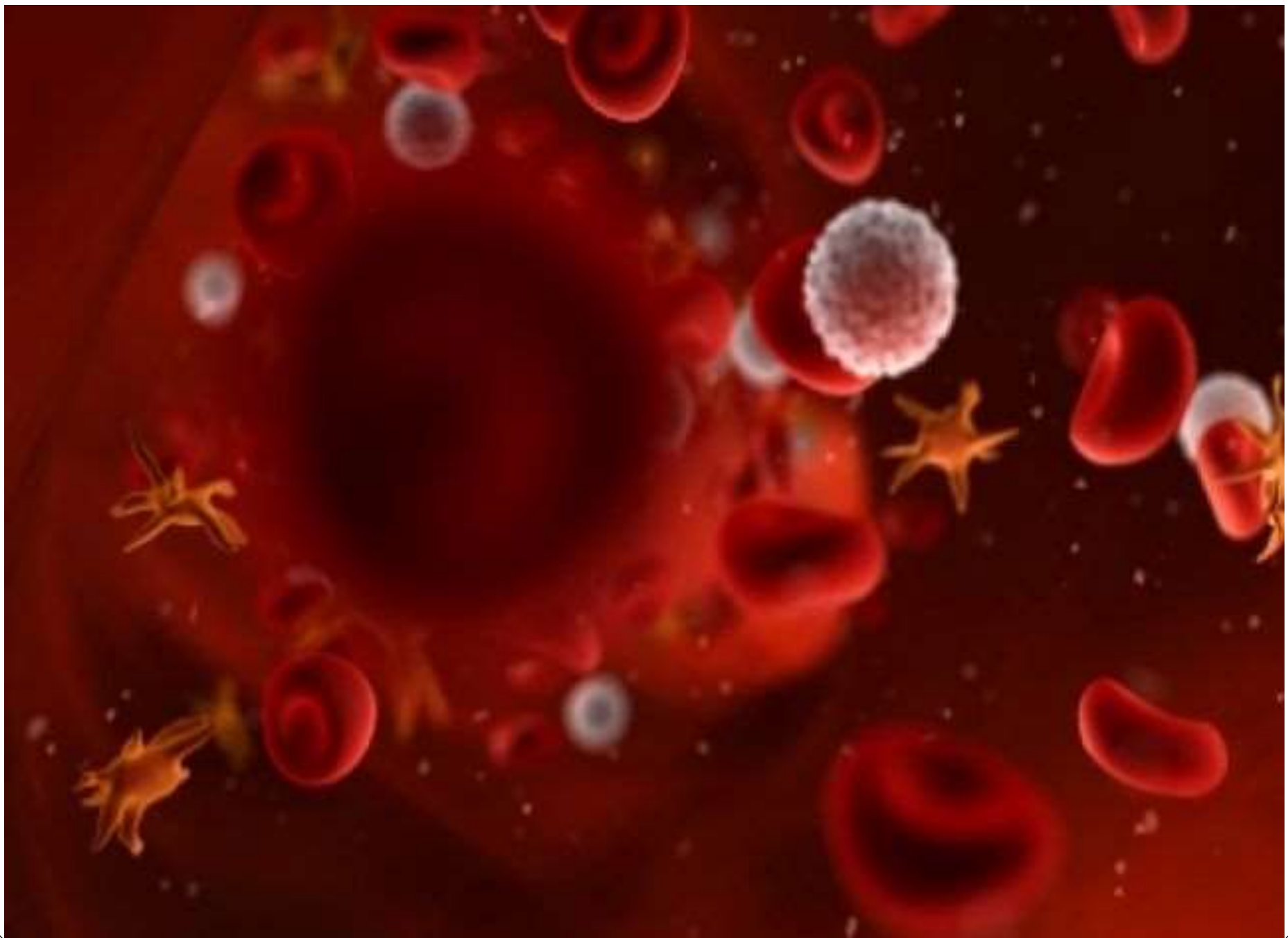
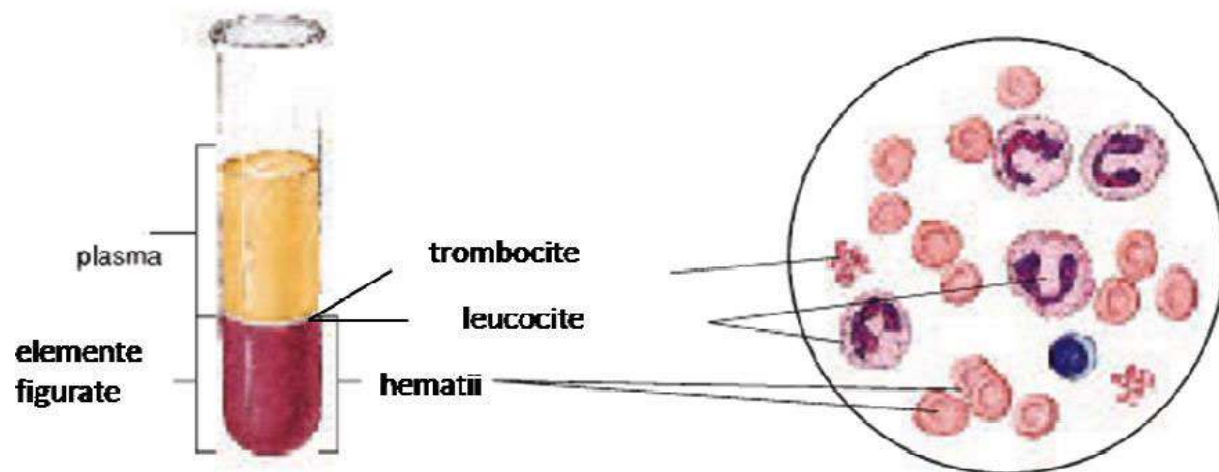
