

# Antenatal Blood Investigations

During the first antenatal visit, the following blood tests are offered to pregnant women

## 1. Blood Grouping

It is important to know the blood group of the pregnant woman in case she needs a blood transfusion. The four main blood groups are O, A, B and AB.



## 2. Rhesus (Rh) Factor

Rh factor is an antigen found in red blood cells. Individuals who possess this factor are classified as 'Rh positive' and those without it as 'Rh negative'. Majority of the Chinese population are Rh positive. When a Rh negative mother is carrying a Rh positive foetus, problems can occur in the foetus such as haemolytic anaemia, oedema or even death. Regular blood test will then be needed.

## 3. Haemoglobin and Mean Cell Volume



These tests help to find out whether the pregnant mother has anaemia. Mean cell volume (MCV) is a simple and easy test which helps to find out who has a higher chance of carrying the thalassaemia genes or iron deficiency anaemia. Please refer to page 35-36 for details.

## 4. Rubella Antibody



A woman who has received Rubella vaccine or contracted Rubella before conception should have developed immunity, that is, having Rubella antibodies. This can protect her from contracting Rubella during pregnancy. Rubella infection may cause foetal abnormalities. If the woman does not have Rubella antibody, she should receive Rubella vaccine after delivery.

## 5. Hepatitis B Antigen

About eight percent (8%) of the local population are Hepatitis B Virus carriers. Most of these carriers show no signs or symptoms of the disease. If the blood test is positive for Hepatitis B antigen, then the mother is a carrier. A mother who is a Hepatitis B carrier may transmit the virus to the infant at or around the time of delivery. The newborn should receive Hepatitis B vaccine and Hepatitis B immunoglobulin after birth so as to protect him against Hepatitis B infection.



### **Post-vaccination Serologic Testing**

### **(PVST) [for babies born to mothers infected with hepatitis B virus (HBV)]**

Mother-to-child transmission is the major route of transmission of hepatitis B. 90% of neonates will develop chronic hepatitis B infection if they become infected.

Hepatitis B vaccination is effective in preventing HBV infection. About 90-95% of babies can produce adequate protective antibodies after a 3-dose regime hepatitis B vaccination. PVST can assess the immune response to vaccination and hepatitis B infection status.

If the test results show that baby has not developed adequate protective antibodies, a second 3-dose series of hepatitis B vaccine will be given in Maternal & Child Health Centre (MCHC), followed by another PVST to ascertain the immune response. Babies found to be infected with HBV will be referred for specialist management and follow-up.

Mothers infected with hepatitis B virus are advised to consult MCHCs/their family doctors to get their children tested.

For more information, please visit the website of the Viral Hepatitis Control Office of the Department of Health <https://www.hepatitis.gov.hk/english/index.html>

## 6. Syphilis

Untreated syphilis in pregnancy may result in miscarriage or cause foetal congenital defects such as blindness or deafness. Therefore, early detection and treatment are necessary.

## 7. Human Immunodeficiency Virus (HIV) Antibody Testing

HIV can cause AIDS (Acquired Immune Deficiency Syndrome). The routes of transmission include sexual intercourse, blood contact or from an infected mother to her baby during pregnancy, delivery or breastfeeding. The transmission rate from an infected mother to her baby is 15%-40%. The transmission rate can be reduced to 1-2% with effective treatment and prevention given in the course of pregnancy, during delivery and to the baby after birth.

**Please contact medical staff if you have any queries concerning the above blood tests.**