



MEDIGROUP

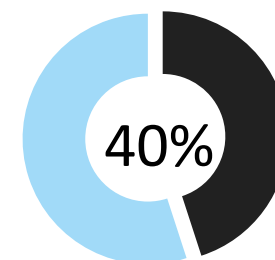
# Anemija u trudnoći

Dr Jelena Hajder





# Definicija anemije u trudnoći



## Definition of anaemia

### During Pregnancy

Haemoglobin (g/dL)	WHO	< 11
	CDC	< 11 (1 <sup>ST</sup> trimester)
		< 10.5 (2 <sup>nd</sup> trimester)
		< 11 (3 <sup>rd</sup> trimester)
Post partum		
Haemoglobin (g/dL)		<10





# Etiologija anemije u trudnoći

## STEČENI UZROCI

- deficit gvožđa
- deficit folne kiseline
- akutni gubitak krvi
- inflamacija ili malignitet
- deficit vitamina B12
- stečena hemolitička anemija
- aplastična ili hipoplastična anemija

## UROĐENI UZROCI

- Talasemija
- Sickle-cell hemoglobinopatija
- nasledna hemolitička anemija



IRON DEFICIENCY



B12 DEFICIENCY



FOLATE DEFICIENCY



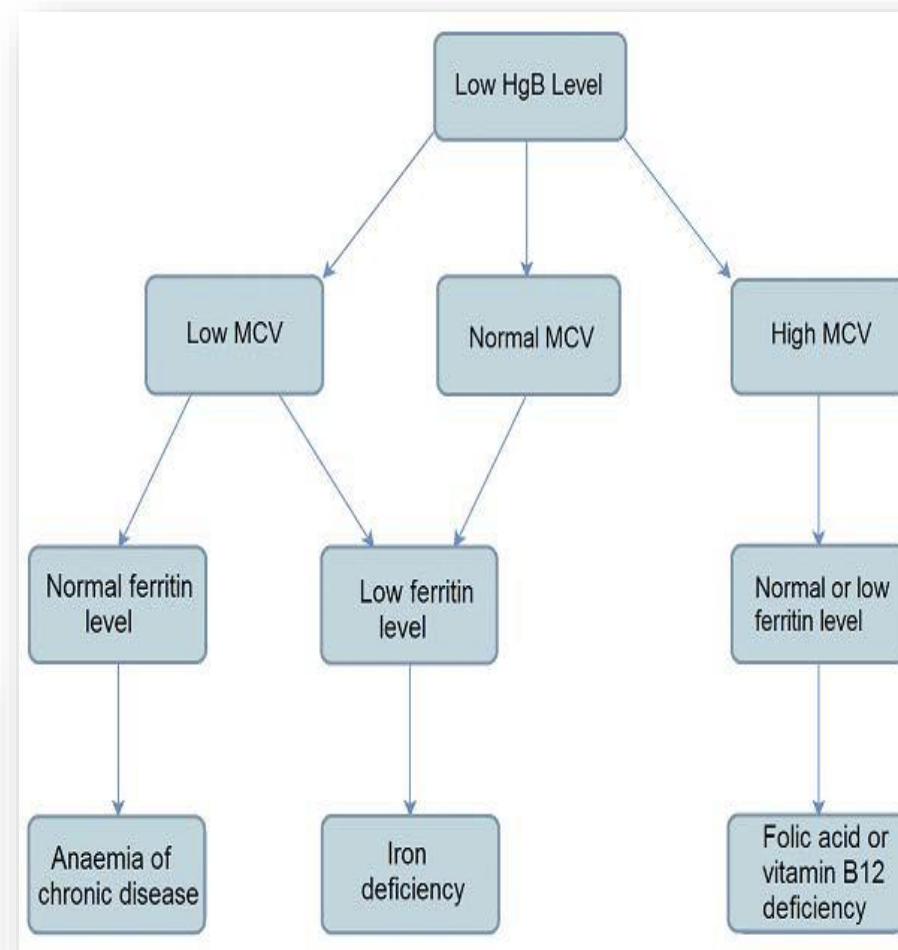
DECREASED BLOOD CELLS PRODUCTION



BLOOD LOSS

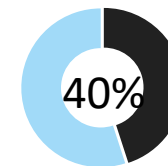


RED BLOOD CELLS DESTRUCTION





# Sideropenijska anemija u trudnoći

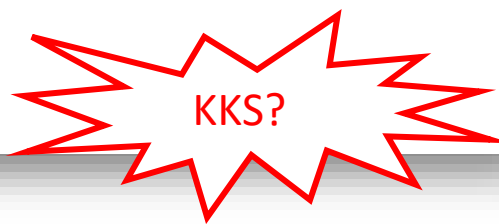


## Definition of anaemia

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Post partum		
Haemoglobin (g/dL)		<10

