**Second Week of Embryonic Development**

The following events take place:

1. Completion of implantation
2. Formation of a bilaminar germ disc
3. Development of extra embryonic structure

**Day 8 of Embryonic Development**

Blastocyst is partially embedded in the endometrium on day 8. The syncytiotrophoblast continues to enroll in the endpmetrium. The cytotrophoblast continues to divide and migrate into the region of the syncytotrophoblast.embryonoblast which is the inner cell mass divides into cuboidal cells called hypoblast and a layer of columnar cells called epiblast. Cells of the epiblast that are adjacent to the cytotrophoblast are called the amnioblast. Amnioblast surround a cavity called amniotic cavity. The cells of the epiblast and hypoblast gives rise to bilaminar germ disc.

**Day 9 of Embryonic Development**

Blastocyst is deeply embedded in the endometrium. The surface epithelium is closed by fibrin coagulum. A membrane lies adjacent to the cytrotophoblast called exoceolomic membrane or Heusers membrane. The cavity between the exoceolomic membrane and hypoblast is called primary yolk sac or exoxeolomic cavity. Vacuoles develop in the region of syncytotrophoblast calledtrophoblastic lacunae.

**Day 11 to Day 12 of Embryonic Development**

Blastocyst is completely embedded in the endometrium, the syncytotrophoblast continues to enroll in the endometrium and the cytotrophoblast divides and migrates to the region of the syncytotrophoblast. As the syncytotrophoblast continues to enroll in the endometrium, the capillaries get ruptured which are called sinusoids which leads to the spillage of blood. The sinusoids communicate with the trophoblastic lacuna to transfer nutrients, oxygen and blood. At this stage, a primordial utero placenta circulation is established.

A space of mesoderm develops within the region of exoceolomic membrane and cytotrophoblast and between cells of amnion and cytotrophoblast and is called extra embryonic mesoderm.

Cavities develop at the extra embryonic mesoderm called extra embryonic cavity. The cavity divides the mesoderm into two parts, that is, before the cavity and after the cavity. The region near the cytotrophoblast is called the extra embryonic somatic membrane. The region near the exoceolomic membrane and amnioblast is called extra embryonic splanchnic mesoderm. Desidual reaction has to do with accumulation of glycogen and lipid in their cytoplasm which causes swelling.

**Day 13 of Embryonic Development**

The cells of cytotrophoblast acquire cells called syncytium which is called primary villi in the region of the syncytotrophoblast. The connecting stalk gives rise to umbilical cord.

The extra ceolomic cavity enlarges and gives rise to chorionic cavity. The name changes from primary yolk sac to secondary yolk sac which is smaller. The part removed from the primary yolk sac is called exoceolomic cyst.