### www.neppe.awfis.net

# The structure of the female reproductive organs

ISABEL CORRALES GUTIÉRREZ













Rzeczpospolita











# "PARIR EN MOVIMIENTO"

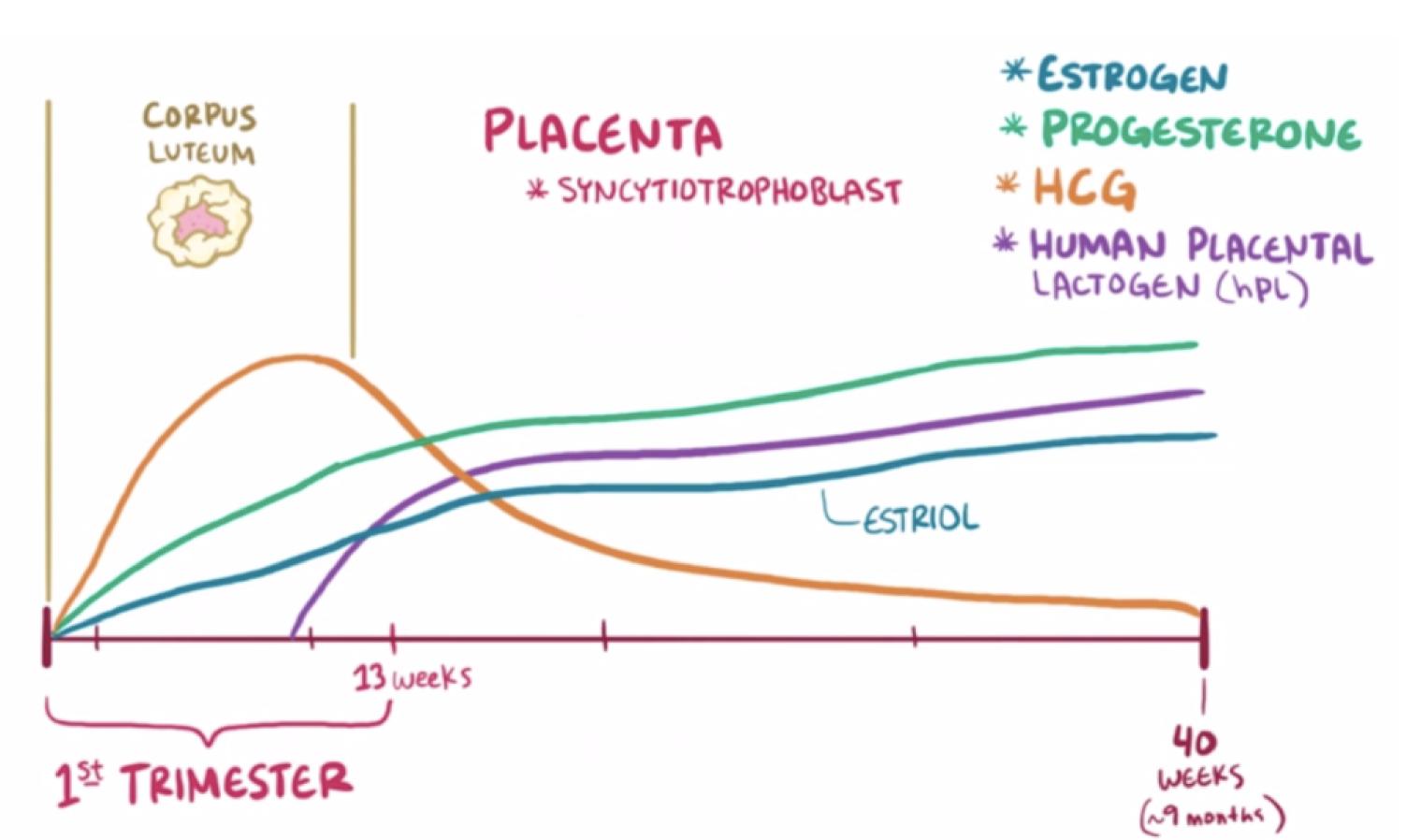


# The basics of the physiology of pregnancy in each trimester







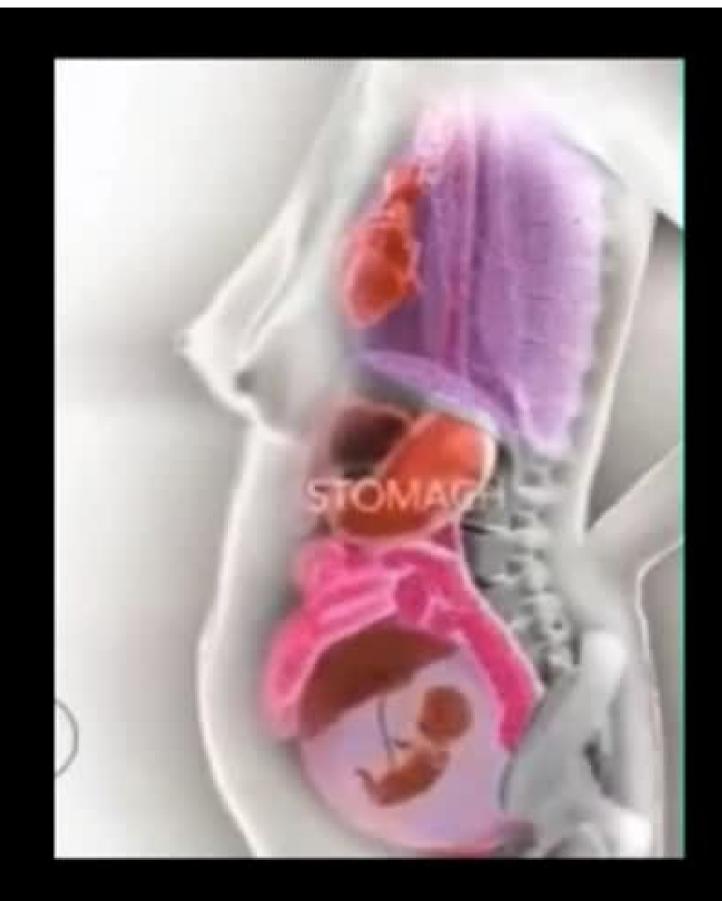


# Pregnancy hormones

NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE



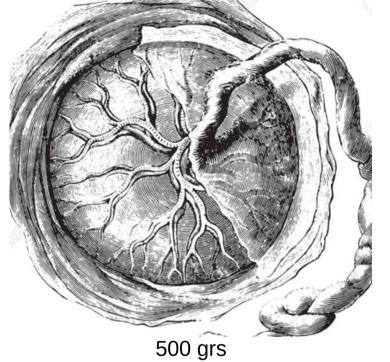
# Increased uterine volume during pregnancy



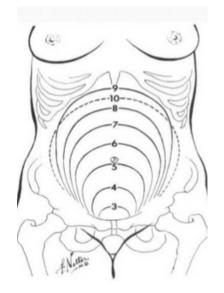


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# Weight gain 9-12 kgs:



