



# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit  
Ministry of Health

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## Hyperlipidaemia (Part I)

This is the first of a series of two articles on Hyperlipidemia.

### Background

Hyperlipidemia refers to increased levels of lipids (fats) in the blood, including cholesterol and triglycerides.

Although Hyperlipidemia does not cause symptoms, it can significantly increase the risk of developing cardiovascular disease; including disease of blood vessels supplying the heart (coronary artery disease), brain (cerebrovascular disease), and limbs (peripheral vascular disease). These conditions can in turn lead to chest pain, heart attacks, strokes and other problems. Because of these risks, treatment is often recommended for people with Hyperlipidemia.

### Lipid Types

The term lipids includes cholesterol and triglycerides. There are many different types of lipids (also called lipoproteins). Blood tests can measure the level of lipoproteins. The standard lipid blood tests include a measurement of total cholesterol, LDL (low density lipoproteins), HDL (high density lipoproteins), and triglycerides.

**Total cholesterol** — A high total cholesterol level can increase the risk of cardiovascular disease. However, decisions about when to treat high cholesterol are usually based upon the level of LDL or HDL cholesterol, rather than the level of total cholesterol.

- A total cholesterol level of less than 200 mg/dL (5.17 mmol/L) is **normal**.
- A total cholesterol level of 200 to 239 mg/dL (5.17 to 6.18 mmol/L) is **borderline high**.
- A total cholesterol level greater than or equal to 240 mg/dL (6.21 mmol/L) is **high**.

The total cholesterol level can be measured any time of day. It is not necessary to fast (avoid eating for 12 hours) before testing.

**LDL cholesterol** — The low density lipoprotein (LDL) cholesterol (sometimes called "bad cholesterol") is a more accurate predictor of cardiovascular disease than total cholesterol. Higher LDL cholesterol levels increase the risk of cardiovascular disease.

Most healthcare providers prefer to measure LDL cholesterol after you have not eaten (fasted) for 12 to 14 hours. A test to measure LDL in people who have not fasted is also available, although the results may differ slightly.

Some healthcare providers make decisions about how to treat lipids based on a goal LDL cholesterol. If the healthcare provider uses this strategy, the goal for LDL cholesterol will depend on several factors, including any history of cardiovascular disease and the risk of developing cardiovascular disease in the future. People at higher risk are often assigned a lower LDL cholesterol goal.

**10-year risk of developing coronary artery disease**—The 10-year risk score is based on in-

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formation from the Framingham Heart Study, a large study that has followed participants, as well as their children and grandchildren, for greater than 50 years. The 10-year risk can be calculated for women and for men.

**Triglycerides** — High triglyceride levels are also associated with an increased risk of cardiovascular disease, although this association is not typically important once other risk factors are taken into account. Triglyceride levels are divided as follows:

- Normal - less than 150 mg/dL (1.69 mmol/L)
- Borderline high - 150 to 199 mg/dL (1.69 to 2.25 mmol/L)
- High - 200 to 499 mg/dL (2.25 to 5.63 mmol/L)
- Very high - greater than 500 mg/dL (5.65 mmol/L)

Triglycerides should be measured after fasting for 12 to 14 hours.

**HDL cholesterol** — Not all cholesterol is bad. HDL cholesterol is considered “good cholesterol” because it helps remove LDL cholesterol from the arteries. Elevated levels of HDL cholesterol actually lower the risk of cardiovascular disease. A level greater than or equal to 60 mg/dL or 1.55 mmol/L is excellent, while levels of HDL cholesterol less than 40 mg/dL or 1.03 mmol/L are lower than desired. There are no treatments for raising HDL cholesterol that has been proven to reduce the risk of heart attacks and strokes.

Similar to total cholesterol, the HDL-cholesterol can be measured on any blood specimen. It is not necessary to be fasting.

**Non-HDL cholesterol** — Non-HDL cholesterol is calculated by subtracting HDL cholesterol from total cholesterol. Since total cholesterol and HDL cholesterol can be measured without fasting, so can non-HDL cholesterol. Non-HDL cholesterol is a good predictor of cardiovascular risk and is a better predictor of risk than LDL cholesterol in people with type 2 diabetes and in women.

