

HUMAN REPRODUCTION – THE MIRACLE OF LIFE

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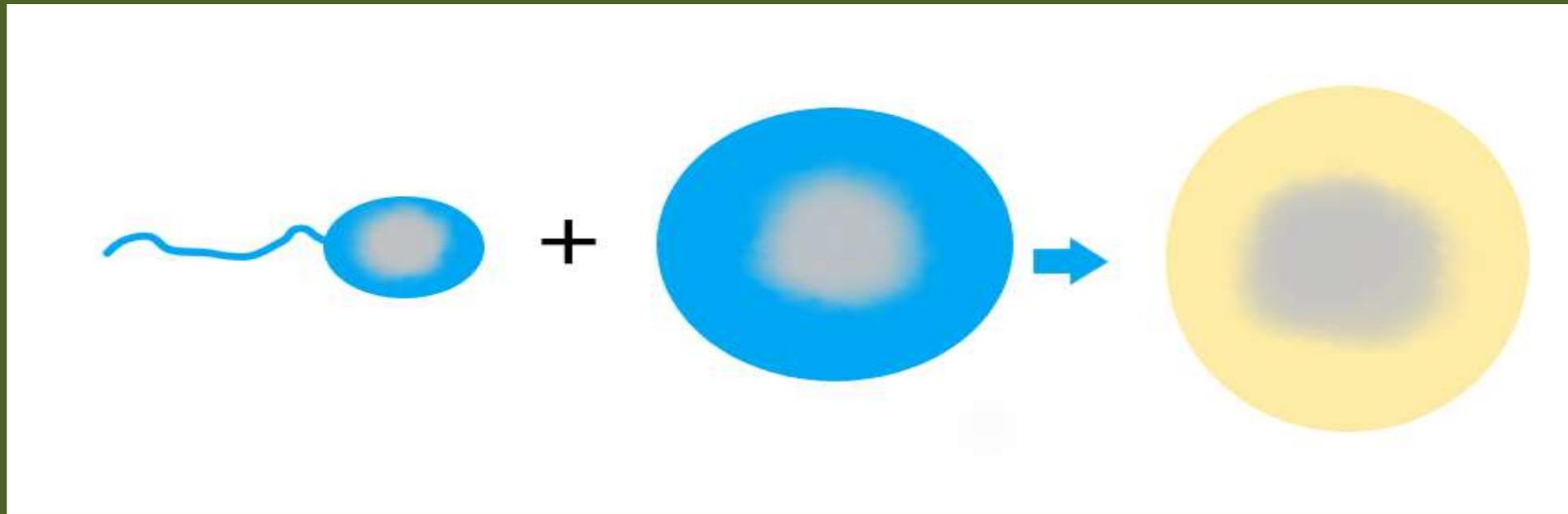
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Key Points: Human Reproduction

- Fertilisation
- Development of the Zygote
- Role of Oestrogen and Progesterone
- Diagram of a Developing Foetus
- Functions of Structures of the Developing Foetus

