



# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiological Unit,

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## Introduction of Hib vaccine into the EPI Programme

Epidemiology Unit is now in the process of introducing Hib vaccine into the National Immunization Programme in Sri Lanka with effect from January 2008.

The available data, particularly from the country's national children's hospital indicates a possible increasing future trend of Hib infections in the country. The clinicians have highlighted the need for a Hib vaccination programme. This was further endorsed by the findings of Haemophilus Influenzae B burden study carried out in 2004.

For this study all five hospitals in the district of Colombo with a consultant paediatrician participated. The objective of this study was to describe the epidemiology of Hib infections in the age group 0-5 years in the district of Colombo. All Hib infections detected were that of type b and accounted for 50% of the aetiologically confirmed meningitis. This study established Hib meningitis incidence of 20.1 per 100,000 under 5 year population in the Colombo district, and estimates all Hib disease incidence to be 124.5 cases per 100,000 under 5 years. This rate is the highest incidence reported in the South Asian region. Hib meningitis constituted 84% of the Hib diseases. Almost 80% of the Hib meningitis cases occurred in the age group below 24 months and 59% of all meningitis cases were below 12 months of age.

Based on the above evidence the Epidemiology Unit had recommended the introduction of Hib vaccine into the National EPI Programme with effect from January 2008 which was approved by the National Advisory Committee on Com-

municable Diseases.

Hib conjugate vaccines are available in several different formulations. They can be obtained as a liquid or freeze-dried powder (lyophilized), in single or multi-dose vials, and as monovalent vaccines (Hib conjugate vaccine only) or in combination with other routine childhood vaccines e.g., DTP, DTP- hepatitis B( Pentavalent vaccine). Pentavalent DTPHep B-Hib vaccines are available in both liquid and freeze-dried forms. It has been decided to use liquid form Pentavalent vaccine in the national EPI programme considering the convenience of using liquid form of Pentavalent vaccine at busy immunization clinics. At present, only single dose liquid form Pentavalent vaccine is available.

**Donor support :** With the support of the GAVI Alliance combined pentavalent DTP-HepB-Hib vaccine will be introduced to the national EPI programme in 2008 in all districts of the country. In this instance GAVI support is based on a co-finance policy, where both the recipient country and GAVI share the vaccine cost. Initially the contribution from the country will be minimal. Subsequently it will be increased and by 2015 country will have to bear the total expenditure. Since the Government is committed to share a significant amount of the cost in the introduction of Pentavalent DTP-HepB-Hib vaccine, it is important to give due consideration to the accountability. Therefore, the Ministry of Health will take necessary measures to ensure

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accountability at national, district (RDHS) and divisional (MOH) levels.

**Schedule :** The Pentavalent DTP-HepB-Hib vaccine will be introduced into the current EPI schedule at the completion of 2, 4 and 6 months of age. First three doses of OPV will also be given with the Pentavalent DTP-HepB-Hib vaccine at the same time. It is important to note that no pentavalent fourth dose will be given at the age of 18 months but the fourth dose of DTP given at this age will be continued. If any dose of Pentavalent-DTP-Hep B-Hib vaccine is missed or delayed, it should be given at the next earliest available opportunity for immunization. The immunization regime should not be re-started if a dose is missed.

**Eligibility :** All children presenting to immunization clinics for DPT1 and Hepatitis B 1 on or after the 1<sup>st</sup> January 2008 will be eligible to receive the Pentavalent DTP-HepB –Hib vaccine. Children who have received their first or/and second dose(s) of DPT and Hepatitis B before the 1<sup>st</sup> January 2008 will not be eligible for Pentavalent DTP-HepB –Hib vaccine as their subsequent DTP and Hep B vaccination.

**Dosage :** The standard dose for infants and children is 0.5 ml.

**Route and site of administration :** Pentavalent DTP-Hep B-Hib vaccine should be given as an intramuscular(IM) injection to the anterolateral aspect of the thigh in infants or to the deltoid muscle in older children. Pentavalent vaccine should not be given in the buttock or administered intradermally because this route of administration does not produce an adequate antibody response. In addition there may be a risk of injury to the sciatic nerve. In Pentavalent DTP-HepB-Hib there is no special concern of which side/site to be used. However, it is advisable to use the left thigh/deltoid muscle to maintain an uniform practice.