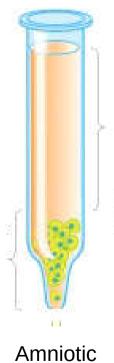




Womb 1000 grs



Fat 3500 grs



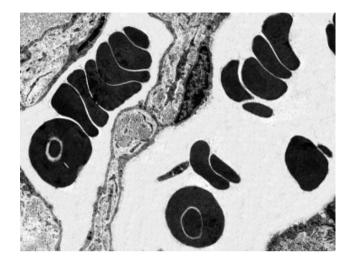
ffluid 1000 grs



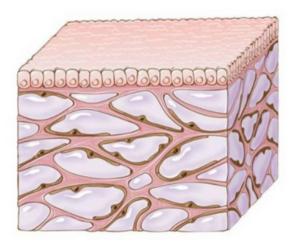
Breast 500 grs







Volemia 1500 grs



Interstitial tissue 1500 grs

# First trimester

# up to week 13.







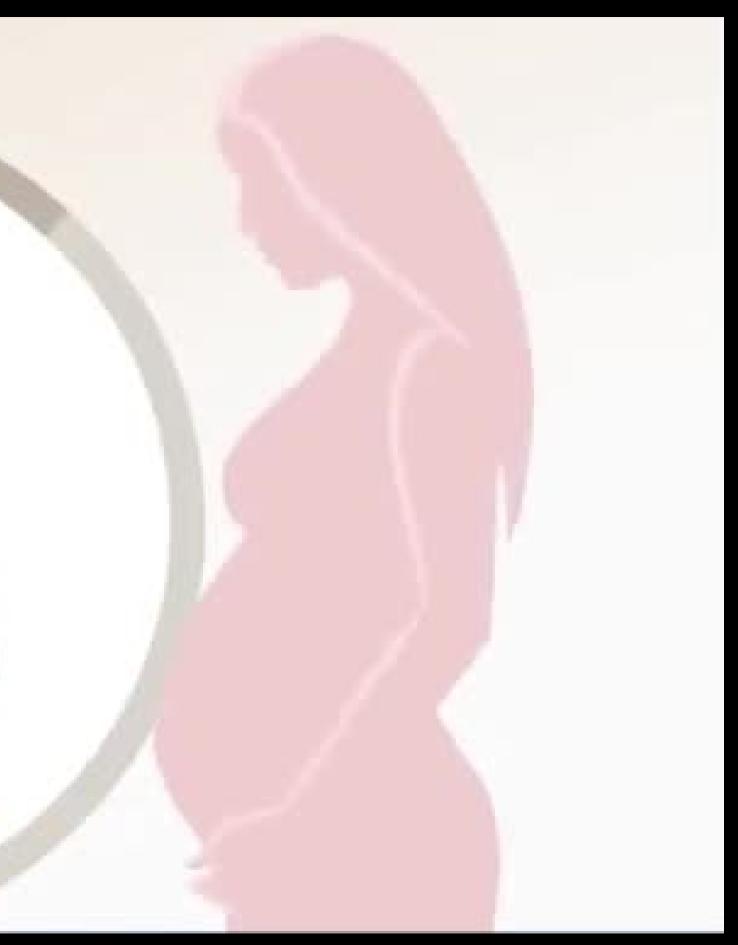


