



ASSESSMENT OF FETAL GROWTH  
LABOR, DELIVERY  
PHYSIOLOGICAL CHANGES AFTER BIRTH

# General Developmental Periods

- Fertilization Period (1-3weeks)
  - Egg fertilized by sperm
  - Blood vessels first appear
  - Heart Tubes form that will develop into the heart
  - Blood Cells form from endothelial cells within the yolk sac

# General Developmental Periods

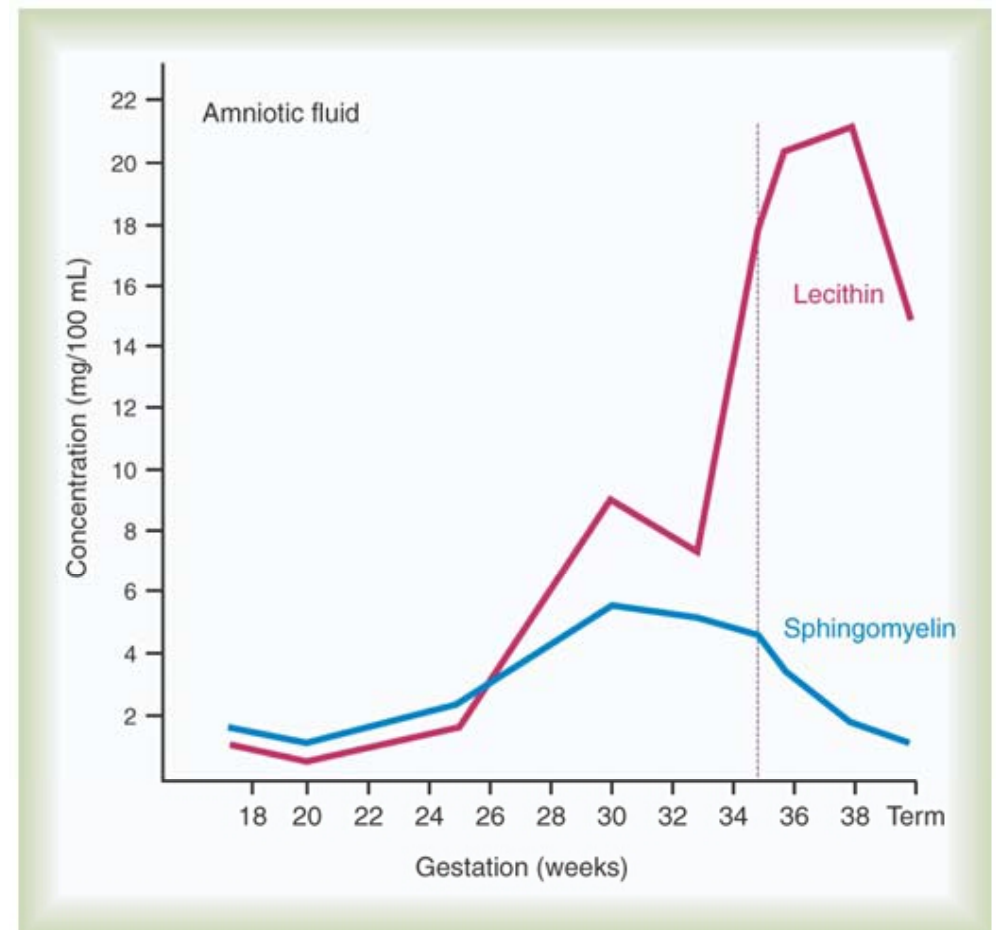
- Embryonic Period (weeks 4-7)
  - Embryo forms a C-shaped appearance
  - Primitive gut is formed
  - Umbilical cord develops
  - Three primary germ layers differentiate into various organs and tissues
  - Brain, heart, eyes, ears, nose, and mouth are developing giving the embryo human characteristics

