

## Children's Primary Care

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### COMPARE THE RISKS

RISK OF DISEASE AND SERIOUS COMPLICATION	RISK OF SERIOUS REACTION FROM BEING VACCINATED:
<p><b>Haemophilus influenzae type b (Hib disease)</b> <i>Before vaccine:</i> 1 in 200 children developed meningitis or other invasive Hib disease by age 5. Approximately 20,000 invasive Hib cases per year; 2/3 meningitis; 1/3 other life-threatening invasive Hib diseases Hib meningitis once killed 600 children each year and left many survivors with deafness, seizures, or mental retardation. <i>After Vaccine:</i> Incidence of Hib has declined by 98% between 1994-1998, fewer than 10 fatal cases were reported each year.</p>	<p><b>Hib Vaccine:</b> None reported to date.</p>
<p><b>Diphtheria:</b> <i>Before Vaccine:</i> 206,000 cases and 15,520 deaths in 1921. Due to decreased immunizations in Russia, epidemics began in 1990, with more than 150,000 cases and 5,000 deaths between 1990-1999. Death: 5-10% death rate, with higher rates in the very young and the elderly. <i>After Vaccine:</i> 2 reported cases in US in 2001.</p> <p><b>Tetanus:</b> <i>Before Vaccine:</i> 1,314 cases in 1922-1926 Death: 25% of reported cases ended in death <i>After Vaccine:</i> 41 cases in US in 2000</p> <p><b>Pertussis:</b> <i>Before Vaccine:</i> 150,000-260,000 cases reported each year; 9,000 pertussis-related deaths. Can cause pneumonia, brain damage, seizures, and mental retardation. <i>After Vaccine:</i> From 1990-1996, 57 deaths from pertussis; 49 of these were less than 6 months old</p>	<p><b>DTaP Vaccine:</b></p> <ul style="list-style-type: none"><li>• Seizures (jerking or staring): 1 child out of 14,000</li><li>• Non-stop crying, for 3 hours or more: 1 child out of 1,000</li><li>• High fever, over 105F: 1 child out of 16,000</li></ul>
<p><b>Measles:</b> <i>Before Vaccine:</i> Nearly everyone in US got measles. Complications:<ul style="list-style-type: none"><li>• Pneumonia: 1 in 17</li><li>• Thrombocytopenia: 1 in 6,000</li><li>• Encephalitis: 1 in 2,000</li></ul>Death: 3 out of every 1,000 persons with measles will die in the US. <i>After Vaccine:</i> 99% reduction in measles</p>	<p><b>MMR Vaccine:</b></p> <ul style="list-style-type: none"><li>• Seizures caused by fever: 1 in 3,000 doses</li><li>• Thrombocytopenia: 1 in 30,000 doses</li><li>• Serious allergic reaction: 1 in 1,000,000 doses</li></ul>
<p><b>Mumps</b> <i>Before Vaccine:</i> 212,000 cases of mumps in 1964. Complications:<ul style="list-style-type: none"><li>• Encephalitis: 2 in 100,000</li><li>• Testicular swelling: 1-2 in 5 adults</li><li>• Deafness: 1 in 20,000</li></ul>Death: 1-3 in 10,000 <i>After Vaccine:</i> 266 reported cases in 2001.</p>	

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**RISK OF DISEASE AND SERIOUS COMPLICATION****RISK OF SERIOUS REACTION FROM BEING VACCINATED:****Rubella:**

*Before Vaccine:* 20,000 cases of CRS, 2100 neonatal deaths, 11,250 miscarriages in 1964-1965.

Complications:

- Arthritis: 7 in 10 adult women
- Thrombocytopenia: 1 in 3,000
- CRS (deafness, cataracts, mental retardation) in 8 out of 10 infants if women are infected in early pregnancy.

*After Vaccine:* Only 6 cases of congenital rubella syndrome (CRS) in 2001.

**Hepatitis B:**

12.5 million Americans have been infected at some time in their lifetime.

1.25 million Americans have chronic infection; 20-30% acquired infection childhood.

About 25% of children who become infected with Hepatitis B virus would be expected to die of liver disease as adults.

Death: About 5,000 persons per year.

Number of new infections has declined from 450,000 in 1980s to 80,000 in 1999.

**Varicella (Chickenpox):**

*Before Vaccine:* 4 million cases; 11,000 hospitalizations; 100 deaths per year.

Complications include: secondary bacterial infections, loss of fluids, pneumonia, central nervous system involvement, shingles later in life.

Highly contagious.

*After Vaccine:* Prevents chickenpox in about 70% to 90% of people who get the shot, and prevents severe chicken in over 95%.

**Polio:**

*Before Vaccine:* 13,000-20,000 cases of paralytic polio per year in US

Permanent paralysis: 2 in 100

Death: 1 in 20 children and 1 in 4 adults with paralytic polio.

*After Vaccine:* Eliminated in US

**Hepatitis B Vaccine:**

Severe allergic reaction: very rare.

**Varicella Vaccine:**

Seizures caused by fever: less than 1 in 1,000 persons

Pneumonia: very rare.

Children may come down with mild rash and fever.

**Polio Vaccine:**

Oral Polio Vaccine (OPV):

- Permanent paralysis: 1 in 2.5 million doses

Inactivated Polio Vaccine (IPV):

- Severe allergic reactions vary rare; no other severe reactions reported to date.

\*Adapted from the CDC, *What Would Happen if we Stopped Vaccinations*, available at <http://www.cdc.gov/nip/publications/fs/gen/WhatIStop.htm> and *Vaccine Side Effects*, available at <http://www.cdc.gov/nip/vacsafe/concerns/side-effects.htm>