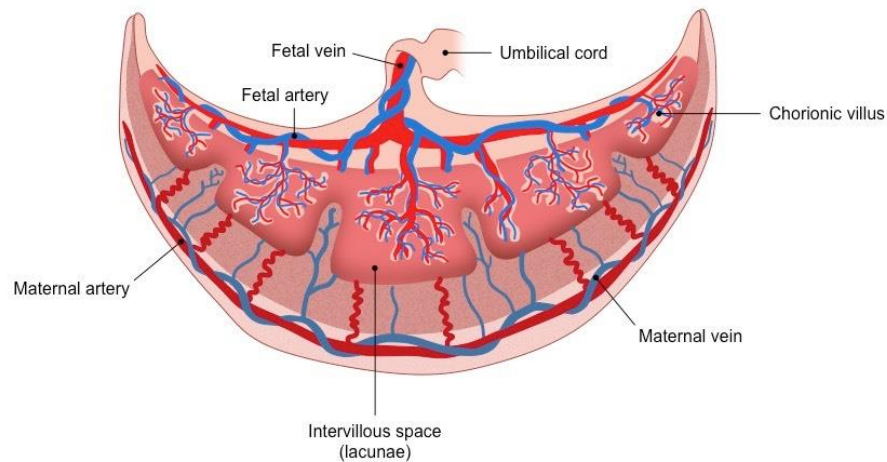


# Placenta



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# Introduction

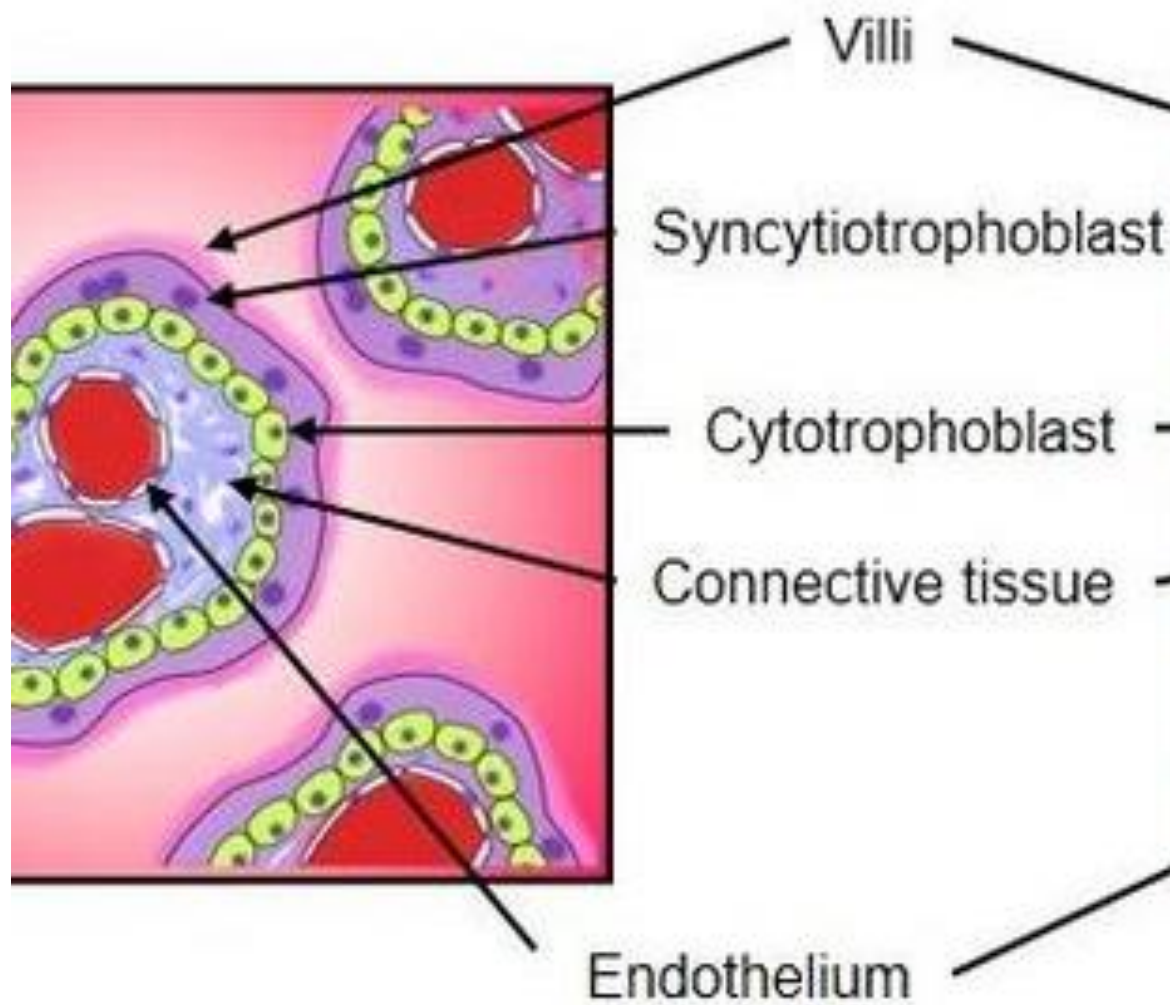
- The placenta is a fetomaternal organ
- Connects growing embryo/fetus with the wall of uterus
- Disc shaped
- Weight – 500gm
- **2 surface**
  1. Maternal surface – irregular with cotyledons
  2. Fetal surface – smooth covered with amnion
- **2 components**
  1. Maternal component – decidua basalis
  2. Fetal component – chorion