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Fertilisation



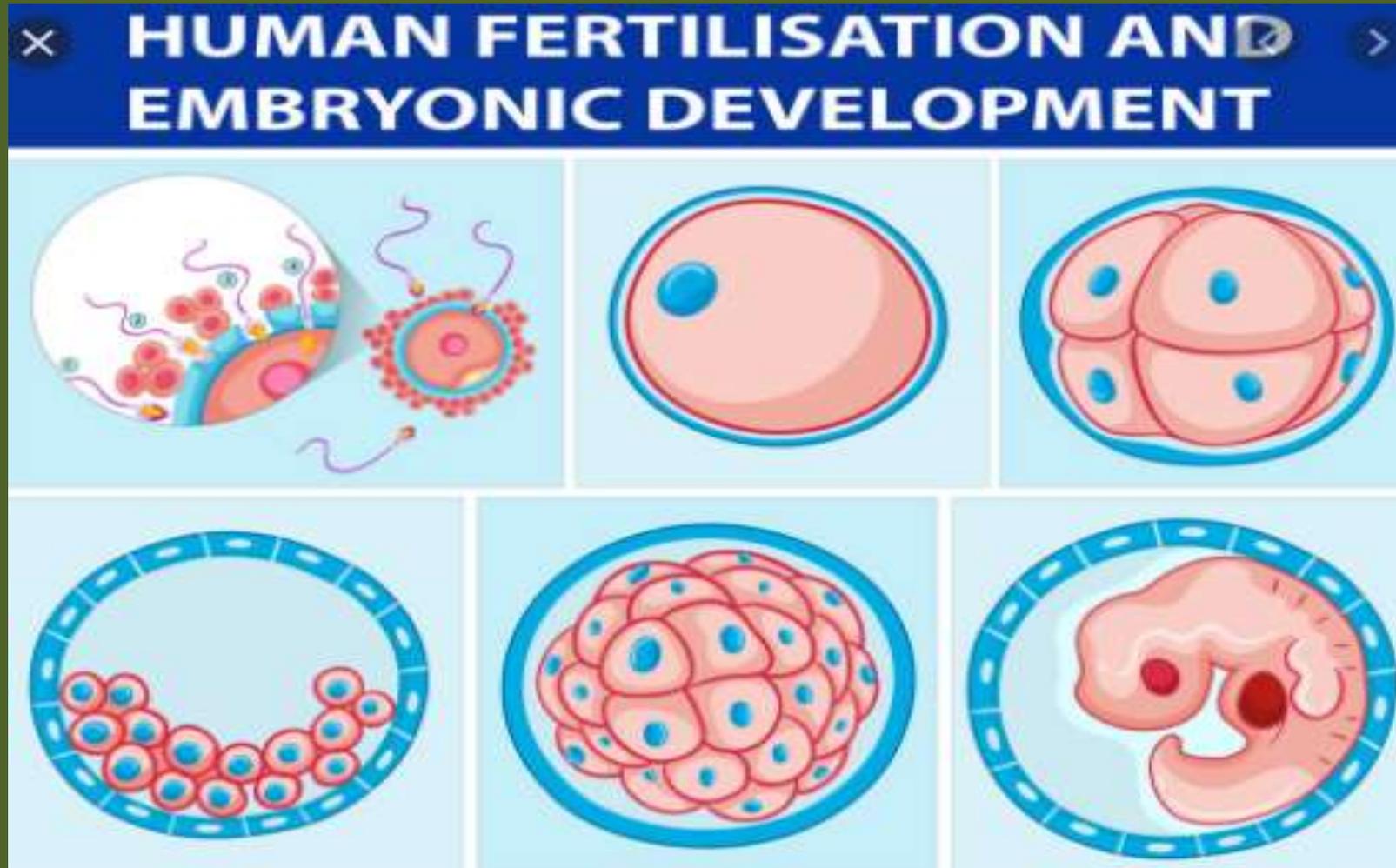
23 Chromosomes + 23 Chromosomes = 46 Chromosomes in Zygote (2n)

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Fertilisation

When the nuclei of a sperm cell and an ovum combine. Each gamete contributes a set of chromosomes (n), the result is a zygote ($2n$).

