

## Pneumococcal infections and vaccination

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Pneumococci are major contributors to morbidity and mortality worldwide. They are the major cause of milder respiratory tract infections such as otitis and sinusitis, but also to more severe invasive infections such as community-acquired pneumonia with associated septicemia and meningitis. Even though being a devastating pathogen, pneumococci are also common colonizers of the upper respiratory tract of healthy children where from they may spread to cause disease. Risk groups for acquiring an invasive pneumococcal infection (IPD) include preschool children and the elderly, as well as immunocompromised individuals, splenectomised, and patients with a previous influenza virus infection. Several bacterial virulence factors have been described for pneumococci of which a major one is the capsular polysaccharide. Depending on differences in these capsular structures so far more than 90 different serotypes have been distinguished. Recently so called conjugated vaccines (PCV) have been introduced into the child hood vaccination program in many countries. These vaccines are based on a limited amount (7, 10 or 13) of the capsular serotypes. In Sweden PCVs were introduced in the whole of Sweden year 2009. Vaccine introduction has led to a reduction in the incidence of IPD in vaccinated children but also to serotype replacement and an increase of non-vaccine type disease.

### Biography

Birgitta Henriques Normark is Professor and head physician in Clinical microbiology at Karolinska Institutet and Karolinska University Hospital, as well as head physician at the Public Health Agency of Sweden. She is also vice dean for recruitment at Karolinska Institutet and a board member of the Swedish Research Council, Medicine and Health. Her research focuses on epidemiology, antibiotic resistance and host-microbe interactions in bacterial infections with special focus on pneumococcal epidemicity, molecular epidemiology, and mechanisms of invasive disease, innate immunity and host-microbe interactions determining disease outcome. The research has been published in 136 publications of which 107 are original peer reviewed articles.

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