UPDATE

TACKLING THE SURGE IN MEASLES

There has been a worrying increase in the number of measles cases. Nurses are vital in ensuring that children have both doses of the MMR vaccine, reports Nerys Hairon.

The Health Protection Agency (HPA) is urging parents to have their children immunised with two doses of the measles, mumps and rubella (MMR) vaccine, following an increase in cases of measles over recent weeks.

Latest reports show there have been 480 confirmed cases of measles in the UK so far this year, compared with a provisional total of 756 cases during the whole of 2006 (HPA, 2007). The agency states that the number of cases in 2006 was the highest since the current method of monitoring began in 1995, and warns that this year ‘looks set to follow that trend’. It adds that up until 10 June this year only 136 cases of measles had been confirmed, but with the total now at 480, the number is increasing at a higher rate than usual for this time of year. As a result, the HPA is stressing the importance of completing the course of MMR vaccine.

MEASLES

Measles is an acute, highly infectious viral illness transmitted via droplet infection, and is classified as a notifiable disease. It is rare in the UK due to high levels of immunity but is most common in children aged 1–4 years who have not been immunised. Almost all who are infected develop symptoms.

The HPA (2005) outlined the symptoms of measles and its complications: a prodromal phase (early warning signs) of 2–4 days starts with fever, conjunctivitis, coryza and Koplik spots on the buccal mucosa (spots inside the mouth, in line with the molars). The characteristic rash appears on the body between the third to seventh day, spreads over four days and lasts for a week.

Complications are common, and include otitis media, pneumonia, croup or diarrhoea. Other complications may include bronchiolitis, sinusitis, myocarditis, corneal ulceration, mesenteric adenitis (inflammation of the glands of the mesentery), hepatitis and thrombocytopenic purpura (low blood platelets resulting in a haemorrhage into the skin). Severe complications of measles are encephalitis and subacute sclerosing pan-encephalitis (SSPE), a rare but fatal late complication of measles infection (HPA, 2005).

There is no specific treatment for measles. Treatment should be based on symptoms. Human normal immunoglobulin (HNIG) is used to prevent an attack or reduce its severity, and is most effective if given within 72 hours.

Epidemiology

Measles is endemic in many countries and globally it is estimated that one million children die from measles annually, most in developing countries (HPA, 2005). However, the disease is also a serious problem in industrialised countries. In the UK before 1988, half of all children who died from measles were previously healthy. In 2006 there was one measles death, in a 13-year-old boy with an underlying lung condition who was taking immunosuppressive drugs. Before 2006 the last death resulting from acute measles occurred in 1992.

Measles has been notifiable in England and Wales since 1940 and notifications varied between 160,000–800,000, with peaks occurring in two-year cycles. The HPA says introduction of a single measles vaccine in 1968 had limited effect because coverage was never high enough to affect virus transmission. However, by the late 1980s annual notifications had fallen to 50,000–100,000.

Following the introduction of the MMR vaccine in 1988 and the achievement of coverage levels of over 90%, notifications of measles fell progressively to the lowest levels since records began. The HPA states...
that the introduction of the vaccine effectively halted the two-yearly cycles of measles epidemics (HPA, 2005).

THE MMR VACCINE
MMR immunisation is given in the national immunisation programme at 12–15 months and at 3–5 years of age. There is no upper age limit and where required, two doses can be given separated by a three-month interval (HPA, 2005). For full details see the Green Book at www.dh.gov.uk.

Uptake of MMR is measured at two and five years of age. Current uptake in UK children starting school (at five years of age) is at 88% for one dose and only 74.7% for both doses (HPA, 2007). The HPA points out that after the first dose, 5–10% of children are not protected against measles, so two doses will give better protection.

The World Health Organization recommends that 95% of people should receive the MMR vaccine. This is to ensure herd immunity, which occurs when the vaccination of a portion of the population provides protection to unvaccinated individuals. In diseases passed from person to person, it is more difficult to maintain a chain of infection when large numbers of a population are immune. The greater the proportion of immune individuals, the lower the likelihood that a susceptible person will come into contact with an infected individual.

MMR CONTROVERSY
Public confidence in the MMR vaccine was famously affected by the media attention surrounding a study published in 1998, which linked the vaccine to autism and bowel disease. MMR vaccine coverage at 24 months in England fell from 91% in 1998 to 80% in 2004. Last year it crept back up to 84% (Doherty, 2007).

Dr Andrew Wakefield led the study, carried out between 1996 and 1998, on 12 children with autistic spectrum disorders who had been referred to the Royal Free Hospital in London for gastrointestinal symptoms (Doherty, 2007). The findings were published by The Lancet in 1998 and a press conference was held at the Royal Free Hospital. The study noted that parents of eight of the 12 children involved reported the start of behavioural problems within two weeks of the MMR vaccination. The study authors stressed that no causal connection had been proved. Most of the researchers agreed that further studies were needed to investigate a possible link, but they said parents should continue to have their children vaccinated with MMR.

However, Dr Wakefield suggested at the press conference that parents should opt for single vaccines against measles, mumps and rubella one year apart, triggering public concern. Intense media coverage led many parents to refuse to vaccinate their children altogether (Doherty, 2007).

RESTORING PUBLIC CONFIDENCE
Restoring the public’s faith in the safety of the MMR vaccine has been a long and arduous journey for the government, researchers and healthcare professionals. While a wealth of research has been undertaken that indicates the MMR vaccine is safe, this is difficult to prove conclusively, and some scepticism still remains.

In 2001 the Department of Health issued a press release on the vaccine’s safety (DH, 2001). The statement said the DH welcomed the advice from the Committee on Safety of Medicines and the Joint Committee on Vaccination and Immunisation that MMR vaccine ‘remains the safest way to protect children’. The chief medical officer for England, Sir Liam Donaldson, said: ‘We are very pleased to have this further confirmation that the safety record of MMR is excellent. The safety of the combined MMR is supported by a much greater body of evidence than for individual vaccines.’

The DH has also produced an MMR information pack (DH, 2004), which includes a statement of support. On the link with autism this argues: ‘Despite what the stories say, there has not been a single study that has shown a risk of MMR causing autism. But there have been many studies that cannot find a link. The weight of scientific evidence strongly indicates that MMR does not cause autism.’

For a range of useful resources on measles and MMR, see the box below.

CONCLUSION
Public confidence in the MMR vaccine is returning and uptake levels are rising, but it is important to ensure that children receive both doses. GP Dr Michael Fitzpatrick (Fitzpatrick, 2007) wrote in The Times recently that uptake of the vaccine has ‘still not reached its level of a decade ago and is still well short of the level required to guarantee herd immunity’.

Nurses can contribute to increasing the uptake of MMR vaccine by providing parents with clear, evidence-based information on the vaccine and on the risks associated with measles.