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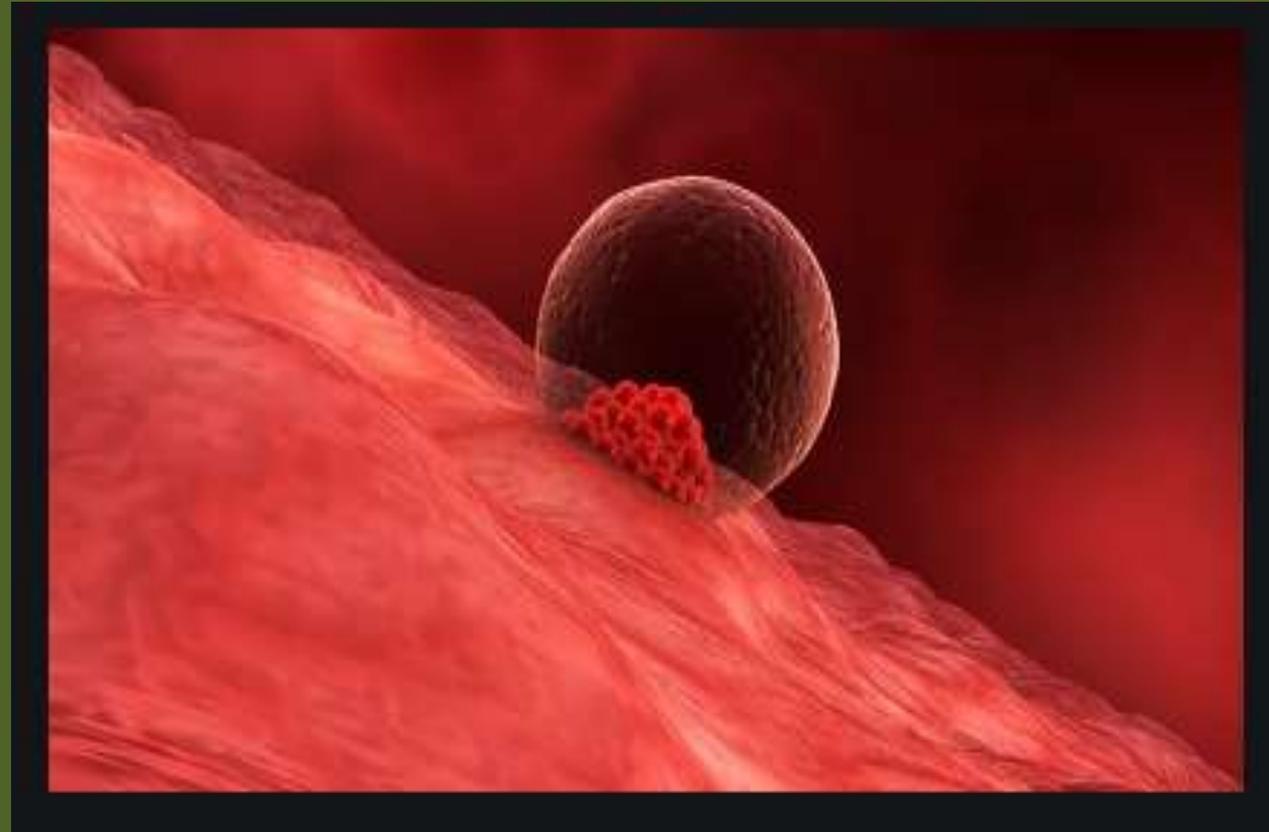
Morula