feritin 30 ng/ml

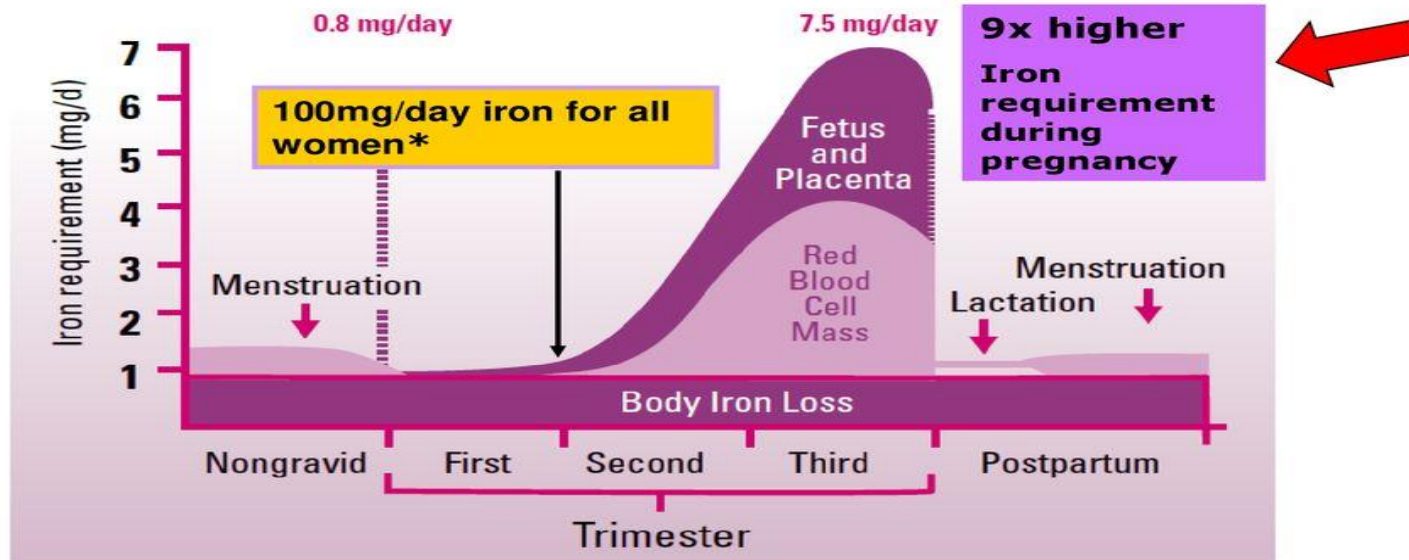


		Iron Deficiency
RBC Size		Microcytic
MCV (82-99)		Decreased ↓
MCH (27-32)		Low ↓
TIBC		High ↑
Ferritin (10-291)		Low ↓
B12 (130-700)		Normal
Folate (200-650)		Normal
RBC (4-5)		Low
Hb (12-16)		Low