An appropriate non-HDL cholesterol goal can be calculated by adding 30 mg/dL (0.78 mmol/L) to the LDL cholesterol goal. As discussed, the LDL cholesterol goal depends on a number of factors.

**Lp(a) Cholesterol**

Lp(a) is a genetic variation of LDL (bad) cholesterol. A high level of Lp(a) is a significant risk factor for the premature development of fatty deposits in arteries. Lp(a) isn't fully understood,

but it may interact with substances found in walls of arteries and contribute to the buildup of fatty deposits.

**Sources**

High cholesterol and lipids, available at <http://www.uptodate.com/contents/high-cholesterol-and-lipids-hyperlipidemia-beyond-the-basics>

Hyperlipidemia, available at [http://www.heart.org/HEARTORG/Conditions/Cholesterol/aboutCholesterol/Hyperlipidemia\\_UCM\\_434965\\_Article.jsp#](http://www.heart.org/HEARTORG/Conditions/Cholesterol/aboutCholesterol/Hyperlipidemia_UCM_434965_Article.jsp#)

**Compiled by Dr. C U D Gunasekara of the Epidemiology Unit**

**Table 1 : Water Quality Surveillance  
Number of microbiological water samples January/ 2015**

District	MOH areas	No: Expected *	No: Received
Colombo	12	72	33
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	12	72	NR
Nuwara Eliya	13	78	22
Galle	19	114	32
Matara	17	102	5
Hambantota	12	72	NR
Jaffna	11	66	0
Kilinochchi	4	24	0
Manner	5	30	30
Vavuniya	4	24	0
Mullatvu	4	24	6
Batticaloa	14	84	0
Ampara	7	42	34
Trincomalee	11	66	NR
Kurunegala	23	138	18
Puttalam	9	54	60
Anuradhapura	19	114	NR
Polonnaruwa	7	42	0
Badulla	15	90	77
Moneragala	11	66	63
Rathnapura	18	108	42
Kegalle	11	66	19
Kalmunai	13	78	NR