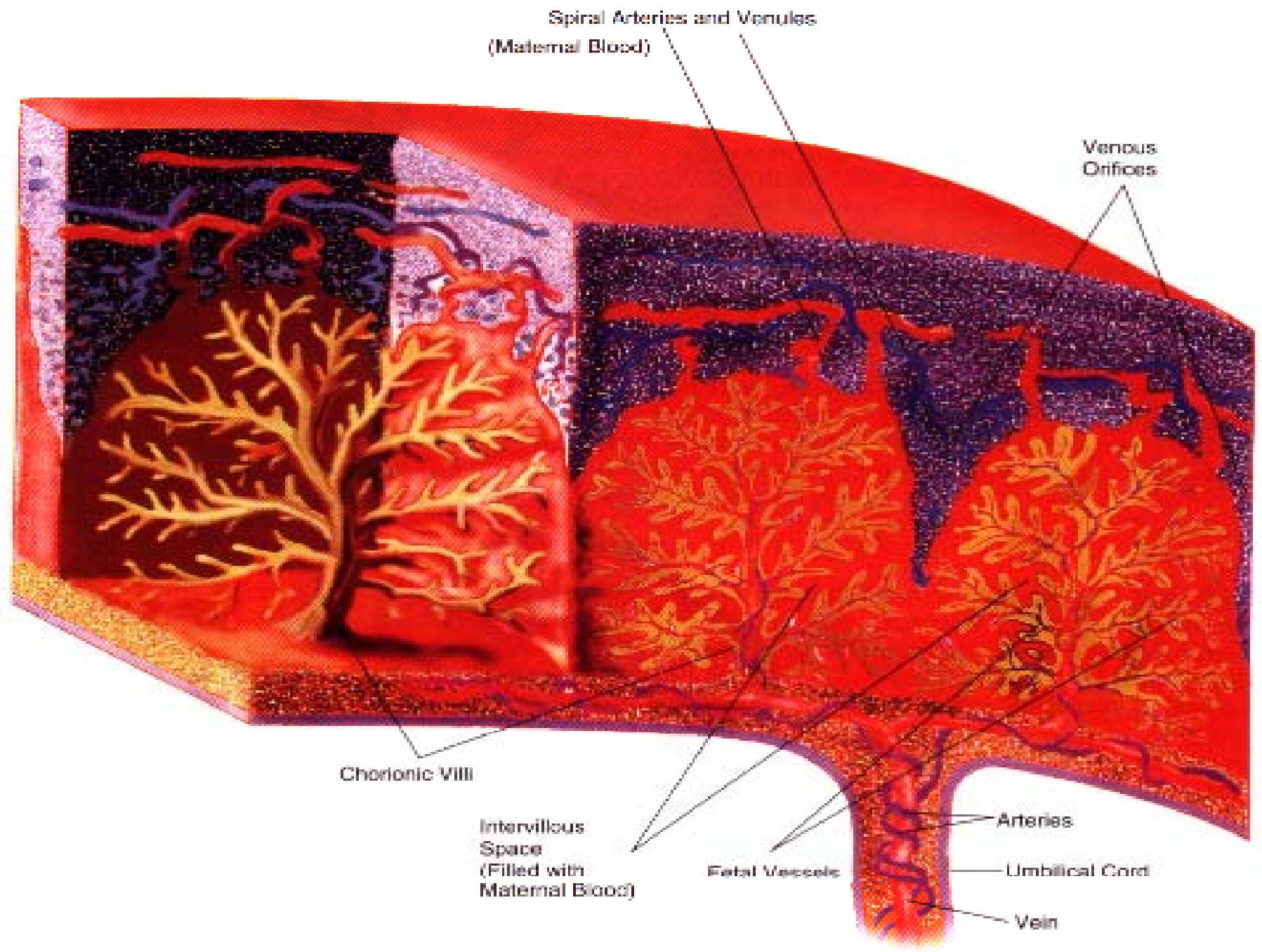
# General Developmental Periods

- Fetal Period (weeks 8-birth)
  - Now called a “fetus”
  - Rapid body growth and organ system maturation occur

# Fetal Lung Fluid

- Secretes by 70<sup>th</sup> day
- Lung growth
- FRC
- Mimics breathing
- 10-20% protein
- 80-90% phospholipids
  - Lecithin
  - Sphingomyelin



