

Further information concerning the mandatory tests:

Blood group, Rhesus characteristics and antibody screening

- Rh-negative women with miscarriage or abortion, should receive anti-D immunoglobulin as quickly as possible afterwards, but latest within 72 hours post abortum
- After anti-D administration with chorionic villus sampling in the 10th week of pregnancy, this prophylaxis is to be repeated in the 22nd and 34th week of pregnancy.
- If after amniocentesis in the 20th to 22nd week of pregnancy, an anti-D prophylaxis is carried out, a protection is generally given for approximately 12 weeks. Accordingly, another anti-D administration is not required in the 28th to 30th week of pregnancy. This can be carried out for instance in the 32nd week of pregnancy.
- After an anti-D prophylaxis, anti-D antibodies can be detected for up to 11 weeks.
- After the birth of a Rh-positive child, despite demonstration of weak positive anti-D titer in the antibody screening after antepartum anti-D administration, postpartum rhesus prophylaxis should be carried out.
- If anti-D antibodies are detected, regular anti-D titer controls are required every four weeks up to the 28th week of pregnancy and then fortnightly until delivery.
- In case of an antibody titer $\leq 1:16$ a fetal hydrops is generally not to be expected. If the antibody titer increases by two or more titer levels compared to the previous findings, a bilirubin determination in the amniotic fluid is indicated.
- Despite rhesus prophylaxis there is a chance of sensitization. According to current legislation, another antibody screening should be sought 4 to 6 months after delivery in any case, to safely rule out sensitization and enable adequate consultation of the patient in case she has a desire to have another child.
- Anti-D, less often Anti-c, anti-Kell and anti-E belong to the antibodies, which can cause Morbus hemolyticus neonatorum (MHN)
- Furthermore, anti-e, anti-C, anti-S, anti-Fy^a and anti-Jk in rare cases can be the cause for Morbus hemolyticus neonatorum. Very rarely Anti-s, Anti-k, Anti-Fy^b and anti-Jk^b are found.
- Anti-D, anti-c, anti-Kell and Anti-E have the most hemolytic potential and can cause a severe Morbus hemolyticus neonatorum. The significance of the titer value for other antibodies than anti-D for the risk of an MHN is not known. Especially the mother's Kell-antibody titers correlate badly with the prognosis for an MHN of the child.
- Kell-antibodies not only cause hemolysis, but can also inhibit the erythropoiesis.
- Anti-P1, anti-Le^a and anti-Le^b belong to the IgM class and do not lead to Morbus hemolyticus neonatorum.
- With a constellation mother O and child A, mother O and child B, an ABO incompatibility can occur. The pregnant woman in addition to the already present anti-A and anti-B of the IgM class, also develops anti-A or anti-B antibodies of the IgG class, which transplacentally move to the fetus. As the child's erythrocyte characteristics develop in the last few weeks before birth, a Morbus hemolyticus neonatorum only sets in late and is usually mild.

Rubella serology:

- Rubella infection can cause malformations during the embryonic stage. After the 17th week of pregnancy, malformations are extremely rare.
- In case of demonstration of rubella-IgG antibodies ≥ 10 IU/ml, immune protection can be assumed. In case of borderline IgG antibodies between 5,0 and 0,9 IU/ml, immune protection cannot be reliably assumed.
- In case of rubella-IgG antibodies $< 5,0$ IU/ml, there is no immune protection.
- Pregnant women with no or uncertain immune protection should be tested for rubella antibodies again in the 16th to 18th week of pregnancy.
- Immune protection can only be assumed, if in the specific medical history there is no indication for rubella contact or a fresh rubella infection in the weeks before the blood test. In case of a conspicuous anamnesis, an IgM determination is required.
- Each positive IgM result should be verified by another, differing IgM test method. In case of a confirmed rubella infection of the mother during pregnancy, IgM antibody determination from fetal blood should be performed after the 22nd week of pregnancy by percutaneous umbilical blood sampling (cordocentesis).

Lues screening:

- The transplacental infection of the fetus can happen in every syphilis stage of the untreated or insufficiently treated mother. Transmission rate is all the higher, the less time has passed since the mother got infected. If the mother is infected during pregnancy, transmission rate is up to 100%.

Chlamydia:

- Approximately 5% of pregnant women show chlamydia cervicitis. Infection is often asymptomatic. Feared complications during pregnancy are not only premature birth and postpartum endometritis but in 70% of cases, transmission to the child with potential consequences of neonatal conjunctivitis or pneumonia, which manifests from the second week of life, but sometimes only after 3 to 4 months. Furthermore, there may be failure to thrive, because of pathogen colonization of the gastrointestinal tract.

Diagnosis is by detection of chlamydia trachomatis (in the 4th to 8th week of pregnancy) from a swab or urine by PCR. In case of positive findings, treatment of the partner is also indicated.

Urine analysis:

- Proteinuria of more than 300 mg/l in the 24-hour urine during pregnancy is pathological.
- Asymptomatic bacteriuria is very common during pregnancy. It is sensible to carry out a cultural urine test once per trimester. Pathogen values over 100.000/ml in the midstream urine specimen have to be rated pathological.

- Glucose levels below 150 mg/24-hour urine are normal. Levels between 150 and 600 mg/24-hour urine are classed as moderately increased, levels above that are classed as severe gestational glycosuria

Hepatitis-B antigen:

- From the 32nd week of pregnancy (as close to the due date as possible), a HBs-antigen test should be carried out. If the result is positive, the newborn should be actively and passively immunized against hepatitis B immediately (within 6 hours) postpartum. If HBe-antigen is also detected, the risk of transmission to the child is significantly increased (approximately 70% – 80%), as opposed to not having HBe-antigen and the mother being anti-HBe positive (approximately 6%). Testing for HBs-antigen is redundant, if immunity (i.e. after vaccination) is proven.
- Detection of anti-HBc-IgM in a newborn indicates intrauterine infection. In up to 90% of infected children, a chronic carrier status will develop with an increased risk of liver cell carcinoma.