

POINT OF CARE

Urine/Serum Pregnancy Testing Information Sheet

Q-Pulse No	PCM66
Version	2
Site	MPH

URINE/SERUM PREGNANCY TESTING INFORMATION SHEET

Point of Care Testing (POCT) Team (01823 346747)
South West Pathology Service

Notes on Pregnancy Testing Interpretation

The commercial kit manufacturers report pregnancy test results as POS or NEG. However, it needs to be appreciated that the test measures β hCG (beta human Chorionic Gonadotrophin) in the urine or serum and values of greater than 25 IU/L are accepted as POS for pregnancy. (β hCG is produced by syncytiotrophoblasts once the fertilized ovum has implanted, hopefully within the uterus).

The tests have several limitations at the lowest extreme of sensitivity.

Limitations when doing a pregnancy test on urine

1. False NEG results are not uncommon, particularly in dilute samples (specific gravity <1.010). Repeat the test after 48 hrs if the specific gravity is <1.010 or if the clinical evidence conflicts with the result.
2. False Pos results are uncommon. They may occur due to;
 - a. **Reading at the wrong time. Always read the tests at the recommended time – after an extended period of time a NEG urine may give a weak POS reaction.**
 - b. Visible blood in the urine sample.
 - c. Naturally occurring miscarriages – estimated to occur in about 50% of all pregnancies
 - d. Trophoblastic or non-trophoblastic disease, or a high rheumatoid factor titre may give a POS result.
 - e. β hCG secreting neoplasms must be excluded prior to a diagnosis of pregnancy.
3. The test cannot distinguish normal from ectopic pregnancy.
4. A POS result obtained using available POCT devices, if performed according to the manufacturer's instructions, can generally be interpreted as indicating the presence of β hCG. If this conflicts with clinical evidence, e.g. post sterilization, then a serum sample for β hCG, sent to the biochemistry laboratory, would be appropriate to confirm the result

Serum β hCG should be used where a definitive answer is required for immediate patient management, e.g. prior to an urgent X-ray.

Miscarriage

After a miscarriage the production of β hCG ceases but its biological half-life is about 12 hours. Hence a miscarriage at 4 weeks may have a concentration of 10,000 IU/L and will still give a POS result, either serum or urine, 7 days later.

The only safe biochemical test for miscarriage is 2 sequential serum tests collected at a 24 hour interval to demonstrate a marked fall in β hCG concentration.