

## Protect our Health through Vaccination

Vaccination is considered by health authorities and experts around the globe to be one of the history's greatest innovations to let us live healthier lives. Vaccines work by providing the body with a substance recognizable as the infection – for example a virus or bacterium constituent. This tricks the body's immune system into producing antibodies and an immune memory, which then provide protection if exposure to the actual infection occurs. This immunity may be retained for years, decades, or even a lifetime following vaccination.

The following overview shows some diseases that vaccination can help to prevent:

### **Cervical Cancer**

Cervical cancer is caused by certain strains of the human papillomavirus (HPV). Cervical cancer is the second most common cancer for European women aged 15-44. HPV's responsibility in cervical cancer is proven but HPV is also responsible for many other forms of cancer and for the highly contagious genital warts.<sup>1</sup>

### **Hepatitis B**

Hepatitis B is an inflammation of the liver (jaundice), which is caused by the hepatitis B virus (HBV).<sup>2</sup> The virus is transmitted via the blood or body fluids of an infected person (e.g. sexual intercourse). Hepatitis B is highly contagious.<sup>3</sup> The infection is considered to be chronic if the virus is in the blood for longer than six months. WHO estimates that two billion people are infected by the hepatitis B (HBV) virus worldwide. 240 million of these are already chronically ill; over 780,000 people die every year as a result.

### **Pneumococcal Disease (PD)**

PD is caused by a bacterium called *Streptococcus pneumoniae*, also known as pneumococcus. PD is a common cause of morbidity and mortality worldwide.<sup>3</sup> The burden of disease is particularly high for infants under 2 years of age, among those aged 65 years and older and people of all ages with chronic conditions such as chronic heart disease, chronic respiratory disease and diabetes.<sup>4</sup> In 2005, the World Health Organization (WHO) estimated 1.6 million deaths annually were caused by pneumococcus worldwide and the risk for developing PD increases with age in adults.<sup>5,6</sup>

### **Shingles**

Herpes zoster (shingles) is a common and debilitating viral disease caused by the reactivation of the chicken pox virus that lies dormant in the body for years, rearing its head in older age. Approximately 1 in 4 Europeans will suffer from shingles during their life; possibly resulting in long lasting pain and debilitating post herpetic neuralgia.<sup>7</sup>

### **Chickenpox**

Chickenpox is an infectious disease caused by the highly contagious varicella zoster virus (VZV). The virus causes a blister-like rash, itching, tiredness and fever.<sup>8</sup> Chickenpox is most common in children but anyone who has not had chickenpox can get the disease.<sup>9</sup>

## Measles

Measles is a highly contagious viral infection that can occur at any age. It begins with fever, fatigue, abdominal pain, photophobia, inflammation of the oral mucosa and is often accompanied by cough, colds and sore throat. Uncomplicated cases heal quite quickly and without permanent consequences. However, there is a risk of complications such as brain inflammation (encephalitis; 1 per 1000 cases), pneumonia (measles pneumonia; 10 to 60 per 1000 cases) or middle ear inflammation (otitis media). Sometimes measles complications lead to death.<sup>10</sup>

## Mumps

Mumps is a contagious disease caused by a virus. It typically starts with headache, discomfort and fever, followed by the characteristic swelling of the parotid glands. Mumps is generally a mild children's disease that mainly affects children between the ages of five and nine. However, adults can also become infected with mumps, which can be associated with serious complications.<sup>11</sup>

## Rubella

Rubella is a contagious, generally mild viral infection that occurs most often in children and young adults. While the illness is generally mild in children, it has serious consequences in pregnant women causing fetal death or congenital defects known as congenital rubella syndrome (CRS). The rubella virus is transmitted by airborne droplets when infected people sneeze or cough. Humans are the only known host.<sup>12</sup>

## References

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