**VACCINATION OF CHILDREN VISITING DEVELOPING COUNTRIES**

No. 8, 2000

**The child vaccination programme**

On being stationed abroad, it is usually advisable to follow the local child vaccination programme. For travel in general, it is desirable to ensure that the child has had the first two Di-Te-Ki-Pol and Hib vaccinations before departure. If time is short, these vaccinations can be performed from the age of six weeks. Vaccination before the age of two months does not count as part of the primary series. The interval between the two vaccinations should preferably be eight weeks, with a minimum of four weeks. A child of two months who has been vaccinated at an interval of less than six weeks will need a further vaccination. If a newborn child is due to visit e.g. Pakistan, India or tropical Africa, where polio is still endemic, up to four doses of oral polio vaccine can be given from birth, at intervals of at least four weeks. MMR vaccination can be performed down to the age of nine months, but the vaccination should be repeated if given to a child under one year.

General vaccination recommendations for individual countries have been given in EPI-NEWS 18/99.

**Tuberculosis**

BCG vaccination is recommended if the child is due to be looked after by a local domestic staff or attend a day-care institution, etc. BCG does not ensure full protection, but does protect against tubercular meningitis and miliary TB, which especially affect smaller children. BCG vaccination can be given from birth but will only be effective after 6-8 weeks.

**Hepatitis A**

Hepatitis A usually takes a mild course in children. If long-term protection is desired, children can be vaccinated from the age of one year. Children aged 1-15 years are given two paediatric doses at an interval of 6-12 months. A single dose gives immunity for one year, but two separate doses protect for at least 10 years.

**Hepatitis B and hepatitis A+B**

Apart from a potential risk of infection from medical procedures etc., children may be infected by other children who have been infected at birth and are chronic carriers. Horizontal transmission of infection be-

tween children is well described in developing countries. Vaccination is therefore especially recommended for children expected to come into contact with local children. Hepatitis B vaccination can be carried out from birth. Three doses are given: on day 0, one month later, and six months later. If protection is needed against both hepatitis A and B, the combined A+B vaccine can be used from the age of one year, with the same intervals as for hepatitis B vaccination.

**Typhoid fever**

Vaccination is recommended for children over two years who are due for a long stay in poor hygienic conditions. A single vaccination is given, providing protection for three years. Oral typhoid vaccine can be given to children from the age of five years, providing protection for one year.

**Yellow fever**

Vaccination may be officially required for entry into certain countries. Children can be vaccinated from the age of nine months. A certificate of exemption can be issued to children below this age. In the face of over-riding indications, e.g. a yellow fever epidemic, the vaccine can exceptionally be given from the age of six months. Small children should be protected as much as possible from mosquito bites.

**Japanese encephalitis**

Vaccination is recommended for prolonged stays in Asia where Japanese encephalitis occurs, especially in rural areas where pigs are kept. Vaccination can be carried out from the age of one year. Two doses are given at an interval of 1-3 weeks. Children under three years are given a paediatric dose (0.5 ml).

**Tick-borne encephalitis (TBE)**

TBE usually has a mild course in children and vaccination of children below school age is rarely indicated.

**Group A meningococcal disease**

Vaccination is recommended for long stays in many African and certain Asian countries subject to epidemics of meningococcal disease. Used from the age of two years, the vaccine provides good protection for three

years. Some protection is obtained in younger children. Children from three months to two years can be given two doses at an interval of three months.

**Rabies**

Rabies occurs in wild mammals and certain domestic animals, especially dogs. Vaccination is recommended for children from the age of one year who are due for a long stay or journey to remote rural areas. Doses are given on day 0, 7 and 28. Protection lasts for five years. On any subsequent exposure to rabies the child should have two further doses.

**Cholera**

Cholera vaccination is no longer officially required by any country. It is seldom indicated. The new oral cholera vaccine protects both against cholera and to some extent against diarrhoea due to enterotoxin-producing *E. coli* strains, EPI-NEWS 44/98. The vaccine can be given to children from the age of two years. Children aged 2-6 years are primarily immunized with three doses, given at intervals of 1-6 weeks. A booster dose is given after six months.

