

Comparison of possible disease complications and vaccine responses

Administering a vaccine stimulates the immune system to protect the body from the disease, therefore some common minor responses are expected following receipt of any vaccine. These include:

- » Local responses of mild pain, redness and swelling around injection site
- » Systemic responses including mild fever less than 39°C, irritability, mild headache, malaise and tiredness

Rarely, more severe responses are seen following vaccination with certain vaccines. The risk of complications from the disease itself is much greater than the risk from rare responses following immunisation. As with any medicine, very rare severe allergic responses (anaphylaxis) can occur following immunisation. For this reason we ask people to wait 20 minutes after receiving vaccines.

Some responses, such as brief fainting spells, are related to the immunisation process not the vaccine itself. Also, unexpected medical events may coincidentally occur which are completely unrelated to being immunised.

Disease and possible complications	Vaccines available	Vaccines and possible responses
Diphtheria <ul style="list-style-type: none"> » Throat swelling and difficulty breathing » Sinusitis, ear infection (otitis media) » Pneumonia » Heart muscle inflammation and damage » Kidney damage and failure » Delayed nerve complications » Death, even with treatment 	6 weeks to under 10 years of age Infanrix-hexa (DTaP-IPV-HepB/Hib) Infanrix-IPV (DTaP-IPV)	Infanrix®-hexa (DTaP-IPV-HepB/Hib) Infanrix®-IPV (DTaP-IPV) Common responses <ul style="list-style-type: none"> » Decreased appetite » Vomiting or diarrhoea » Irritability, restlessness » Unusual crying » Limb swelling after the 4th or 5th vaccine dose Rare responses <ul style="list-style-type: none"> » Hives » Temporary low platelet count » Persistent inconsolable screaming » Hypotonic, hyporesponsive episode (HHE) in infants » Convulsion
Tetanus <ul style="list-style-type: none"> » Muscle weakness, stiffness or cramps – progresses to muscle rigidity and painful spasms » Bone fractures » Throat spasm » Rehabilitation required following infection » Death for around 1 person out of 10 cases despite treatment 	From 7 years of age Boostrix (Tdap) ADT Booster (Td)	Boostrix® (Tdap) ADT™ Booster (Td) Common responses <ul style="list-style-type: none"> » Pain and swelling around the injection site may prevent normal everyday activities for 24–48 hours » Headache or nausea » Muscle or joint stiffness or pain Rare responses <ul style="list-style-type: none"> » Hives » Sterile (infection free) abscess at the injection site
Pertussis (whooping cough) <ul style="list-style-type: none"> » Dehydration, weight loss » Ear infection (otitis media) » Lack of oxygen (hypoxia) during coughing fits » Bleeding in the eye (sub-conjunctival haemorrhage) » Hospitalisation (5 infants in 10 cases aged under 12 months) <ul style="list-style-type: none"> » Slowed or stopped breathing (apnoea) » Pneumonia » Convulsions (seizures) » Death for 1–2 infants out of 100 hospitalised infants » Brain inflammation (encephalitis) » Violent coughing can result in urinary incontinence, ear infection, nose bleeds, collapse (syncope), pneumonia, or broken ribs in adults 	6 weeks to under 10 years of age Infanrix-hexa (DTaP-IPV-HepB/Hib) Infanrix-IPV (DTaP-IPV) From 7 years of age Boostrix (Tdap)	Boostrix® (Tdap) ADT™ Booster (Td) Common responses <ul style="list-style-type: none"> » Pain and swelling around the injection site may prevent normal everyday activities for 24–48 hours » Headache or nausea » Muscle or joint stiffness or pain Rare responses <ul style="list-style-type: none"> » Hives » Sterile (infection free) abscess at the injection site
Poliomyelitis (polio) <ul style="list-style-type: none"> » Most cases have no symptoms (95%) » Mild non-specific illness for 4–8 people out of 100 cases » Aseptic meningitis for 1–5 people out of 100 cases » Rapid onset paralysis occurs for around 2 people out of 100 cases » Permanent muscle weakness or paralysis » Impaired growth » Brain, heart, nerve damage » Muscle pain and weakness (post-polio syndrome) can occur 15–40 years after infection 	6 weeks to under 10 years of age Infanrix-hexa (DTaP-IPV-HepB/Hib) Infanrix-IPV (DTaP-IPV) From 6 weeks of age IPOL (IPV)	IPOL® (IPV) Common responses <ul style="list-style-type: none"> » Irritability, restlessness » Sleepiness » Changed feeding behaviour in infants
Hepatitis B <ul style="list-style-type: none"> » Infants and children are less likely to have symptoms than adults, but » Infants are more likely to become chronically infected and develop complications later in life » Liver inflammation for around 8 out of 10 adults; around 2 adults out of 10 will not have symptoms » Acute liver failure can require liver transplantation or lead to death » Chronic infection can lead to cirrhosis and liver cancer 	6 weeks to under 10 years of age Infanrix-hexa (DTaP-IPV-HepB/Hib) From birth HBvaxPRO (Hep B)	HBvaxPRO® (Hep B) Responses are more common in adults than in children. Common responses <ul style="list-style-type: none"> » Nausea or diarrhoea Rare responses <ul style="list-style-type: none"> » Hives » Itching » Temporary low platelet count » Muscle or joint pain » Abdominal pain and vomiting

