

The egg cell in the human body



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The egg cell is one of the most amazing cells found in the human body. About 0.1 millimeters in length, the egg cell is composed of a nucleus, cytoplasm, and the cell membrane which surrounds and protects the entire cell. The process through which an egg cell is created and released is fascinating and never ceases to amaze. From the time an egg cell starts to mature in the ovaries, to the time it is either fertilized or released from the uterus, the egg cell is always ready to do its ultimate job: To unite with a sperm cell to create new life.

The surface of an egg cell is covered with microvilli. Microvilli are used for numerous things, including secretion, absorption, and cellular adhesion, (www.sciencedaily.com). Surrounding the cell is its cell wall, which protects it and gives it stability. Each egg cell has many of the components found in a body cell, such as Golgi complexes, smooth endoplasmic reticulum, mitochondria, lysosomes, and vacuoles. Ribosomes are very rare in an egg cell, as opposed to the abundance of them that are usually found.

The ribosomes in each cell are responsible for manufacturing proteins by converting amino acids into the protein a cell needs. Vesicles in the cytoplasm carry protein from the Golgi complexes to the ribosomes. The smooth endoplasmic reticulum is responsible for getting rid of wastes, such as drugs. The ER also synthesizes lipids, as well as steroids. The mitochondria are the "power plants" of the cell, and provide the cell with energy. The lysosomes of the cell are used to rid the cell of bacteria, and keep it free of harmful wastes. Vacuoles are used to store minerals in a cell, until the cell needs them.

Each egg cell is created by oocytes through a process called meiosis, (www.ncbi.nlm.nih.gov). Meiosis occurs when a cell with forty-six chromosomes creates two cells like it, but with only half the number of chromosomes, leaving each new cell with only twenty-three chromosomes. These two cells create two more cells exactly like them, and the result is four egg cells. Egg cells can only have exactly twenty-three chromosomes, as the other twenty-three must be provided by the sperm cell. When the sperm and egg cell unite, a perfect body cell of forty-six chromosomes is created. Each sperm and egg cell are perfect matches for each other; one of the many pieces of evidence that prove how ingenious a creator our God really is.

Women are born with 400, 000 egg cells. Every egg cell is made up of a three basic parts; the cell

membrane, cytoplasm, and nucleus. An egg cell has three protective layers around it that must be

broken by the sperm cell in order for fertilization to take place, (Kim, pg. 17).

Each ovary in the female

body takes turns producing eggs each month. If one ovary is unable to produce eggs at any time in life,

the other ovary will be able to produce eggs every month on its own until the egg cells run out.

The egg cell is designed for one purpose, and one purpose only, and that is to be joined with the sperm cell to create new life. God designed males and females with organs and cells to reproduce life, and without the egg cell,

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new life could not be possible. Egg cells do not last forever, as the female body does not produce egg cells indefinitely. The egg cell is special because when it unites with the sperm cell it is the start of all the other cells in the body; it is the beginnings of new life, the process of which is incredible.

The egg cell is specially designed to be readied and matured until it is sent to the uterus to be fertilized. From there, it is either joined with a sperm cell to create a zygote, or rejected, and flushed out during the menstrual flow, (Kobasa. pg. 16). The egg cell is one of the largest cells in the human body, although barely visible to the naked eye. Each egg cell contains twenty-three chromosomes, or threadlike structures of DNA that are found within the nucleus of the cell. DNA is nucleic acid that gives the genetic instructions for the development and function of all known living organisms. All of the other cells in the body are derived from this elegant and elemental structure, (Kim. pg. 17). Circular in shape, the egg cell looks exactly the way it sounds. In truth, the egg cell is the beginning of all life and the start of every human being.

The egg cell begins its long journey in the ovaries. Egg cells are formed in the ovaries through a process called meiosis at a young age, but do not start to mature until a young girl begins puberty. It is at this time when her menstrual cycle begins, signaling her readiness to bear children. Every month, the pituitary gland sends hormones to the ovaries, which signals the egg cells to begin maturing, (Kim. pg. 17). During this time, the uterus starts to prepare for the arrival of the egg cell, creating a lining called endometrium.

Mid-cycle, another hormone is released from the pituitary gland to stimulate the ovaries to release the matured egg through one of the fallopian tubes. This is called ovulation, or the releasing of an egg through the fallopian tube. After a short time, if a sperm cell is unable to unite with the egg cell, the unused egg cell is released from the uterus through the vagina. This process is called the menstrual flow. Every female's menstrual cycle lasts twenty-three to twenty-eight days. However, ovulation lasts barely more than twenty-four hours, which leaves only six to seven days maximum for fertilization to occur.

When an egg cell is fertilized by a sperm cell, it is then called a zygote. Half of the zygote's chromosomes come from the egg, the other half from the sperm cell. The sperm cell must journey through the vagina into the uterus to be united with the egg cell. When it reached the egg, it has to break through the egg's tough cell membrane in order to fertilize it. After an egg cell has been joined with a sperm cell, the fertilized egg attaches itself to the lining of the uterus. From here, the egg cell begins to divide and form an embryo. Over the short span of just eight weeks, all major organs in the embryo's body have been formed, and the heart is fully functional, (Kim. pg. 18). Of all the different and amazing cells in the human body, the egg cell is by far the most incredible.

Over the course of a woman's life, her body will continue to produce and release egg cells up to a relatively advanced age. Over time, the eggs released will become less and less fertile until the woman enters into menopause, after which she is unable to bear children. Egg cells are one of the few cells that do not serve the body for its entire existence. Males are

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well able to produce sperm cells well into their eighties, while most women stop producing egg cells around their fifties. It is this well-known fact that makes the egg cell even more fascinating.

Undoubtedly, the egg cell is unexplainably fascinating, and will never cease to amaze the human race with its complexity and its ability to house an embryo and nourish a fetus. Out of all the cells in the human body, the egg cell is one we could not continue to exist without. The egg cell is created only to be fertilized, and if it is not, it is disposed of. The mystery and incredible thought behind an egg cell can only suggest the influence of a supreme creator.

Young woman all over the world are unaware of the wonderful precious tools they are given to be able to create new life. Hopefully, over time, girls everywhere will realize the amazing gift they have been given and use it for not only their own good, but the good of humanity. Each woman all over the world has been blessed with the ability to carry and give birth to their own special creation, and this knowledge should be used for good.

In summary, the egg cell is made and readied only to be united with a sperm cell to create a zygote, and eventually a fetus. This complex cell is imperative for the continuation of the human race, and makes females unique and special. The egg cell is amazing because of its ability to be fertilized by a sperm cell, and also its readiness to house and nourish a baby. In actuality, the egg cell is one of the most uniquely designed cells ever to reside within the human body.