Blastula and Blastocyst

Embryo

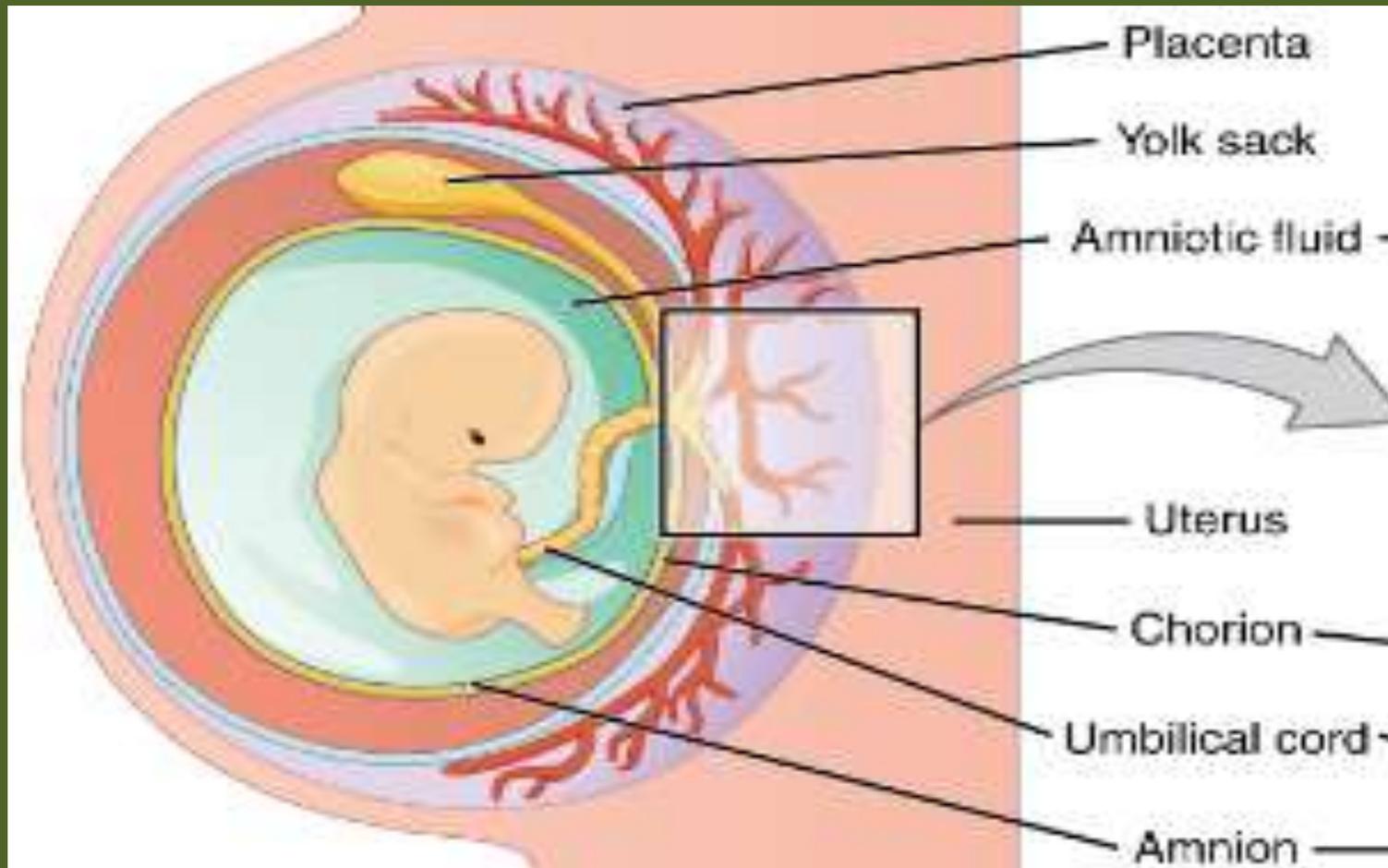
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Implantation