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<p>Haemophilus influenzae type b (Hib)</p> <ul style="list-style-type: none"> » Blood infection (septicaemia) » Inflammation of the membranes around the brain (meningitis), especially in young children » Severe swelling in the throat (epiglottitis) » Pneumonia » Joint, heart, bone, skin inflammation » Long term nerve damage » Death for around 1 person out of 20 cases despite treatment 	<p>6 weeks to under 10 years of age Infanrix-hexa (DTaP-IPV-HepB/Hib)</p> <p>From 6 weeks of age Act-HIB or Hiberix (Hib)</p>	<p>Infanrix®-hexa (DTaP-IPV-HepB/Hib)</p> <ul style="list-style-type: none"> » Refer to page 1 <p>Act-HIB® or Hiberix® (Hib)</p> <p>Common responses</p> <ul style="list-style-type: none"> » Irritability » Sleepiness » Unusual crying <p>Rare responses</p> <ul style="list-style-type: none"> » Hives » Itching » Convulsion
<p>Rotavirus</p> <ul style="list-style-type: none"> » Abdominal pain » Severe vomiting and diarrhoea » Dehydration » Death from untreated dehydration 	<p>First dose 6 weeks to under 15 weeks of age ONLY Subsequent dose under 25 weeks of age ONLY RotaTeq (RV5) or Rotarix(RV1)</p>	<p>RotaTeq® (RV5) or Rotarix® (RV1)</p> <p>Common responses</p> <ul style="list-style-type: none"> » Vomiting or diarrhoea » Mild abdominal pain <p>Rare responses</p> <ul style="list-style-type: none"> » Severe abdominal pain related to intussusception (bowel obstruction)
<p>Pneumococcal disease</p> <ul style="list-style-type: none"> » Sinusitis, ear infection (otitis media) » Pneumonia » Blood infection (septicaemia) » Inflammation of the membranes around the brain (meningitis) » Around 3 people out of 10 cases with meningitis die » Of the meningitis survivors, up to half will have serious disabilities 	<p>From 6 weeks of age Synflorix (PCV10) (routine Schedule) or Prevenar 13 (PCV13) (special groups)</p>	<p>Synflorix® (PCV10) or Prevenar 13® (PCV13)</p> <p>Common responses</p> <ul style="list-style-type: none"> » Decreased appetite » Increased or decreased sleep » Fever <p>Rare responses</p> <ul style="list-style-type: none"> » Hives » Hypotonic, hyporesponsive episode (HHE) in infants » Convulsion associated with fever
<p>Measles</p> <ul style="list-style-type: none"> » Ear infection (otitis media) » Diarrhoea » Pneumonia » Low platelet count » Encephalitis (brain inflammation) for around 1 person out of 1000–2000 cases » Weakened immune system » Hospitalisation for around 1 person out of 10 cases » Death for around 1 person out of 1000 cases despite treatment » Degenerative brain disease for around 1 person out of 100,000 cases, occurs years later and is always fatal » Measles during pregnancy increases the risk of miscarriage or premature birth 	<p>From 12 months of age M-M-R II or Priorix (measles, mumps, rubella)</p>	<p>M-M-R® II or Priorix® (measles, mumps, rubella)</p> <p>Common responses</p> <ul style="list-style-type: none"> » Measles component: Fever and/or mild rash 6–12 days after immunisation » Mumps component: Fever and/or mild swelling under the jaw 10–14 days after immunisation » Rubella component: Fever, mild rash and/or swollen glands 2–4 weeks after immunisation » Temporary joint pain 2–4 weeks after immunisation is more common in adult women than children <p>Rare responses</p> <ul style="list-style-type: none"> » Temporary low platelet count » Encephalitis » Aseptic (infection free) meningitis » Convulsion associated with fever
<p>Mumps</p> <ul style="list-style-type: none"> » Fever, headache, swelling and pain of one or more glands under the jaw » Viral meningitis for up to 15 people out of 100 cases » Temporary deafness for around 4 people out of 10 cases and permanent deafness for around 1 person out of 15,000 cases » Inflammation of the testicles, breasts or ovaries in adolescents and adults » Nerve, joint, pancreas, heart inflammation » Encephalitis (brain inflammation) for around 1 person out of 6000 cases, which may result in death for 1 person out of 100 » Death for 1–2 people out of 100,000 cases » Mumps during early pregnancy increases the risk of miscarriage 		<p>From 12 months of age M-M-R II or Priorix (measles, mumps, rubella)</p>