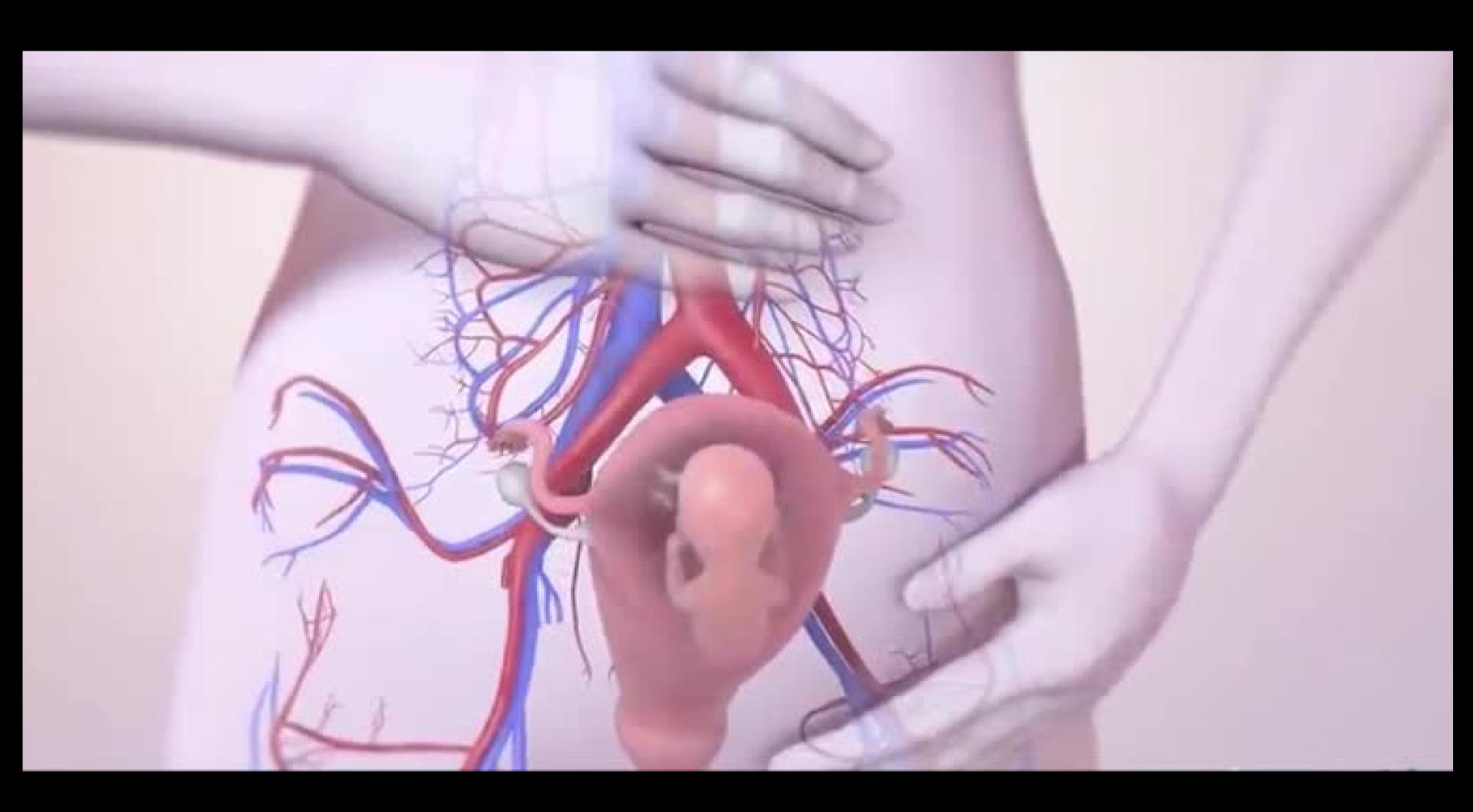
21Hz/ 9.6cm 60°/1.9 1 Trim./OB HI H PI 10.50 - 3.80 AO 92% Gn -3 C6/M7 P2/E2 SRI II 2

# Pregnancy

# **WEKS**

from 1st day of last menstrual period





NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE

# Second trimester

up to week 27.



