



The Royal College of Pathologists

Pathology: the science behind the cure

Object 20: Antibiotic disc



What is it?

An antibiotic disc is a small, circular piece of filter paper which has been impregnated with an antibiotic solution and allowed to dry. The discs are used to find out which antibiotics an infective organism is sensitive to so that doctors know what drug to prescribe.

History

Antibiotics were developed during the twentieth century and were greeted as a miracle cure for previously deadly infections. Before the introduction of antibiotics an infected cut or perforated appendix could prove fatal. However, not all bacteria are susceptible to antibiotics, different bacteria respond to different antibiotics and bacteria can become resistant to antibiotics that they previously responded to. Antibiotic discs ensure that the correct antibiotic is used.

Pathology

Microbiologists are the pathologists responsible for diagnosing and treating infections. They study antibiotic sensitivity by placing antibiotic discs on a prepared agar plate and incubating it with the organism under investigation. The antibiotic seeps out of the discs and kills susceptible bacteria in the area around the disc. The bigger the zone without bacterial growth, the more effective the antibiotic. Some bacteria grow all the way up to the disc, indicating that that particular antibiotic is not effective against the organism.

Find out more

The best way to have a closer look at antibiotic discs in use is to visit your local microbiology lab. Why not have a look on the [RCPATH website](#) to see if there's a lab open day taking place near you?