



Key Numbers and Points for Early 1st Trimester Pregnancy

Normal sonographic milestones*

Gestational sac** – should see by

Gestational age of about 5 weeks (since LMP)

Serum hCG of 2,000 (discriminatory level)

Yolk sac – should see by

Gestational age of about 5.5 weeks

Mean sac diameter of 8mm

Serum hCG of 7,200

Embryo - should see by

Gestational age of about 6 weeks

Mean sac diameter of 16mm

Serum hCG of 10,800

*All of these are based on an adequate quality transvaginal US. These are useful guidelines for suspecting an abnormal pregnancy – none are absolute proof of an abnormal pregnancy if the milestone is not seen on a single US, but can guide follow-up and management.

** Before a yolk sac or embryo is seen, it may be difficult to be sure one is seeing a gestational sac. Need to distinguish from pseudosac of an ectopic pregnancy (based on shape, location with respect to endometrial cavity, and thickness/echogenicity of rim) and from decidual cyst (based on thickness of rim and location). It may not be possible to tell in all cases and follow-up US may be needed.

Demonstration of embryonic cardiac activity

Should be seen by CRL of 5mm (by transvaginal US)

Expect to see cardiac activity at any CRL but do not diagnose demise unless CRL of 5mm or more on an adequate quality transvaginal US. Be sure the embryo is being imaged; embryo should be at edge of yolk sac in the early first trimester.

Gestational age basis

Once CRL can be measured, use table of CRL vs GA

Before embryo seen, MSD tables can be used but the following is also adequate with transvaginal US:

Gestational sac only; no yolk sac and no embryo = 5 weeks

Gestational sac with yolk sac but no cardiac activity or embryo = 5.5 weeks

Gestational sac with yolk sac and cardiac activity (if embryo very tiny and hard to see) = 6 weeks