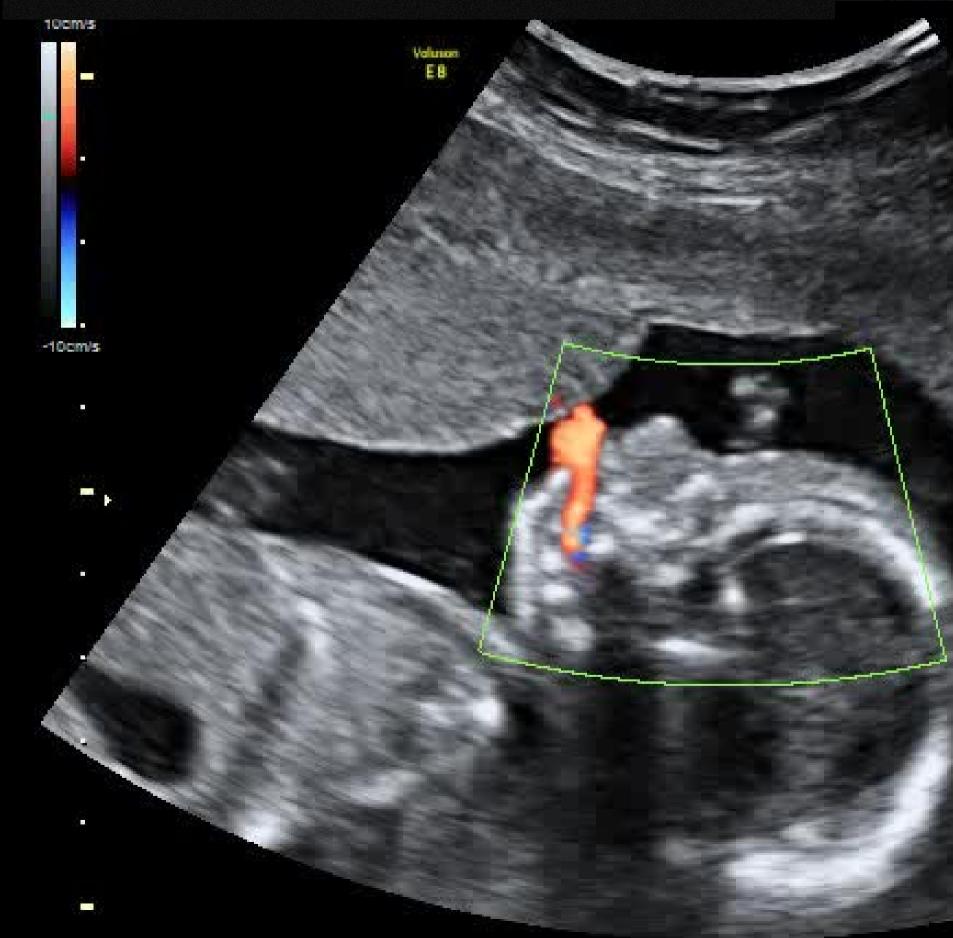






TIs <0.1 TIb <0.1 MI 0.9 C2-9-RS 21Hz/ 8.1cm 43°/1.6 1 Trim./OB HI H PI 10.50 - 3.80 AO 92% Gn -3 C6/M7 P2/E2 SRI II 2

### MI 1.1 z Tis 0.5



нум	acarena.Diag. Pr	enatal
5	30.12.2019	13:54:58
		2+3.Trim. Har-baja PWR 97 % Gn -1 C6 / M7 P2 / E3 SRI II 4
		PWR 100 % Gn -6.0 rq intermedia
		Calidad norm WMF baja2 PRF 0.9kHz
	22	



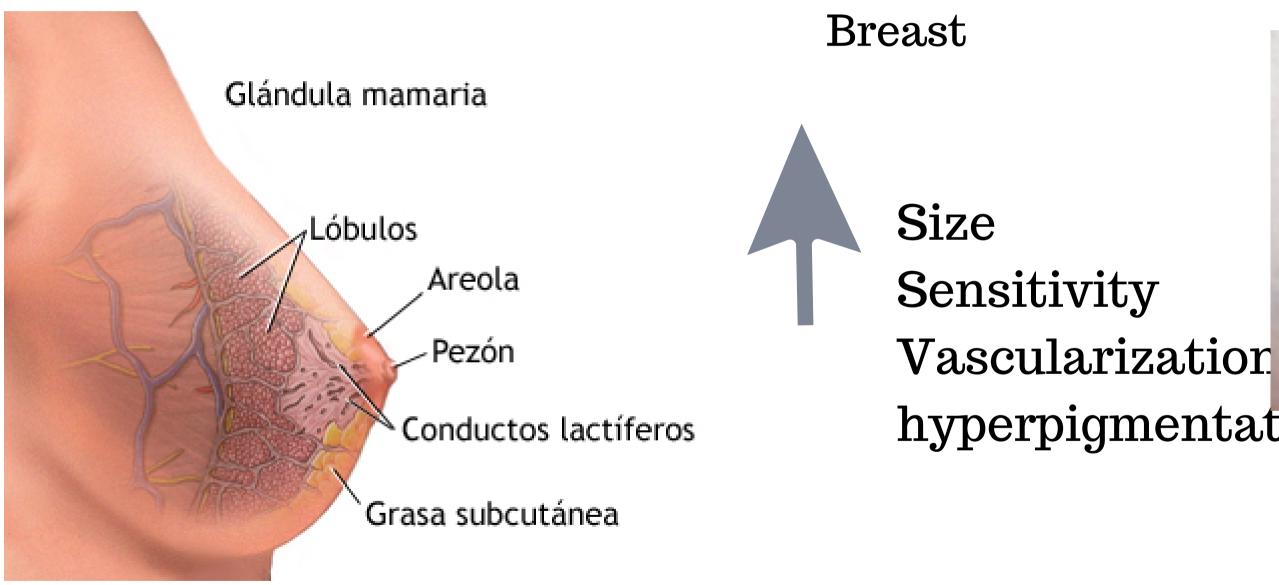
TIs 0.1 TIb 0.1 MI 1.1

## RAB6-RS

22Hz/14.0cm 60°/1.3 Routine 2 Trim./OB HI H PI 6.70 - 3.80 AO 97% Gn 1 C7/M7 FF3/E1 SRI II 3/CRI 3

### NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE

# **Modifications in second trimester**









hyperpigmentation

### NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE

## **Modifications in second trimester** Abdomen





## Diastasis recti

stretch marks





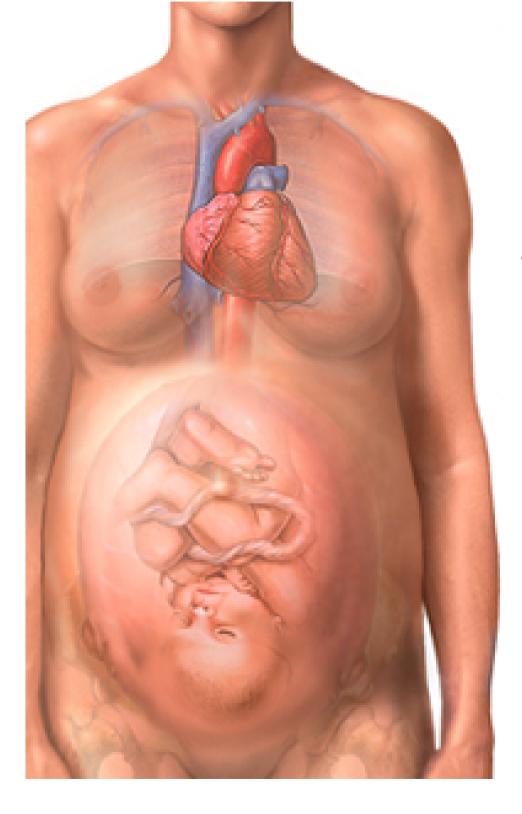
hyperpigmentation of the linea alba

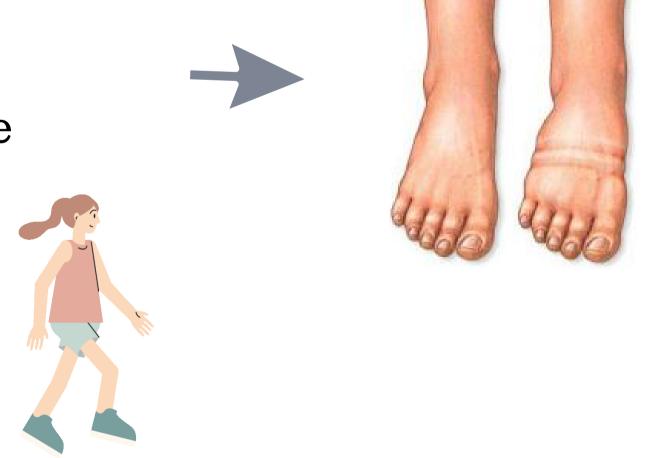
# **Modifications in second trimester**

Cardiocirculatoriy

Diaphragmatic elevation that pushes the cardiac apex up and to the left.

- Heart rate
- venous pressure







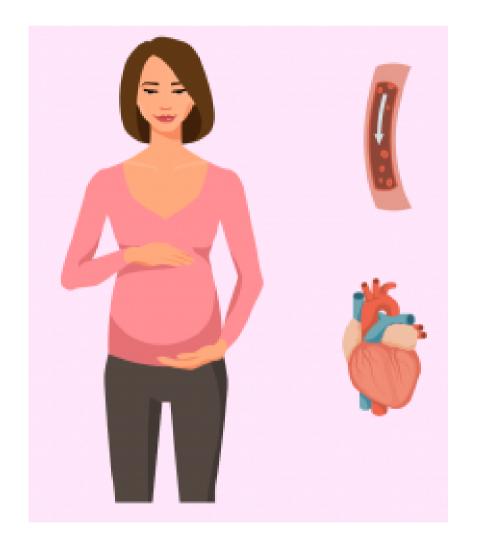
Edema

# **Modifications in second trimester**

Cardiocirculatory

- Progressive increase in plasma volume.
- It also increases the erythrocyte volume due to producing dilutional physiological anemia.