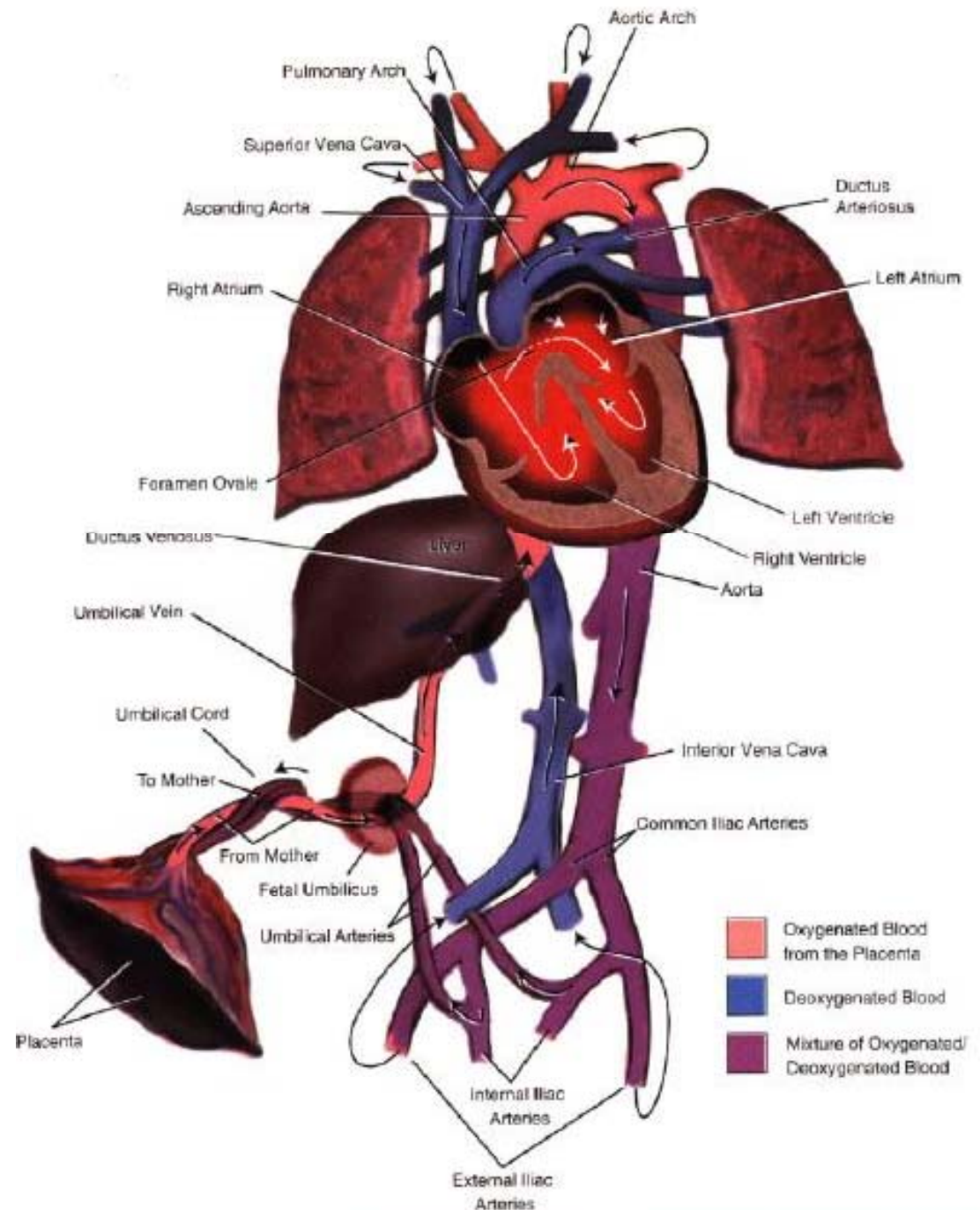


## Foramen Ovale

- Between Right and Left Atrium
- Blood flows Right to Left

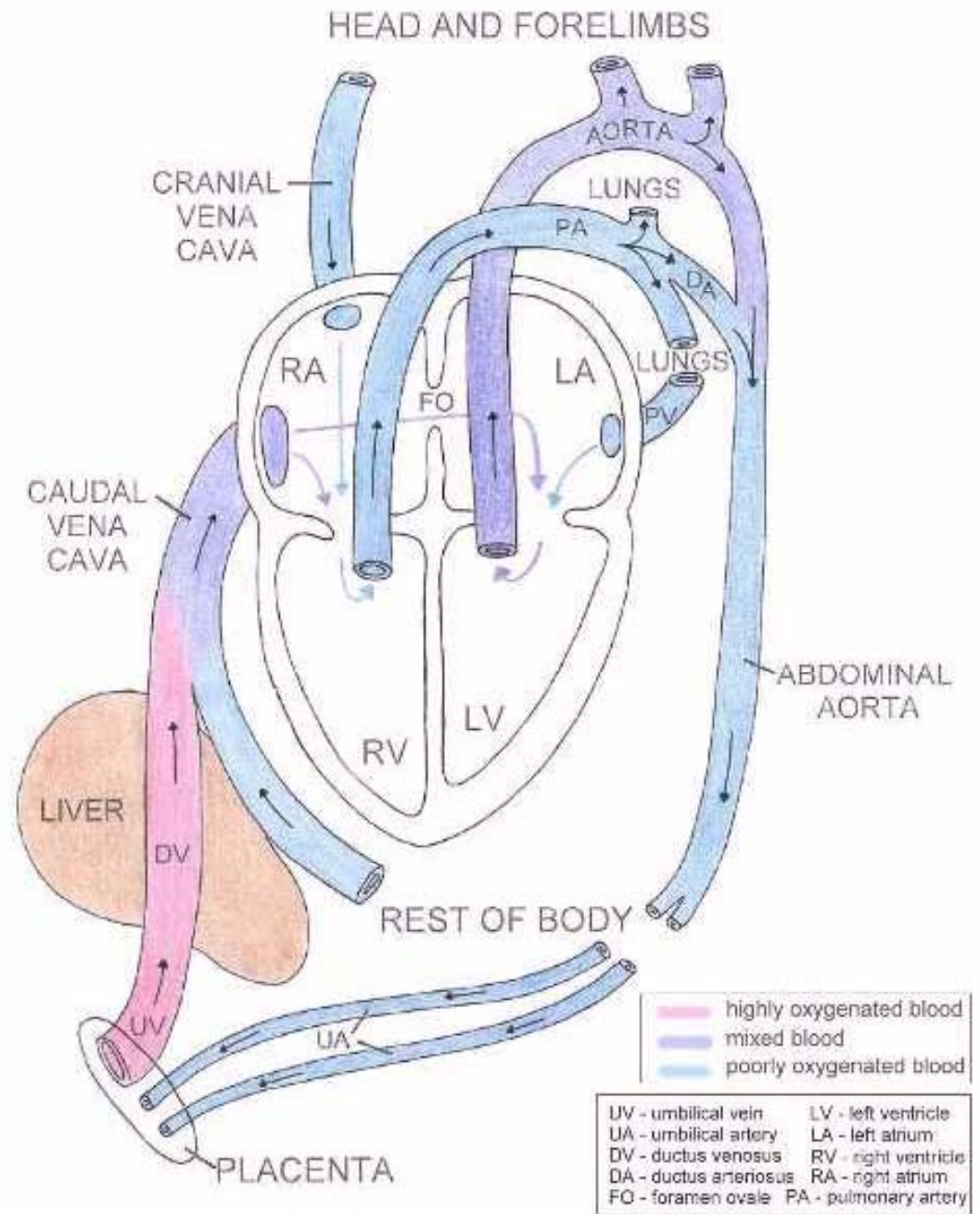
## Ductus Arteriosus

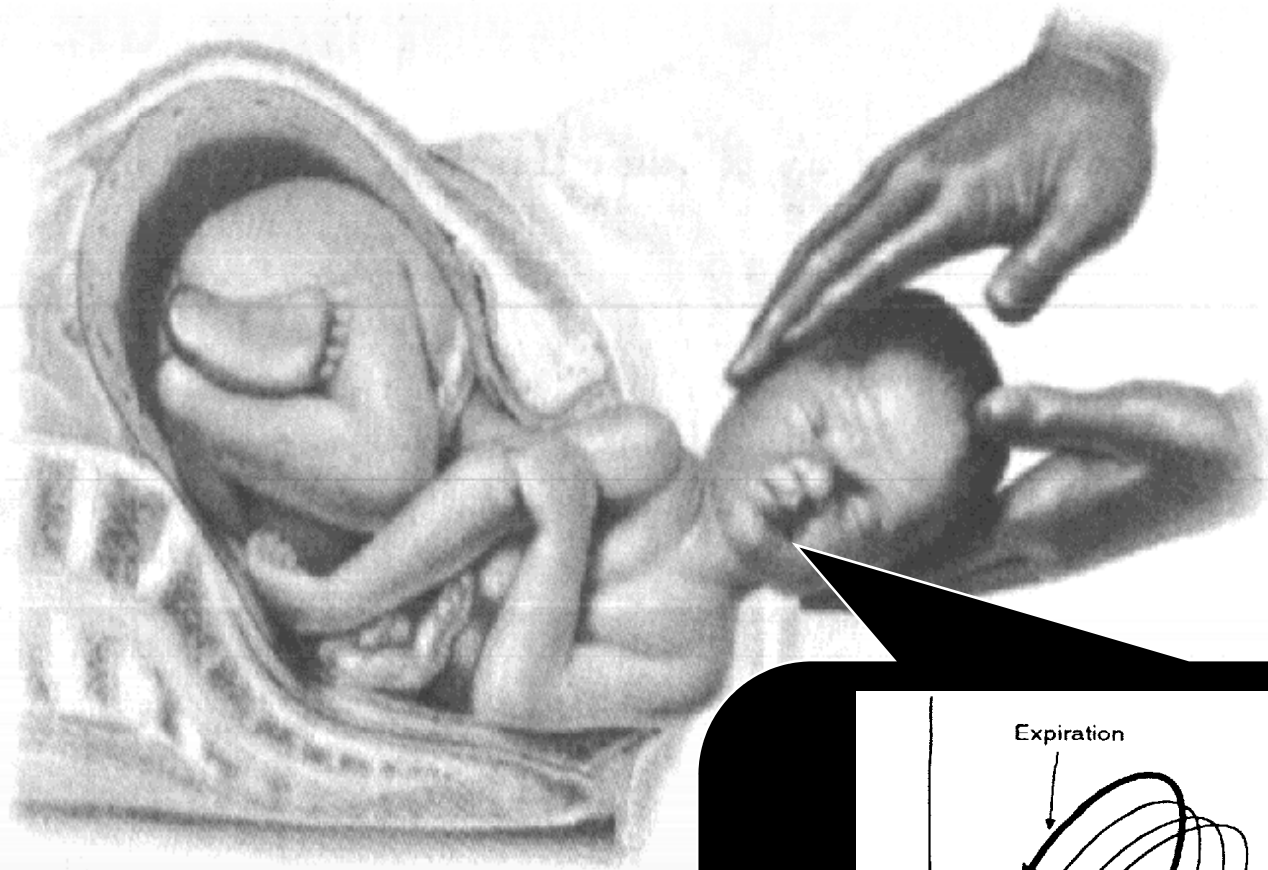