# Patofiziologija anemije u trudnoći

## POTREBE FE U TRUDNOĆI



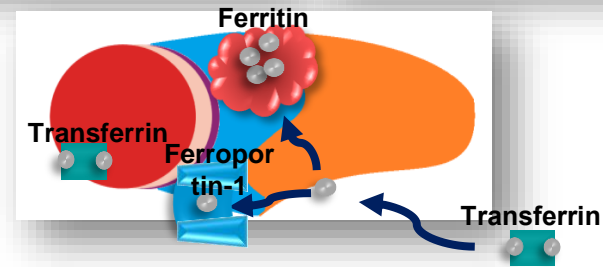
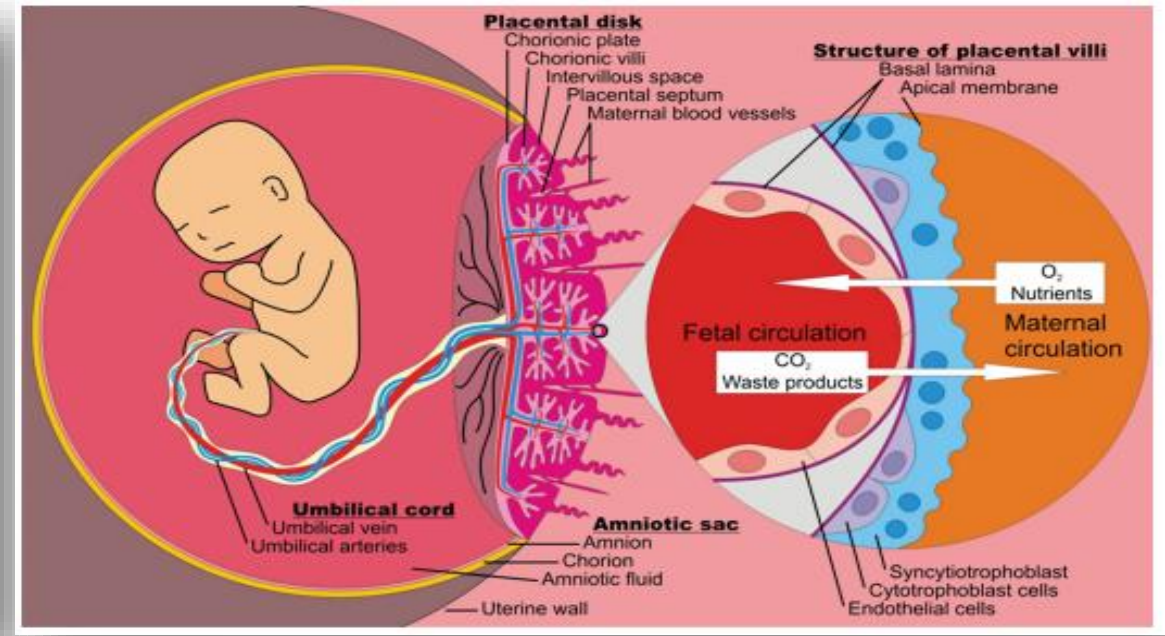
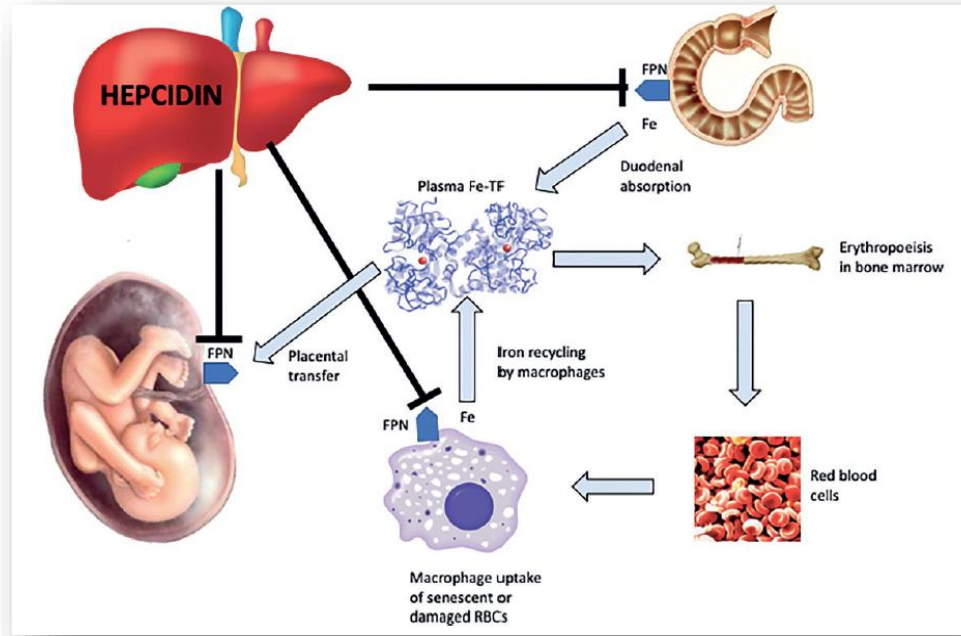
Milman N Ann Hematol 2006; 85(9):559-565

\* RNI Malaysia 2005 , National Coordinating Committee on Food and Nutrition (NCCFN), Ministry of Health Malaysia





# Hemostaza Fe majka-placenta-plod



1. Benson et al. *Obstet Med.* 2021;14(2):67-76. 2. Lakhal-Littleton et al, *Semin Hematol.* 2021;58(3):153-160. 3. Image taken from Elad et al., *Traffic* 2014;15(1):122-6.

