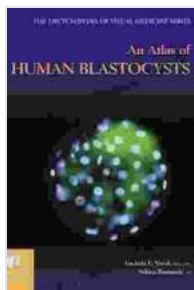


An Atlas of Human Blastocysts: Encyclopedia of Visual Medicine Series

The blastocyst is a stage in the early development of human embryos. It forms when the embryo reaches the blastocyst stage, and consists of an outer layer of cells called the trophoblast and an inner cell mass. The trophoblast will eventually form the placenta, while the inner cell mass will form the fetus.

An Atlas of Human Blastocysts is a comprehensive guide to the blastocyst stage of human development. It provides detailed images and descriptions of blastocysts at different stages of development, and discusses the clinical implications of blastocyst development.



An Atlas of Human Blastocysts (Encyclopedia of Visual Medicine Series) by Linda Rosenkrantz

★★★★★ 5 out of 5

Language : English
File size : 4427 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 521 pages



Structure of the Blastocyst

The blastocyst is a spherical structure with a diameter of about 0.1 mm. It consists of an outer layer of trophoblast cells and an inner cell mass.

The trophoblast is a single layer of cells that surrounds the inner cell mass. It is responsible for implantation of the embryo into the uterine wall.

The inner cell mass is a group of cells that is located at the center of the blastocyst. It will eventually form the fetus.

Development of the Blastocyst

The blastocyst develops from the morula, which is a solid ball of cells that forms after the fertilization of an egg. The morula undergoes compaction, which is a process in which the cells on the outside of the morula become tightly packed together. The cells on the inside of the morula then form the inner cell mass.

The blastocyst then undergoes cavitation, which is a process in which a fluid-filled cavity forms inside the blastocyst. The cavity is lined by the trophoblast cells.

Implantation of the Blastocyst

The blastocyst implants into the uterine wall about 6 days after fertilization. The trophoblast cells of the blastocyst secrete enzymes that break down the uterine lining, allowing the blastocyst to embed itself in the wall of the uterus.

Once the blastocyst has implanted, it begins to grow and develop. The trophoblast cells form the placenta, which provides nutrients and oxygen to the embryo. The inner cell mass forms the fetus.

Clinical Implications of Blastocyst Development

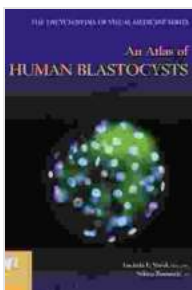
The development of the blastocyst is critical for successful pregnancy. If the blastocyst does not develop properly, it may not implant into the uterine wall or it may not be able to support the developing fetus.

An Atlas of Human Blastocysts can be a valuable resource for clinicians who are involved in the care of patients undergoing assisted reproductive technology (ART). ART is a group of techniques that are used to help couples conceive. ART procedures often involve the transfer of blastocysts into the uterus.

An Atlas of Human Blastocysts can help clinicians to identify and select blastocysts that are most likely to implant and support a successful pregnancy.

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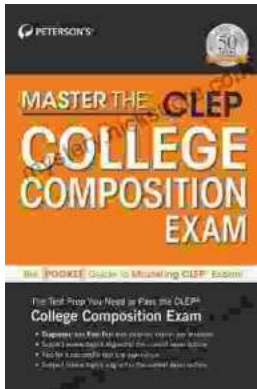


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