

# Vaccinations and Spina Bifida and Hydrocephalus

May 2009

Vaccines are made from parts of bacteria or viruses that cause infections; when people are vaccinated they will make their own immunity to the specific diseases.

Modern vaccines are very safe and will not cause the infections they are designed to prevent. Vaccination is considered to be safe for children with spina bifida and hydrocephalus, indeed far safer than the consequences of acquiring any of the serious diseases. In many cases vaccination will not only protect those vaccinated but also help to prevent the disease in other contacts at home or school. In each case there are some people who should not receive a certain vaccine, or who should seek medical advice if in doubt.

The official Department of Health advice is: "Every effort should be made to ensure that all children are immunized, even if they are older than the recommended age range; no opportunity to immunize should be missed."

## **Pertussis immunisation – whooping cough**

Pertussis or whooping cough is a serious infection that can last for months and lead to significant complications. Modern pertussis vaccines have a very good safety record, and have succeeded in bringing down the number of cases of whooping cough from over 120,000 a year to just over 1000. The vaccine is now available only as part of a combined vaccine against diphtheria and tetanus and pertussis (DTaP) or one containing polio and Haemophilus vaccine in addition.

**The Department of Health Immunisation Handbook (2006) states:**

*"The presence of a neurological condition is NOT a contraindication to immunization. If a child has a stable pre – existing neurological abnormality, such as spina bifida, congenital abnormality of the brain etc, they should be immunized according to the recommended schedule. When there has been a documented history of cerebral damage in the neonatal period, immunization should be carried out unless there is evidence of an*

*evolving neurological abnormality."*

This means that children with hydrocephalus or spina bifida should have the vaccine. The only exceptions are when there is a neurological condition that is unstable and still developing, and where the cause remains unknown. In this case vaccination can be deferred until later, but this period during which the child is unprotected should be kept to a minimum.

With regard to children with a history of epilepsy, the Handbook states: "A family history of seizures [fits] is NOT a contraindication to immunization. When there is a personal or family history of febrile seizures [that is fits when you get a fever] there is an increased risk of these occurring after any fever, including that following immunization. When a child has had a febrile seizure in the past, with no evidence of neurological deterioration, immunisation should go ahead."

This means that a history of fits is not a reason to avoid vaccination. Advice on post – vaccination fevers should be obtained.

If parents are concerned about a child being immunised, they should consult their doctor.

## **MMR II vaccination – measles, mumps, rubella**

Childhood diseases such as measles, mumps and rubella (German measles) are often thought of as trivial, but they can give rise to serious complications. Measles is a cause of ear infection and can cause pneumonia. Mumps causes painful swelling of the saliva glands in the mouth, but it is also a cause of meningitis and deafness. In older boys it can cause inflammation of the testicles. Rubella is a relatively mild disease with only rare complications, but if it is caught in pregnancy (usually from unvaccinated children) it can result in miscarriage or the birth of a baby with serious abnormalities of the heart, eye and other organs.

The introduction of the updated MMR II vaccine in September 1996 was intended to continue the process of elimination of measles, mumps and rubella (German

measles) from the population. Following this, rubella in pregnancy has been almost eliminated. Until 1999, when vaccination rates fell again, the number of mumps cases also fell dramatically. Similarly, cases of measles have also fallen, with virtual elimination of the most serious complications.

#### **The reasons for NOT receiving the vaccine are:**

- a) A confirmed anaphylactic reaction (that is an extreme emergency, not just a rash) following a previous dose of the same vaccine or to some vaccine components such as streptomycin or polymyxin (uncommon antibiotics).
- b) The presence of malignant disease or an immunosuppressive illness such as HIV, or treatment with immune suppressive drugs.
- c) MMR is contraindicated in pregnancy.
- d) The administration of MMR vaccine (or one of its three component vaccines) by injection within the past four weeks. MMR is the only one of the "childhood diseases" vaccines in this category.
- e) Illness with a high temperature. The vaccine should be given later, when the child has recovered.

There may be a raised temperature or a rash showing about a week to 10 days after receiving the vaccine, but this can be controlled with paracetamol. A history of convulsions is not a contra-indication to this vaccine. Measles vaccination can cause febrile convulsion (not the same as epileptic convulsions). If your child has a history of febrile convulsions your doctor may recommend giving paracetamol for 72 hours following vaccination to prevent his/her temperature from rising. Allergy to eggs is not a contraindication to MMR vaccine and children who have shown egg allergy in the past should receive the vaccine. If in doubt parents should consult their GP or paediatrician.

Hydrocephalus is not a reason for withholding the vaccine.