# Značaj anemije u trudnoći



## Neonatal Risks

- Low birth weight
- Small for gestational age
- Fetal distress
- Preterm birth



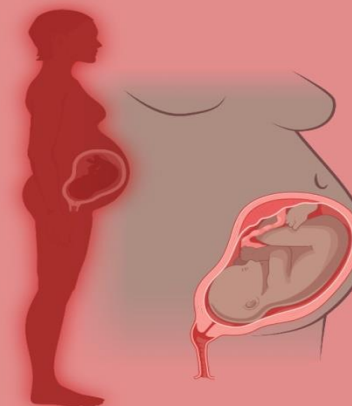
## Offspring Risks

- Memory/processing disorders
- Intellectual disability
- Iron deficiency



## Maternal Risks

- Preterm labor
- Placental abruption
- Severe postpartum hemorrhage
- Preeclampsia
- Hysterectomy
- Maternal shock
- Increased ICU admission
- Maternal death



# Terapija sideropenijske anemije u trudnoći



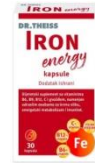
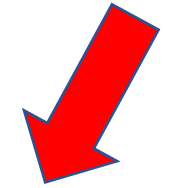
gvožđe derizomaltoza



gvožđe(III)-hidroksid saharoza kompleks



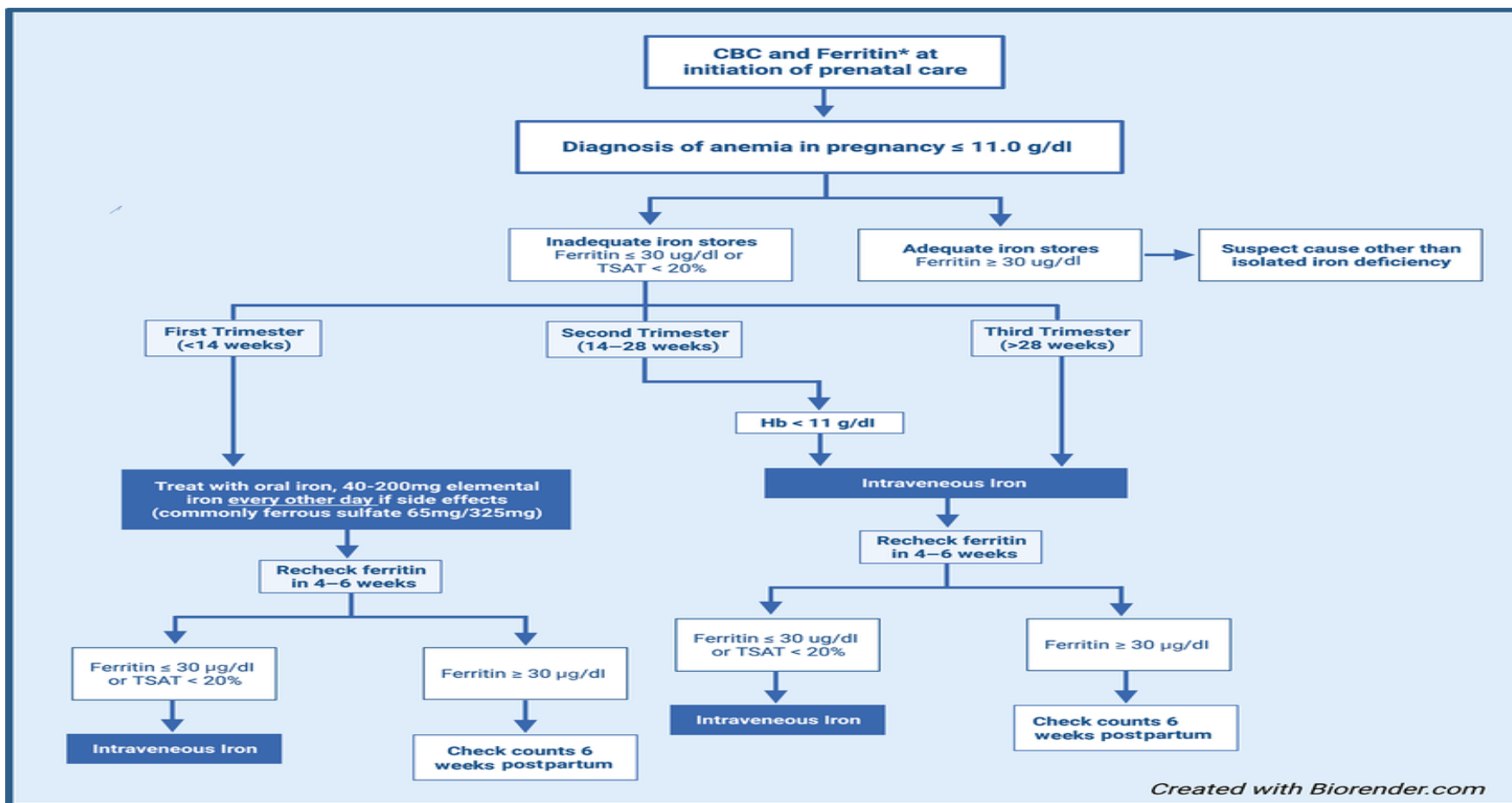
gvožđe(III)-hidroksid saharoza kompleks







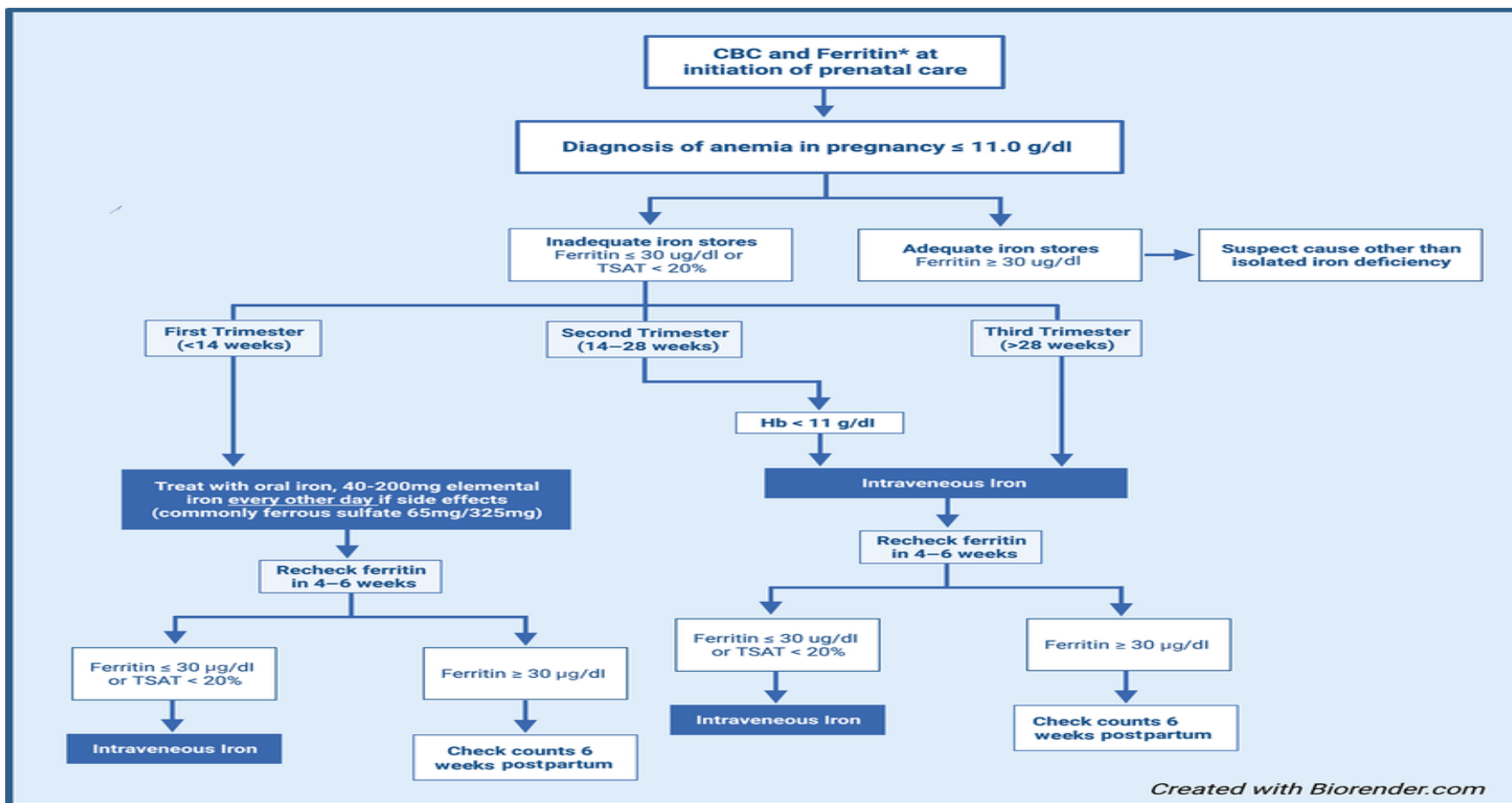
# Terapija sideropenijske anemije u trudnoći