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Rubella <ul style="list-style-type: none"> » Some cases have no symptoms, which increases the risk of exposing pregnant women to the disease » Rash and painful swollen glands » Low platelet count » Joint pain in adolescents and adults » Encephalitis (brain inflammation) for around 1 person out of 6,000 cases » Rubella during early pregnancy can cause severe abnormalities in unborn babies, including deafness, blindness, heart defects, brain damage 	<p>From 12 months of age M-M-R II or Priorix (measles, mumps, rubella)</p>	<p>M-M-R® II or Priorix® (measles, mumps, rubella)</p> <ul style="list-style-type: none"> » Refer to page 2
Human papillomavirus (HPV) <ul style="list-style-type: none"> » Genital warts » Cancers of the mouth, throat, vulva, vagina, cervix, penis and anus 	<p>From 9 years of age Gardasil (HPV4) or Gardasil9 (HPV9)</p>	<p>Gardasil® (HPV4) or Gardasil®9 (HPV)</p> <p>Common responses</p> <ul style="list-style-type: none"> » Fainting – more common in adolescent girls <p>Rare responses</p> <ul style="list-style-type: none"> » Severe pain and swelling at injection site
Influenza <ul style="list-style-type: none"> » Sore throat, fever, chills, muscle aches and pain, malaise » Croup and bronchiolitis in children » Pneumonia » Encephalitis (brain inflammation) » Heart failure » Septicaemia (blood infection) » Death » Pregnant women with influenza are more likely to develop complications including pneumonia, and are more likely to be admitted to hospital, intensive care, and to die from influenza complications than women who are not pregnant » Labour and/or delivery problems including infant distress 	<p>From 6 months of age Influvac</p>	<p>Influvac®</p> <p>Common responses</p> <p>Responses are more common in children not previously exposed to the vaccine or virus than in adults</p> <ul style="list-style-type: none"> » Fever » Malaise » Muscle pain
Tuberculosis <ul style="list-style-type: none"> » Some cases have no symptoms » Lung infection and breathing problems » Infants and children aged under 5 years are more likely to get severe disease, i.e. <ul style="list-style-type: none"> » Meningeal tuberculosis (infection of the membranes around the brain), and/or » Miliary tuberculosis (infection spread throughout the body) » Antibiotic resistant strains are difficult to treat » Death for up to half of people with active disease despite treatment 	<p>Birth to under 5 years of age BCG Vaccine SSI</p>	<p>BCG Vaccine SSI</p> <p>Common responses</p> <ul style="list-style-type: none"> » Swollen glands and tiredness » Small blister or ulcer at the injection site that may take up to three months to heal » Scar at the injection site <p>Rare responses</p> <ul style="list-style-type: none"> » Bone inflammation » Abscess » Disseminated BCG disease that can be fatal when the BCG is given to a person with a weakened immune system
Varicella (chickenpox) <ul style="list-style-type: none"> » Permanent skin scarring » Bacterial skin infection in around 1 child out of 20 child cases » Nerve inflammation (cerebral ataxia) for around 1 child out of 4000 child cases » Bone, joint, liver, blood vessel inflammation » Encephalitis (brain inflammation) for around 4 people out of 10,000 » Pneumonia in adults, especially pregnant women » Hospitalisation for 2–6 people out of 100,000 cases » Death for 2–4 people out of 100,000 cases » Chickenpox during pregnancy can cause severe abnormalities in unborn babies including skin scarring, eye, limb or brain abnormalities, developmental delay, and a poor outcome » Maternal chickenpox close to delivery can infect the newborn causing severe disease and death » Shingles in later life 	<p>From 12 months of age (routine Schedule) or</p> <p>From 9 months of age (special groups) Varilrix</p>	<p>Varilrix®</p> <p>Common responses</p> <ul style="list-style-type: none"> » Headache and/or tiredness » Mild rash 6–43 days after immunisation <p>Rare responses</p> <ul style="list-style-type: none"> » High fever » Transfer of vaccine virus from a vaccine rash to another person

The BCG Immunisation Programme is currently suspended due to a vaccine supply issue.