Partial occlusion of the inferior vena cava (venous stasis -> varicose syndrome)





increased EPO activity, although to a lesser extent,

producing hypotension in the supine position



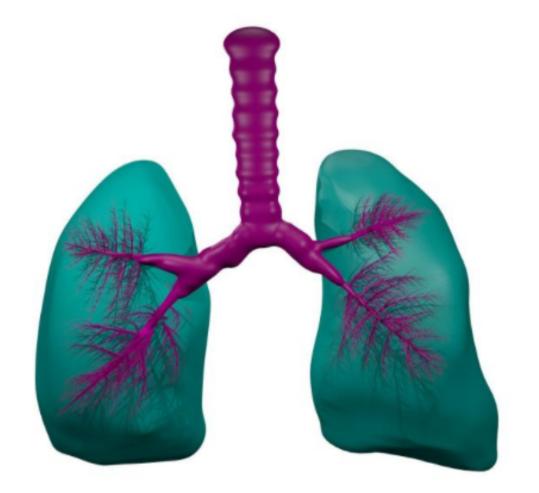
### NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE

# **Modifications in second trimester**

**Respiratory changes** 

Diaphragmatic elevation ->

**Residual volume Hyperventilation** (secondary to progesterone):







## NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE

# **Modifications in second trimester**

Musculoskeletal system



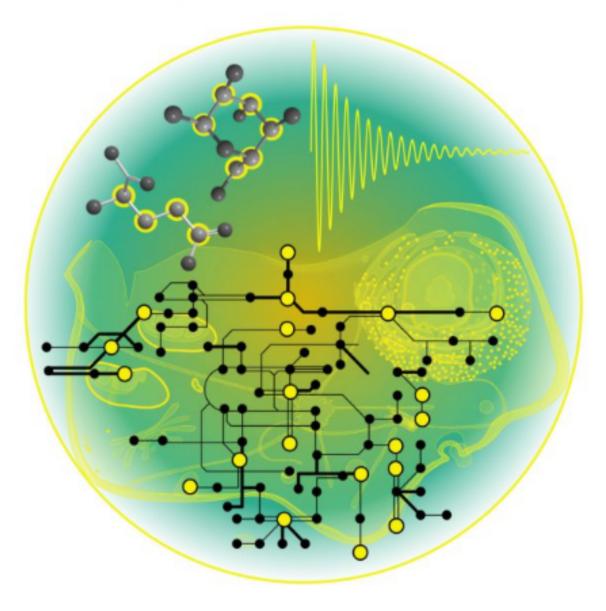
- Lumbar hyperlordosis
- Carpal tunnel syndrome
- Sacroiliac joint mobility



## **Modifications in second trimester** Metabolic changes

Increased basal metabolism: Reserve glucose and amino acids for the fetus.

Increase maternal lipid deposition





Anabolism First half of pregnancy





Catabolism Second half of pregnancy

# Third trimester

# up to week 40.







		TIs TIb	
RAB6-RS	Contraction of the local distribution of the	MI	
33Hz/15.0cm			
65°/1.3			
3 Trim./OB			
HIL 7.30 - 4.40			
AO 97%			
Gn 13			
C7/M7			
FF2/E1			

## FF2/E1 SRI II 3/CRI 3

## NEW ERA OF PREGNANCY AND POSTPARTUM EXERCISE



## Modifications in third trimester

- Abdominal achiness
- Backache
- Braxton-Hicks contractions
- Breast enlargement and leaking
- Clumsiness
- Fatigue
- Frequent urination
- Heartburn and constipation
- Sciatica
- Shortness of breath
- Spider and varicose veins
- Swelling
- Weight gain





# Take home messages



- The physiology of pregnant women is a unique clinical situation.
- The proper management of the obstetric patient in baseline and critical conditions requires knowledge and interpretation of maternal changes.



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Fundusze Europejskie wiedza Edukacja Rozwiji





Rzeczpospolita Polska





