NAME: OBU CHINEMEREM GLORIA

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**Write a short note on implantation**

Implantation is the process where the blastocyst attaches to the endometrium of the uterus. This process begins at the end of week 1, with most successful human pregnancies implantation occurs 8 to 10 days after ovulation, and early pregnancy loss increases with later implantation. The implantation process continues through the second week of development.

The initial phase of the implantation process is known as adplantation. This phase requires the newly hatched blastocyst to loosely attach to the endometrial epithelium, often rolling to the eventual site of implantation where it is firmly attached.

**Stages of Implantation**

 HATCHING – this is where blastocyst gets released from zona pellucida

ADPLANTATION – the blastocyst slowly rolls on surface, aligns with the ICM close to the epithelium.

 APPOSITION - The very first, loose connection between the blastocyst and the endometrium.

ADHESION - The trophoblasts adhere by penetrating the endometrium, with protrusions of trophoblast cells.

INVASION - In invasion blastocyst attaches to the endothermal epithelium, adjacent to the embryonic pole. The trophoblast then differentiates into two different cell masses: the outer syncytiotrophoblast (ST); multi-nucleated protoplasm and the inner cytotrophoblast (CT); a finger-like processes of syncytiotrophoblast extend through the endometrium and invade the endometrial connective tissue.