**MMR Vaccine and Autism:** The issue of whether there is a link between MMR and autism or inflammatory bowel disease has been extensively investigated in several countries. NO SUCH LINK HAS BEEN FOUND, and evidence now shows that the original report from a single source was not correct. (See Department of Health website: [www.mmrthefacts.nhs.uk](http://www.mmrthefacts.nhs.uk))

For more information, parents are advised to consult their family doctor.

### **Vaccines against meningitis**

There are now three vaccines against the commonest forms of bacterial meningitis in UK. These are Haemophilus influenzae type b (Hib), Meningococcus C (Men C) and Pneumococcus. In addition to protection from meningitis they often prevent other complications of infection. Bacterial meningitis is itself a potential

cause of hydrocephalus.

**Haemophilus (Hib):** Haemophilus is a bacterium that lives in the nose and throat. Unfortunately it can cause serious infections including pneumonia and meningitis. From October 1992, immunisation against Haemophilus influenzae type b meningitis (Hib) became routine for all babies in the UK.

Hib is the commonest cause of bacterial meningitis in children under four years. It is important that babies and children who have spina bifida and/or hydrocephalus should be vaccinated against Hib.

Since routine Hib immunization began, there has been a 95% fall in infection in children most at risk.

#### **Reasons for NOT receiving the vaccine are:**

A confirmed anaphylactic reaction (that is an extreme emergency, not just a rash) following a previous dose of the same vaccine or to some vaccine components. This is an extremely rare event. A minor reaction to the first dose such as rash or transient fever should not deter further administration.

**Meningococcus C (MenC):** Meningococcus is a bacterium that lives in the nose and throat. Unfortunately it can cause serious infections, particularly septicaemia (blood infection) and meningitis. Two types (B and C) cause infection in UK, but at the moment a vaccine is available only against Group C.

From 1999, Men C immunisation became routine for all babies in the UK, following which the number of cases fell by over 90%.

It is important that babies and children who have spina bifida and/or hydrocephalus should be vaccinated against Meningococcus C.

#### **Reasons for NOT receiving the vaccine are:**

A confirmed anaphylactic reaction (that is an extreme emergency, not just a rash) following a previous dose of the same vaccine or to some vaccine components. This is an extremely rare event. A minor reaction to the first dose such as rash or transient fever should not deter further administration.

**Pneumococcus:** like Haemophilus and Meningococcus, Pneumococcus is a bacterium that lives in the nose and throat. Unfortunately it can cause serious infections, particularly ear infections, pneumonia, septicaemia (blood infection) and meningitis.

From 2002, pneumococcus vaccine has been available but immunisation with the new, more effective polyvalent (effective against more than one strain of pneumococcus) type became routine for all babies in the UK in 2006.

It is important that babies and children who have spina bifida and/or hydrocephalus should be vaccinated against Pneumococcus.

#### **Reasons for NOT receiving the vaccine are:**

A confirmed anaphylactic reaction (that is an extreme

emergency, not just a rash) following a previous dose of the same vaccine or to some vaccine components. This is an extremely rare event. A minor reaction to the first dose such as rash or transient fever should not deter further administration.

Contrary to previous advice, people with shunts are NOT at any more risk from pneumococcus than people without shunts, and adults who have (or are about to have) shunts should not be more concerned about risk of pneumococcal disease. However, Department of Health policy is that all children and all those over 65yrs of age should be immunized.

Vaccination schedules for children: Most of the major childhood disease can now be covered by the UK immunization programme. Some of these are dealt with here, but others including polio, diphtheria and tetanus are also very important. These have all now been put together into combined vaccines, so it is possible to have all the protection with fewer injections. Vaccination should begin at 2 months of age, with repeat doses at intervals. Your GP or paediatrician will be able to tell you which combination vaccines are available and when to have your child vaccinated.

## Vaccines for Travellers

People with Spina Bifida and Hydrocephalus travelling to countries where vaccines are recommended (e.g. yellow fever, typhoid etc) should receive exactly the same vaccinations as any other traveller.

For further information on travel health please refer to: [www.fitfortravel.nhs.uk](http://www.fitfortravel.nhs.uk) or [www.nathnac.org/travel](http://www.nathnac.org/travel)

## Link magazine

The essential magazine for people with hydrocephalus and spina bifida.

Link is published quarterly (Winter, Spring, Summer and Autumn) and is packed with the latest news, events and issues for individuals, carers and people living with hydrocephalus and spina bifida. To subscribe contact **ASBAH's Helpline 0845 450 7755** email: [helpline@asbah.org](mailto:helpline@asbah.org) or visit our web site: [www.asbah.org](http://www.asbah.org) and click on the publications page.



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This information has been produced by ASBAH's health advisers and approved by ASBAH's Medical Advisory Committee of senior medical professionals.