

**How does pregnancy affect  
the mother?**

# Hormones

## Estrogen

- Affects the urinary tract
- Heart and blood vessels
- Bones
- Breasts
- Hair
- Mucus membranes
- Brain -moods

## Progesterone

- Helps improve mood
- Supports the thyroid
- Supports lactation
- Supports placenta
- Helps to prevent preterm labor

# Hormones

## Estrogen

- Average levels in non-pregnant female  
30-400pg/mL

Average levels in pregnant female can be as high as 20,000pg/mL

## Progesterone

- Average levels in non-pregnant female  
can be up to 25ng/mL

In Pregnancy

-1<sup>st</sup> trimester 11-90 ng/mL

-2<sup>nd</sup> trimester 25-90 ng/mL

3<sup>rd</sup> trimester 48-150ng/mL

# 1<sup>st</sup> Trimester

- Reproductive organs become increasingly vascular and engorged with blood
- Uterus enlarges to the size of a grapefruit or melon
- Uterus pushes on the bowel and bladder
- Nausea and vomiting are common

# 2<sup>nd</sup> Trimester

- Uterus about the size of a melon to small watermelon. Pressure on the bowels and iron in pregnancy may cause more constipation
- Increases of the hormone-Human placental lactogen. This hormone spares maternal glucose for the fetus and less glucose reduces insulin sensitivity. Consequently, gestational diabetes may occur in the mother. About 3-10% of these women will develop type 2 diabetes in the future

# 3<sup>rd</sup> Trimester

- Uterus is the size of a watermelon and presses on the bowel and bladder
- Also presses on the diaphragm causing shortness of breath
- The size of the uterus causes lordosis, a curvature of the spine and changes the center of gravity of the mother. This may result in her being more off balance and falling.

# General Physiological Changes

- Gastrointestinal system -nausea, vomiting, Heartburn, and constipation are common
- Urinary system-the kidneys produce more urine during pregnancy because the mothers increased metabolic rate and disposing of fetal metabolic wastes
- Respiratory system-because of increased estrogen the mother becomes edematous and congested thus more nasal stuffiness. The mother will have more shortness of breath because the diaphragm is pushed up by the uterus.
- Cardiovascular system-total body water and blood volume rises (can be as much as 40%) to accommodate the needs of the fetus. Blood pressure may rise at the end of the pregnancy and cardiac output may increase to 35-40% which may cause added strain to the heart and blood vessels.

# Pregnancy Stressors

- Additional stressors the marginalized may encounter are: Food insecurity, childcare, improper or unsafe housing, the list is numerous. What affects do these stressors have on the female body?
- Increase catecholamines-epinephrine and norepinephrine-Fight or Flight-Increase your heart rate and blood pressure-so you can run or fight
- Increase glucose secretion-to fuel your muscles to run from something

# Recovery

- Estrogen: about 3-6 months for estrogen levels to return to normal-remember the effects of estrogen (baby brain!, foggy thinking, emotional moods)
- Uterus: about 6-8 weeks for the uterus to return to normal size-may have continued heartburn, constipation, congestion, shortness of breath etc....