#### **Contra-indications**

There are very few reasons to withhold or postpone administration of Pentavalent DTP-Hep B-Hib vaccine. It should be avoided only for children with:

- A history of a severe allergic reaction (e.g. generalized urticaria, difficulty in breathing, swelling of mouth and throat, hypertension, shock) to a previous dose of Pentavalent DTP- Hep B - Hib vaccine or with known hypersensitivity to any vaccine component
- A history of an encephalopathy of unknown aetiology after a previous immunization with a vaccine containing pertussis. In these circumstances, the vaccination course should be continued with DT and Hepatitis B,

which are available in all government immunization clinics. Since the monovalent Hib vaccine is not available in the government clinics, these children may not be able to receive the Hib vaccine in the routine immunization clinics.

- A severe acute illness with temperature above 38.5°C. As with other vaccines, vaccination should be postponed in children suffering from acute febrile illness
- .progressive neurological disease.

#### **Precautions for Use**

Precautions should be taken to avoid undesirable reactions before administering the vaccine.

These precautions include review of the child's medical history, particularly regarding hypersensitivity reactions to previous administration of any type of vaccine and the child's history of recent health problems.

Administration of any subsequent dose of DTP-HepB-Hib should be carefully considered if, in connection with the administration of vaccine, one or more of the following effects have been observed: 40°C temperature within 48 hours following vaccination (not due to other identifiable causes); collapse or shock (hypotonic hyporesponsive episodes) within 48 hours following vaccination; persistent crying lasting more than 3 hours during the 48 hours following vaccination; convulsions, with or without fever, within 3 days following vaccination.

DTP-HepB-Hib vaccine should be administered with caution to subjects with thrombocytopenia or a bleeding disorder since bleeding may occur following an intramuscular administration of the vaccine to these subjects.

#### **Storage temperature and shelf-life**

Penta valent DTP-Hep B-Hib vaccine should be stored and transported between 2°C. 8°C. It should not be frozen. Preferably be kept in the middle shelf of the main compartment of the refrigerator. While transporting the vaccine vials should **NOT** be kept in contact with ice in vaccine carriers/flasks and during clinic sessions Penta valent DTP-Hep B-Hib vials should **NOT** be kept in contact with ice.

#### **Injection Safety**

Administration of Pentavalent DTP-HepB-Hib vaccine will be done using AD syringes.

- Sources; 1.** Batuwantudawa R. Hib Burden Study, 2004
2. Epidemiology Unit, Sri Lanka. Introduction of combined pentavalent DTP-Hep B- Hib Vaccine into the EPI ,No: EPI/81/VII/2007 .

Table 1: Vaccine-preventable Diseases &amp; AFP

22<sup>nd</sup> - 28<sup>th</sup> September 2007 (39<sup>th</sup> Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	00	00	00	00	03	63	93	-32.3%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	02	00	00	00	00	00	00	00	02	01	56	30	+86.7%
Tetanus	00	00	01 MT=1	00	00	00	00	00	01	00	27	37	-27.0%
Whooping Cough	00	00	00	00	00	00	00	00	00	01	32	66	-51.5%
Tuberculosis	38	01	12	40	00	00	10	00	101	102	7605	7454	+2.0%

Table 2: Diseases under Special Surveillance

22<sup>nd</sup> - 28<sup>th</sup> September 2007 (39<sup>th</sup> Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
DF/DHF*	33	04	06	04	06	02	03	34	92	205	4293	7968	-46.1%
Encephalitis	01 KL=1	00	00	00	00	00	03 BD=3	00	04	00	156	92	+69.6%
Human Rabies	00	00	01 GL=1	00	00	00	00	00	01	00	51	48	+6.3%

Table 3: Newly Introduced Notifiable Diseases

22<sup>nd</sup> - 28<sup>th</sup> September 2007 (39<sup>th</sup> Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Total number of cases to date in 2007
	W	C	S	NE	NW	NC	U	Sab		
Chickenpox	06	03	06	19	03	01	05	06	49	2570
Meningitis	01 GM=1	00	03 MT=2 HB=1	04 TR=3 KM=1	02 KR=1 PU=1	00	00	06 KG=4 RP=2	16	472
Mumps	04	04	08	48	05	02	00	00	71	1579

\*DF / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.  
NA= Not Available.

**Sources:**  
**Weekly Return of Communicable Diseases:**

Diphtheria, Measles, Tetanus, Whooping Cough, Human Rabies, Dengue Haemorrhagic Fever, Japanese Encephalitis, Chickenpox, Meningitis, Mumps.

**Special Surveillance:**  
Acute Flaccid Paralysis.

**National Control Program for Tuberculosis and Chest Diseases:**  
Tuberculosis.

**Provinces:** W=Western, C=Central, S=Southern, NE=North & East, NC=North Central, NW=North Western, U=Uva, Sab=Sabaragamuwa.