- Between Pulmonary Artery and Aortic Arch
- Blood flows from Pulmonary Artery to Aorta



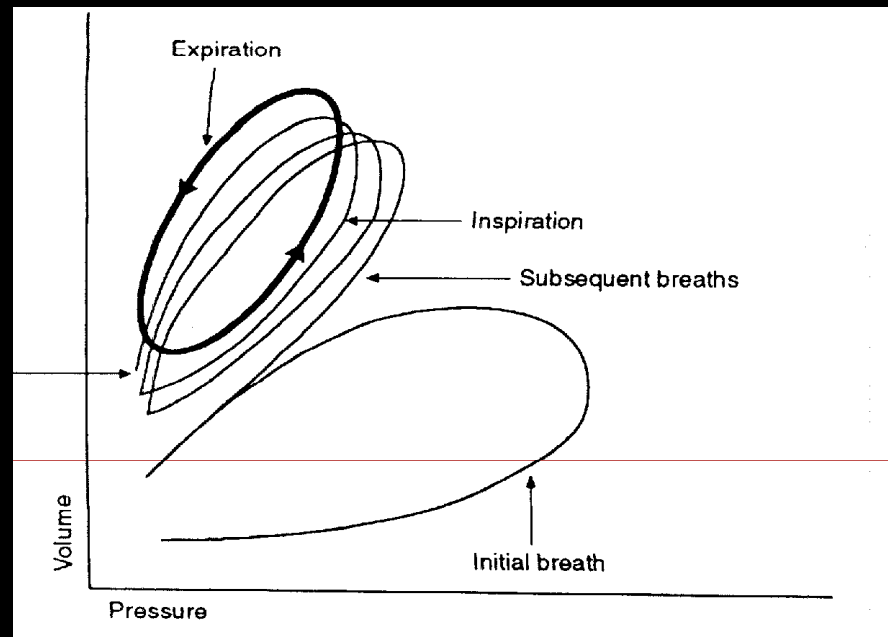
# Fetal Circulation

Schematic Diagram of Fetal Circulation





# DELIVERY



## Foramen Ovale

- Pressures in the left side of the heart exceed pressure in the right side of the heart.
- One way valve closes

## Ductus Arteriosus

- Increased Oxygen levels vasoconstricts Ductus
- Decreased prostaglandin production (PGE1)
- Production of bradykinins

