

**Higher Human Biology**

**Unit 2 Physiology and Health:**

**Key area 4- Antenatal and Postnatal Screening**

By the end of this topic I will be able to:

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| 1. State that antenatal screening identifies the risk of a disorder so that further tests and a prenatal diagnosis can be offered.
2. State that dating scans determine pregnancy stage and due date.
3. Describe how dating scans are used with tests for marker chemicals which vary normally during pregnancy.
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| 1. State that anomaly scans are used to detect serious physical problems during pregnancy.
2. State at which stages in the pregnancy both types of ultrasound scans are provided
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| 1. Describe the purpose of blood and urine tests carried out during a pregnancy.
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| 1. Explain how measuring a substance at the wrong time could lead to a false positive result.
2. Explain how screening results can lead to diagnostic testing
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| 1. Describe how genetic disorders such as Down’s syndrome can be diagnosed by amniocentesis and chorionic villus sampling (CVS).
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| 1. Describe the advantages and disadvantages of amniocentesis and CVS.
2. State that CVS can be carried out earlier in pregnancy than amniocentesis but has a high risk of miscarriage.
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| 1. State that cells from samples can be cultured to obtain sufficient cells to produce a karyotype to diagnose a range of conditions.
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| 1. Use pedigree charts to analyse patterns of inheritance in genetic screening and counselling.
2. Interpret and explain patterns of inheritance in autosomal recessive, autosomal dominant, incomplete dominance and sex-linked recessive single gene disorders, by analysing pedigree charts.
3. Calculate the percentage chance of inheriting a single gene disorder using the information provided.
4. Describe how a substitution mutation can cause PKU.
5. State that individuals with high levels of phenylalanine (suffering from PKU) can be treated by being placed on a restricted diet.
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