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Developing Foetus



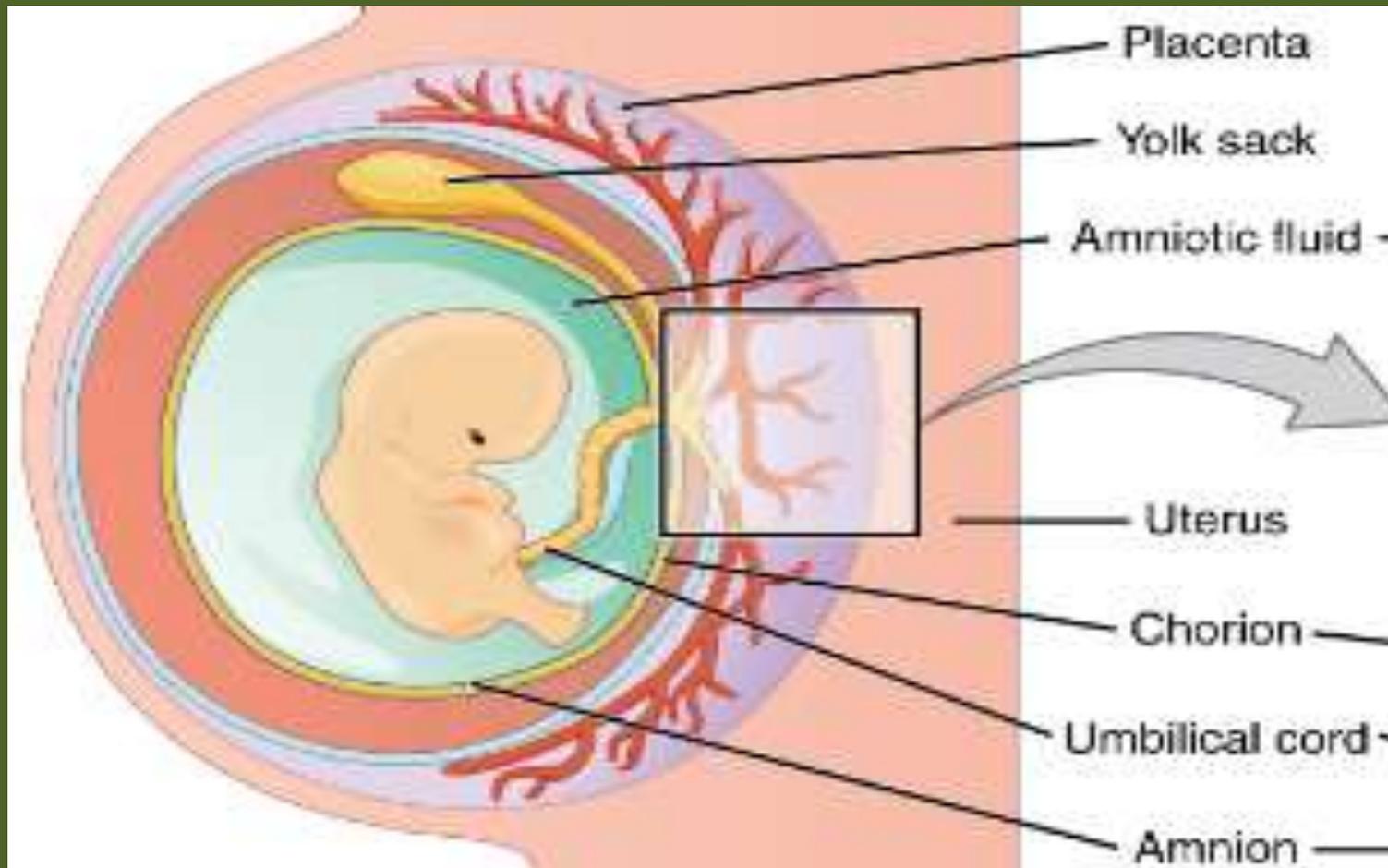
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What are the following?

- Chorion
- Chorionic villi
- Amnion
- Umbilical cord
- Placenta

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Developing Foetus



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What are the functions of the following?

- Chorion
- Chorionic villi
- Amnion
- Umbilical cord
- Placenta

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Foetus at 20 Weeks



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Functions of The Chorion

- Plays a Role in Gases Exchange between Mother and Foetus
- Development of the Placenta
- Eliminates Foetal Waste

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Foetus at 36 weeks



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Amniotic Fluid



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Functions of Amniotic Fluid

- Prevents dehydration
- Protects the foetus against physical injury, acting as a shock absorber.
- Prevents extreme temperature changes.

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The Placenta



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Functions of the Placenta

- Gases exchange between mother and foetus.
- Nutrients diffuse from mother's blood to foetus.
- Micro-filter to prevent viruses in mother's blood to enter the foetus.
- Allows antibodies from mother to foetus.
- Produces Progesterone.

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The role of Oestrogen during Pregnancy

- Causes the uterus to grow.
- Triggers the development of the foetus' organs.
- Stimulates the development of the placenta.
- Regulates other female hormones.

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The role of Progesterone during Pregnancy

- Maintains the endometrium.
- Causes an increase in blood flow to the uterus.
- Prevents further ovulation during pregnancy.

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