

### **HOW DO PENICILLINS WORK?**

Penicillins are a group of antibacterial drugs that attack a wide range of bacteria. The discovery and manufacture of penicillins have changed the face of medicine, as these drugs have saved millions of lives.

My aim was to find the information about penicillins, their functions, side effects and risks. The object of my study is drugs in penicillin class. The subject of my study is the influence of penicillin drugs on human body.

Drugs in the penicillin class work indirectly by bursting bacterial cell walls. They do this by acting directly on peptidoglycans, which play an essential structural role in bacterial cells. Peptidoglycans create a mesh-like structure around the plasma membrane of bacterial cells, which increases the strength of the cell walls and prevents external fluids and particles from entering the cell.

When a bacterium multiplies, small holes open up in its cell walls as the cells divide. Newly-produced peptidoglycans then fill these holes to reconstruct the walls.

Less than 1 percent of people are dangerously allergic to penicillin. The most common side effects of taking penicillins include: diarrhea, nausea, a headache, skin rashes and hives. Less common side effects include: shortness of breath or irregular breathing, joint pain, sudden lightheadedness and fainting, puffiness and redness of the face and others.

Although the use of penicillins is widespread, some issues or contraindications can occur, as with any drug: breast-feeding, interactions, bleeding problems, cystic fibrosis, kidney disease, methotrexate, phenylketonuria, gastrointestinal problems.

So, we can conclude that penicillins have saved countless lives throughout their history of use in medicine.

### **LITERATURE**

1. Barker CI, Germovsek E, Sharland M. What do I need to know about penicillin antibiotics? Arch Dis Child Educ Pract Ed. 2017 Feb;102(1):44-50.