**DPDHS Divisions:** CB=Colombo, GM=Gampaha, KL=Kalutara, KD=Kandy, ML=Matale, NE=Nuwara Eliya, GL=Galle, HB=Hambantota, MT=Matara, JF=Jaffna, KN=Killinochchi, MN=Mannar, VA=Vavuniya, MU=Mullaitivu, BT=Batticaloa, AM=Ampara, TR=Trincomalee, KM=Kalmunai, KR=Kurunegala, PU=Puttalam, AP=Anuradhapura, PO=Polonnaruwa, BD=Badulla, MO=Moneragala, RP=Ratnapura, KG=Kegalle.

Table 4: Laboratory Surveillance of Dengue Fever 22<sup>nd</sup> - 28<sup>th</sup> September 2007 (39<sup>th</sup> Week)

Samples	Number tested	Number positive *	Serotypes				
			D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	Negative
Number for current week	04	02	00	01	00	00	01
Total number to date in 2007	414	44	01	22	12	00	08

**Source:** Genetech Molecular Diagnostics & School of Gene Technology, Colombo. \* Not all positives are subjected to serotyping.

**Table 5: Selected notifiable diseases reported by Medical Officers of Health**  
22<sup>nd</sup> - 28<sup>th</sup> September 2007 (39<sup>th</sup> Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	23	1151	08	304	00	09	02	58	00	62	01	106	00	03	02	115	69
Gampaha	07	483	03	276	00	22	00	59	00	45	00	169	00	14	05	161	64
Kalutara	03	283	05	384	01	05	02	39	00	35	06	99	00	01	01	52	73
Kandy	04	316	00	234	00	03	01	53	00	09	01	66	01	63	01	1843	68
Matale	00	81	04	175	00	06	00	21	00	12	01	46	00	05	01	119	83
Nuwara Eliya	00	35	00	210	00	02	01	104	00	368	00	08	00	30	06	489	43
Galle	00	73	01	138	00	10	00	18	00	39	04	55	01	26	02	18	63
Hambantota	01	59	02	140	00	06	00	21	00	17	02	37	00	47	01	19	73
Matara	05	136	05	253	00	08	00	33	00	24	08	160	02	184	01	28	100
Jaffna	04	56	00	145	00	02	01	365	00	07	00	00	00	82	00	20	38
Kilinochchi	00	01	00	00	00	00	00	05	00	00	00	00	00	02	00	04	00
Mannar	00	07	00	15	00	00	05	70	00	00	00	02	00	00	06	17	75
Vavuniya	00	17	02	42	00	04	00	14	02	53	00	02	00	00	00	08	100
Mullaitivu	00	03	00	24	00	08	00	20	00	01	00	00	00	00	00	12	60
Batticaloa	00	73	00	449	00	09	00	18	00	10	00	00	00	22	20	1024	55
Ampara	00	03	04	92	00	00	00	03	00	00	01	03	00	01	00	25	57
Trincomalee	00	54	02	212	00	03	00	23	00	23	00	10	00	14	01	103	78
Kurunegala	04	495	15	366	00	06	01	56	00	28	03	32	00	35	01	66	50
Puttalam	02	110	04	111	00	11	00	69	00	04	00	22	00	06	00	73	67
Anuradhapura	01	153	00	90	00	08	00	20	00	16	02	21	00	18	01	38	63
Polonnaruwa	01	54	03	78	00	02	00	11	00	04	00	20	00	00	02	38	100
Badulla	03	50	08	473	03	05	01	76	00	10	00	45	01	136	01	283	47
Monaragala	00	34	03	278	00	02	00	46	06	27	00	40	02	66	00	39	80
Ratnapura	14	307	08	467	00	16	00	55	00	19	03	54	01	24	05	86	75
Kegalle	20	259	01	233	00	08	01	45	00	04	03	90	01	33	07	180	82
Kalmunai	0	03	05	167	00	01	00	08	00	07	00	01	00	02	02	105	77
<b>SRI LANKA</b>	<b>92</b>	<b>4293</b>	<b>83</b>	<b>5356</b>	<b>04</b>	<b>156</b>	<b>15</b>	<b>1310</b>	<b>08</b>	<b>824</b>	<b>35</b>	<b>1088</b>	<b>09</b>	<b>814</b>	<b>66</b>	<b>4965</b>	<b>70</b>

Source: Weekly Returns of Communicable Diseases (WRCD).

\*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

\*\*Timely refers to returns received on or before 6 October, 2007. Total number of reporting units = 290. Number of reporting units data provided for the current week:

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