\* No of samples expected (6 / MOH area / Month)  
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 07th - 13th Feb 2015 (07th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis			WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**	
Colombo	298	2387	3	33	0	1	1	8	1	11	5	30	0	1	3	11	0	1	9	52	0	3	0	0	69	31	
Gampaha	75	982	1	9	0	2	1	4	0	2	7	39	0	2	2	21	0	0	2	13	0	3	0	0	47	53	
Kalutara	28	344	2	14	0	1	0	6	2	6	2	47	0	0	0	5	0	1	2	27	0	5	0	0	62	38	
Kandy	52	349	3	29	0	0	1	8	0	0	0	13	3	17	7	48	0	0	29	58	1	3	0	1	96	4	
Matale	38	216	6	12	0	0	1	2	0	0	0	12	0	1	2	3	0	0	0	1	0	1	1	2	85	15	
Nuwareliya	10	51	5	38	0	0	0	3	0	0	0	5	8	11	1	21	0	0	4	11	4	9	0	0	77	23	
Galle	26	190	2	15	0	0	0	1	0	6	5	35	1	9	0	1	0	0	3	42	1	12	0	0	75	25	
Hambantota	15	65	0	5	0	0	1	4	0	0	1	17	3	7	2	8	0	0	4	11	0	2	4	40	92	8	
Matara	14	104	2	11	0	0	0	2	0	19	3	27	3	9	1	7	0	0	6	40	0	7	5	15	100	0	
Jaffna	60	727	17	117	1	4	13	73	1	4	1	7	24	307	2	5	0	0	2	18	0	1	0	0	100	0	
Kilinochchi	0	19	2	13	0	0	0	2	0	25	0	0	0	3	0	0	0	0	0	0	0	0	0	0	25	75	
Mannar	3	59	1	2	0	0	1	4	0	1	1	6	0	6	0	0	0	0	0	0	0	0	0	0	80	20	
Vavuniya	3	41	1	5	0	2	1	6	0	2	0	8	0	8	1	1	0	0	0	2	0	0	0	0	100	0	
Mullaitivu	7	45	0	5	1	1	0	1	0	1	0	2	1	2	0	0	0	0	0	0	0	1	0	1	60	40	
Batticaloa	85	477	6	26	0	1	0	1	0	0	0	1	0	0	0	0	0	0	1	5	0	2	0	0	86	14	
Ampara	1	11	0	13	0	0	0	0	0	0	0	1	0	0	0	0	0	0	11	34	0	3	0	0	57	43	
Trincomalee	20	156	0	3	0	0	2	8	0	22	0	4	0	1	0	0	0	0	1	5	1	1	0	0	67	33	
Kurunegala	63	414	4	34	0	1	1	3	0	0	3	56	0	8	2	9	0	0	16	65	1	4	2	15	74	26	
Puttalam	19	293	0	9	0	0	0	0	0	0	0	9	0	3	0	1	0	0	0	6	0	2	0	0	62	38	
Anuradhapura	18	162	4	15	0	0	0	0	0	5	4	63	1	4	0	3	0	0	4	19	1	6	2	29	63	37	
Polonnaruwa	11	64	0	7	1	1	0	3	0	0	1	28	0	0	1	2	0	0	3	20	0	8	2	9	86	14	
Badulla	13	223	3	30	0	0	0	1	3	3	2	8	4	13	3	21	0	0	1	19	0	8	0	0	65	35	
Monaragala	8	59	1	28	0	0	0	5	1	2	2	54	2	13	2	7	0	0	2	19	1	2	1	6	91	9	
Rathapura	23	210	0	69	0	3	1	7	0	1	2	43	1	13	0	55	0	0	0	4	0	4	0	3	67	33	
Kegalle	13	132	1	12	0	2	1	16	0	0	2	36	0	2	2	21	0	0	4	27	2	9	0	0	73	27	
Kalmune	18	267	0	24	0	0	0	0	3	8	0	1	0	0	0	0	0	0	1	24	0	0	0	0	46	54	
<b>SRILANKA</b>	<b>921</b>	<b>8047</b>	<b>64</b>	<b>578</b>	<b>3</b>	<b>19</b>	<b>25</b>	<b>168</b>	<b>11</b>	<b>118</b>	<b>41</b>	<b>552</b>	<b>51</b>	<b>440</b>	<b>31</b>	<b>250</b>	<b>0</b>	<b>2</b>	<b>105</b>	<b>522</b>	<b>12</b>	<b>96</b>	<b>17</b>	<b>121</b>	<b>74</b>	<b>26</b>	

Source: Weekly Returns of Communicable Diseases (WRCD).  
 \*T=Timeliness refers to returns received on or before 13th February, 2015. Total number of reporting units 337. Number of reporting units data provided for the current week: 253. C\*\*=Completeness

**Table 2: Vaccine-Preventable Diseases & AFP**

07<sup>th</sup> - 13<sup>th</sup> Feb 2015 (07<sup>th</sup> Week)

Disease	No. of Cases by Province									Number of cases during current week in 2015	Number of cases during same week in 2014	Total number of cases to date in 2015	Total number of cases to date in 2014	Difference between the number of cases to date in 2014 & 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	01	01	00	02	01	09	09	%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Mumps	01	00	02	00	01	01	00	02	01	08	10	51	128	-60.1%
Measles	16	01	05	00	01	02	01	02	01	29	40	189	365	-48.3%
Rubella	00	00	00	00	00	00	00	00	00	00	00	02	01	+100%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	02	02	%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	%
Japanese Encephalitis	00	00	00	01	00	00	00	00	00	01	02	03	13	-77%
Whooping Cough	00	00	00	01	00	01	01	00	00	03	01	13	08	62.5%
Tuberculosis	76	39	23	02	00	00	08	10	01	159	148	1241	1528	-18.8%

**Key to Table 1 & 2**

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.  
 RDHS 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.

**Data Sources:**

**Weekly Return of Communicable Diseases:** Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

**Special Surveillance:** AFP\* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS\*\* =Congenital Rubella Syndrome

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Influenza Surveillance in Sentinel Hospitals - ILI & SARI								
Month	Human					Animal		
	No Received	ILI	SARI	Infl A	Infl B	Pooled samples	Serum Samples	Positives
January	4453	61	18	08	13	1130	873	0

Source: Medical Research Institute & Veterinary Research Institute

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