# **Formation of Placenta**

**( formed by trophoblast & chorionic villi)**

## **Trophoblast**

- Precursor of human placenta
- Differentiate into 2 layers
  1. Cytotrophoblast – inner layer, rest on extra-embryonic mesoderm
  2. Syncytiotrophoblast – outer layer, nearest to decidua, lose their cell boundaries



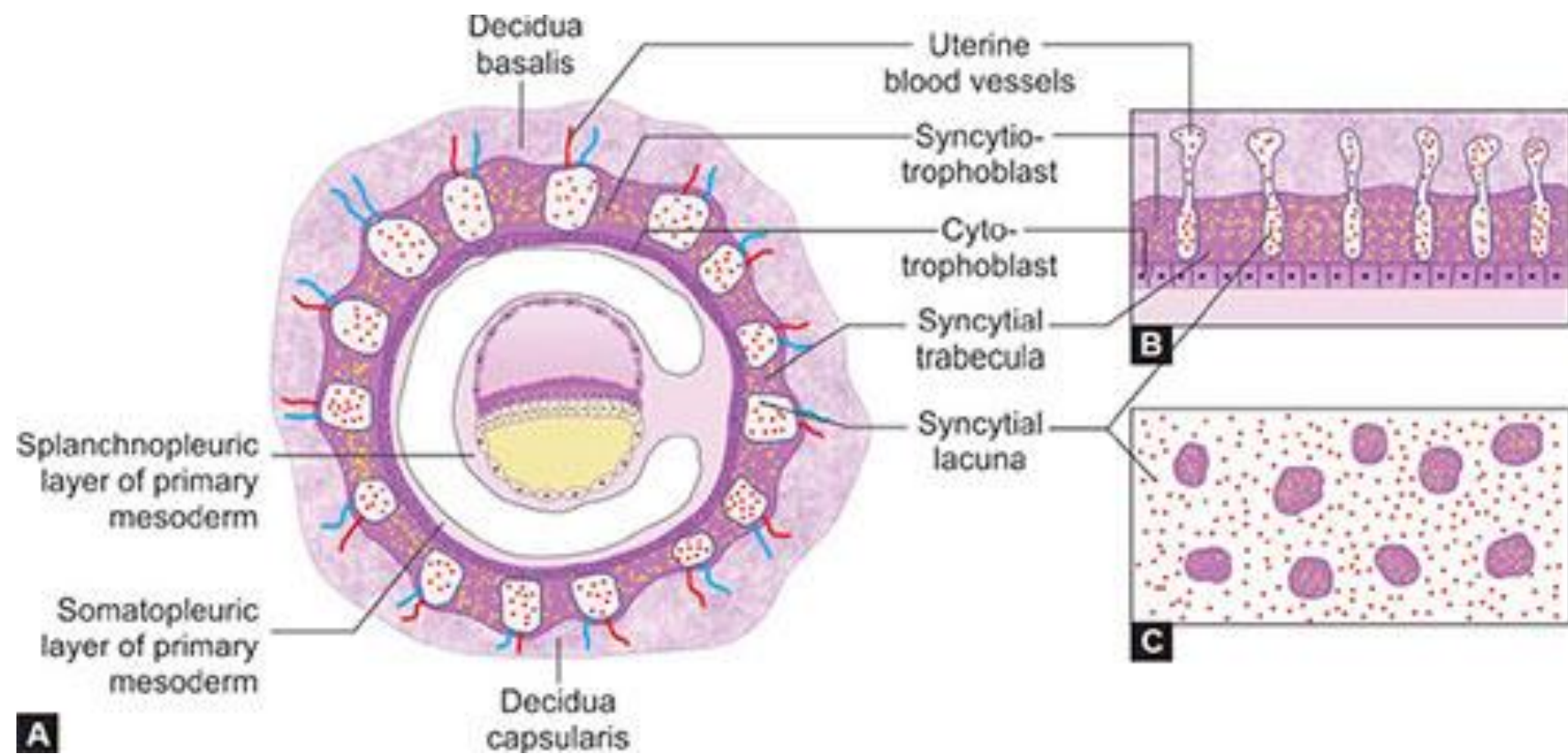
# Chorionic villi

## Chorion –

- outer extra- embryonic membrane
- Composed of trophoblast & somatopleuric mesoderm

