiotics that can kill ESBLs.

In some people these bacteria live in the gut without causing infection. This is called colonisation instead of infection as you feel well with no signs or symptoms.

### **Treatment**

Despite being resistant to many of the common antibiotics ESBLs can still be treated by antibiotics that can kill ESBLs.

### **Protection and prevention**

Spread of ESBLs can be reduced by:

- Good hand hygiene, for example washing hands frequently with soap and water especially before and after handling food and also after using the toilet.

- Cleaning hard surfaces (e.g. door handles) frequently using household cleaning products.
- Reducing unnecessary antibiotic use such as for common colds and viral infections

### Useful links:

For further of information on other antibiotic resistant bugs please visit the links below:

[HPA](#)

#### Acknowledgements:

- 1.HPA website. <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/ESBLs/>
- 2.The Shrewsbury and Telford Hospital NHS Trust (2005). Extended Beta-Lactamase producing organisms (ESBLs). [http://www.sath.nhs.uk/Library/Documents/Infection\\_control/ESBL%20Patient%20and%20Visitors%20leaflet%20Oct%2005.pdf](http://www.sath.nhs.uk/Library/Documents/Infection_control/ESBL%20Patient%20and%20Visitors%20leaflet%20Oct%2005.pdf)
- 3.Essex health protection unit, HPA (2006). Factsheet on ESBLs: [http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1194947330844](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1194947330844)
4. OLD UHL website