**Science text**

Harry the haemophilus represents the bacteria haemophilus influenzae. Haemophilus influenzae got its name as it likes to grow on blood, that is, it is blood loving. It was also wrongly thought to be the cause of influenza, before the influenza virus was discovered. Haemophilus influenzae are found normally in the pharynx without causing infection. One type of Haemophilus influenzae has a capsule which is made of polysaccharide. The capsule limits immunorecognition. This means these strains, with type B polysaccharide, are able to cause some serious infections, mostly in young children, including epiglottitis, which causes swelling of the epiglottis, and pneumonia.

They can also cause meningitis.

As they cause such severe infections in children there was a need to vaccinate, and the HiB vaccine was developed. The vaccine induces antibodies against the polysaccharide capsule. The vaccine is highly effective. Non capsular strains, which are less pathogenic, that is, they are less able to cause infections, are not affected by the vaccine.

Haemophilus influenzae often causes infection in patients after they have had a viral infection of the respiratory tract, or in patients with other co-morbidities which limits the immune response in some way. The types of infections people get are ear, sinus and lung infections.

Ear and lung infections are often treated with amoxicillin, targeted against S. pneumoniae the most common cause of these infections. Haemophilus influenzae is able to produce a beta-lactamase enzyme which breaks down this beta-lactam antibiotic.

Nil