## Chorionic Villi

1. Primary villi – syncytiotrophoblast & cytotrophoblast
2. Secondary villi – outer - syncytiotrophoblast  
intermediate - cytotrophoblast  
inner – extraembryonic mesoderm
3. Tertiary villi - outer - syncytiotrophoblast  
intermediate - cytotrophoblast  
inner – extraembryonic mesoderm along with fetal blood capillaries



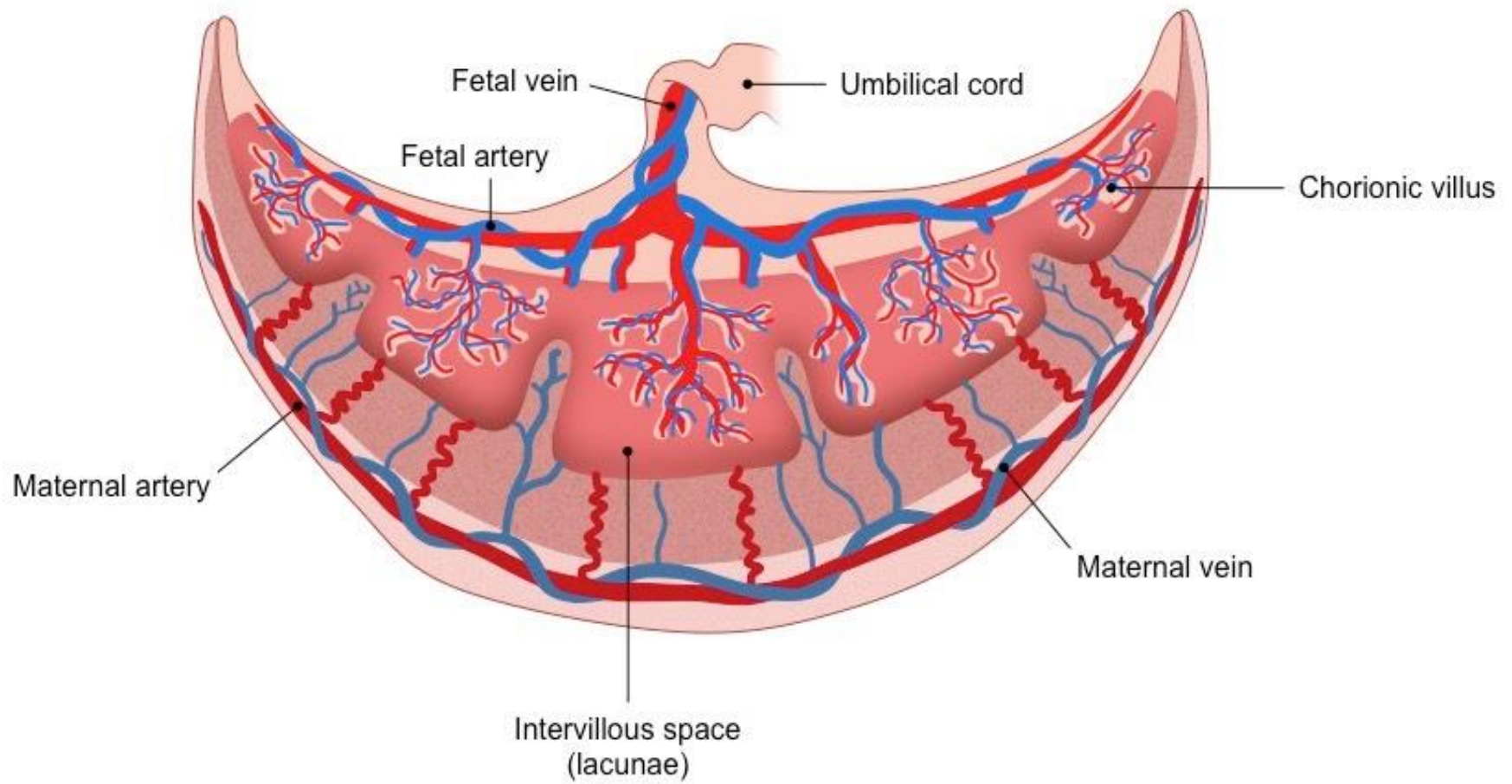
Placenta 2 parts

**1. Maternal part** – rough

- contributed by decidua basalis
- Cotyledons – intervillous space

**2. Fetal part** – smooth covered by amnion

- chorionic plate & chorionic villi
- Cotyledons – villi





# Functions of placenta

1. Transport of oxygen, water, electrolytes & nutrition.
2. Excretion of CO<sub>2</sub>, urea & other waste products
3. IgG transport
4. Acts as barrier & prevent infections
5. Prevent mixing of maternal & fetal blood