1. Benson A, Shatyel J, Rayan K at al. The incidence, complications, and treatment of iron deficiency in pregnancy 2022 ;109(6):633-642.

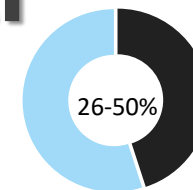


# Terapija sideropenijske anemije u trudnoći





# Deficit vitamina B12 u trudnoći



VIT B12	
NORMALNE VREDNOSTI	300 pg/mL
GRANIČNE VREDNOSTI	200-300pg/mL
DEFICIT	<b>&lt;200 pg/mL</b>

2.6microg/day in pregnancy  
2.8microg/day in lactation.

Fetus  
50µg/dan

50%

Uzroci nedostatka folata:  
-ishrana **VEGETERIJANCI!!**  
-malapsorpci  
-lekovi



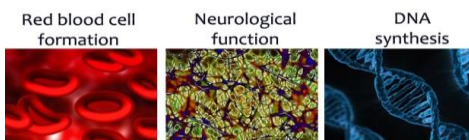
hydroxocobalamin (1000mcg/1mL)

cyanocobalamin 1000mcg/day)

MAX doza 2000mcg!!!!

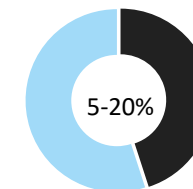
ANEMIJA , NEUROLOŠKI POREMEĆJI, KOMPLIKACIJE U TRUDNOĆI...

Vitamin B12 is essential for



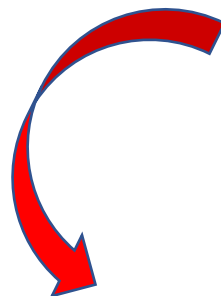


# Deficit folata (B9) u trudnoći folat-folna kiselina



## FOLNA KISELINA

NORMALNE VREDNOSTI	4 ng/mL
GRANIČNE VREDNOSTI	2-4 ng/mL
DEFICIT	<b>&lt;2 ng/mL</b>



### Uzroci nedostatka folata:

- ishrana
- bolesti creva
- pothranjenost, alkoholizam
- lekovi
- hipotireoza, bolesti kože
- defiict enzima MTHFR

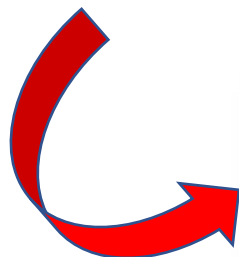


### Metilfolna kiselina (5-MTHF)

400mcg/dan

Trudnoća i dojenje 600-800mcg /dan

MAX doza 1000mg !!!!







# POROĐAJ ANEMIČNE TRUDNICE

1. MINIMIZIRATI GUBITAK KRVI



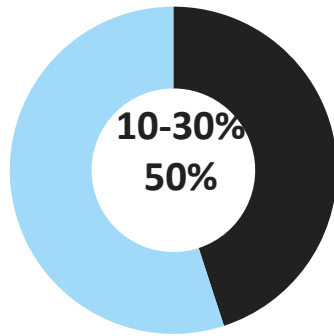
3.



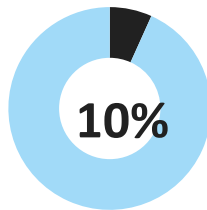




# Postpartalna anemija



Hb < 11 g/dL



**TH?**

Hb < 9 g/dL

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### Post partum

Haemoglobin (g/dL)	<10
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**Feritin ?**

- Hg < 100g/L 24-48h nakon porođaja
- Hb < 110g/L 7 dana posle porođaja
- Hg < 120g/L 8 nedelja posle porođaja

# Transfuzija eritrocita u trudnoći i postpartalno



## INDIKACIJE:

- Sickle cell anemija
- Talasemija
- HG 70-80g/l
- Hemodinamska nestabilnost





**MEDIGROUP**

# Hvala!