**Malaria**

Malaria prophylaxis requires an active effort throughout the period in which children are staying in a malaria zone. Malaria mosquitoes bite between sunset and sunrise, and a mosquito net impregnated with insecticide and correctly placed round the child's cot is therefore an important primary preventive measure. Prophylactic antimalarials that can be used in children are as follows: Chloroquine and Paludrine (min. body weight 10 kg). Malarone (min. body weight 11 kg); tablets should not be cut and ¼-strength tablets are available on application to the Danish Medicines Agency. Lariam (min. body weight 15 kg). Doxycycline (min. age 12 years). Doses are given in the Danish Drug Catalogue and in EPI-NEWS 20/99. Early diagnosis and treatment are important if the child gets malaria. (A.H. Christiansen, T. Rønne, Dept. of Epidemiol., B.Høgh, Dept. of Paediatrics, Hvidovre Hospital)



## Patients with laboratory-diagnosed chlamydia and gonorrhoea, by sex and county

4th quarter of 1999

	Chlamydia, 4th quarter				Gonorrhoea, 4th quarter			
	1999			1998	1999			1998
	M	F	Total		M	F	Total	
Cph. + Frb. Municip.	168	408	580 *	587	49	7	56	32
Copenhagen County	71	262	334 *	322	8	1	9	1
Frederiksborg	42	116	158	154	4	1	5	1
Roskilde	27	68	95	95	5	0	5	2
West Zealand	48	134	183 *	107	1	0	1	1
Storstrøm	25	72	97	81	2	1	3	0
Bornholm	5	13	18	20	0	0	0	0
Funen	103	233	336	276	1	1	2	2
South Jutland	37	100	137	119	3	0	3	3
Ribe	46	93	139	105	2	0	2	0
Vejle	40	143	183	211	0	0	0	1
Ringkøbing	40	120	161 *	184	3	0	3	0
Aarhus	218	405	623	456	5	2	7	5
Viborg	35	89	124	84	1	0	1	3
North Jutland	111	263	375 *	281	2	0	2	1
Denmark	1016	2519	3543 *	3082	86	13	99	52

\*) Sex not stated in some cases

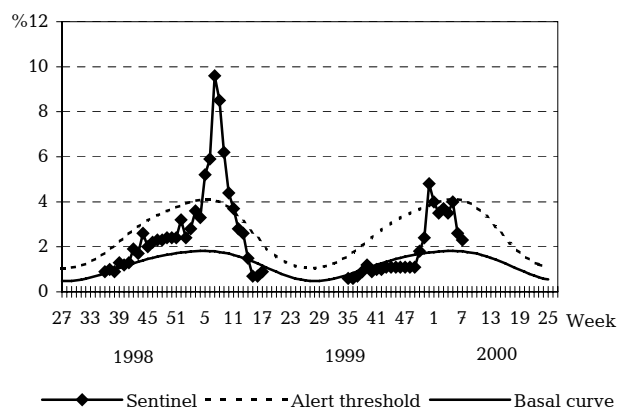
(Dept. of Respiratory Infections, Meningitis and STIs)

### Influenza

Sentinel surveillance is indicating a continuing fall in influenza activity.

### Influenza activity in sentinel surveillance

Weekly percentage of consultations, 1998/1999/2000



**Sentinel:** Influenza consultations as % of total consultations

**Basal curve:** Expected frequency of influenza consultations under non-epidemic conditions

**Alert threshold:** Possible incipient epidemic

### Sentinel specimen-taking 1999/2000

Week	35-01	2	3	4	5	6	7
Specimens received	69	26	17	15	10	3	2
Influenza A, untyped							
Influenza A - H3N2	16	5	5	5	4	0	

(Dept. of Epidemiology)