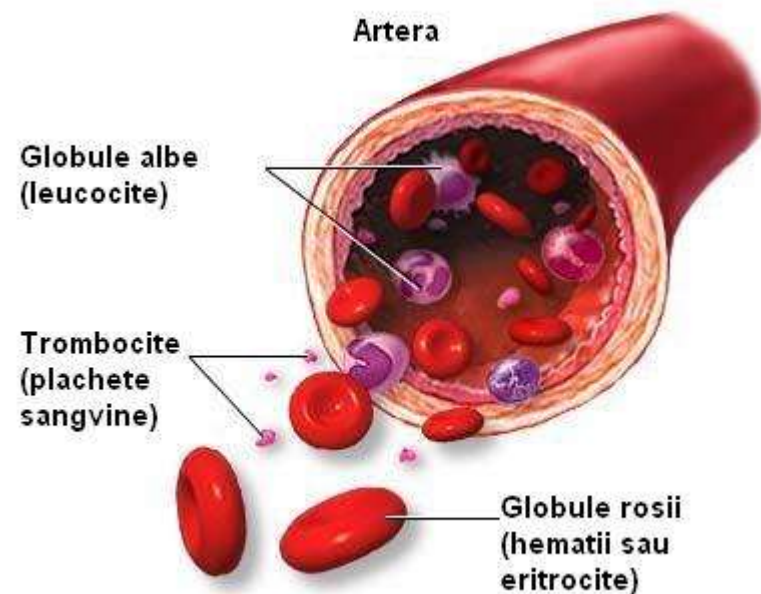
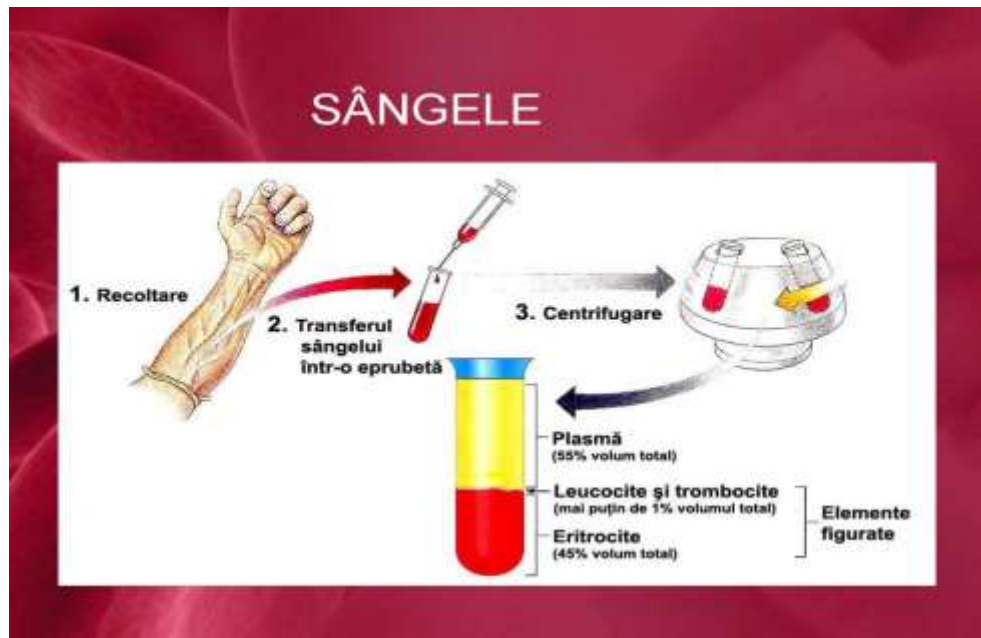


COMPONENTELE SANGELUI

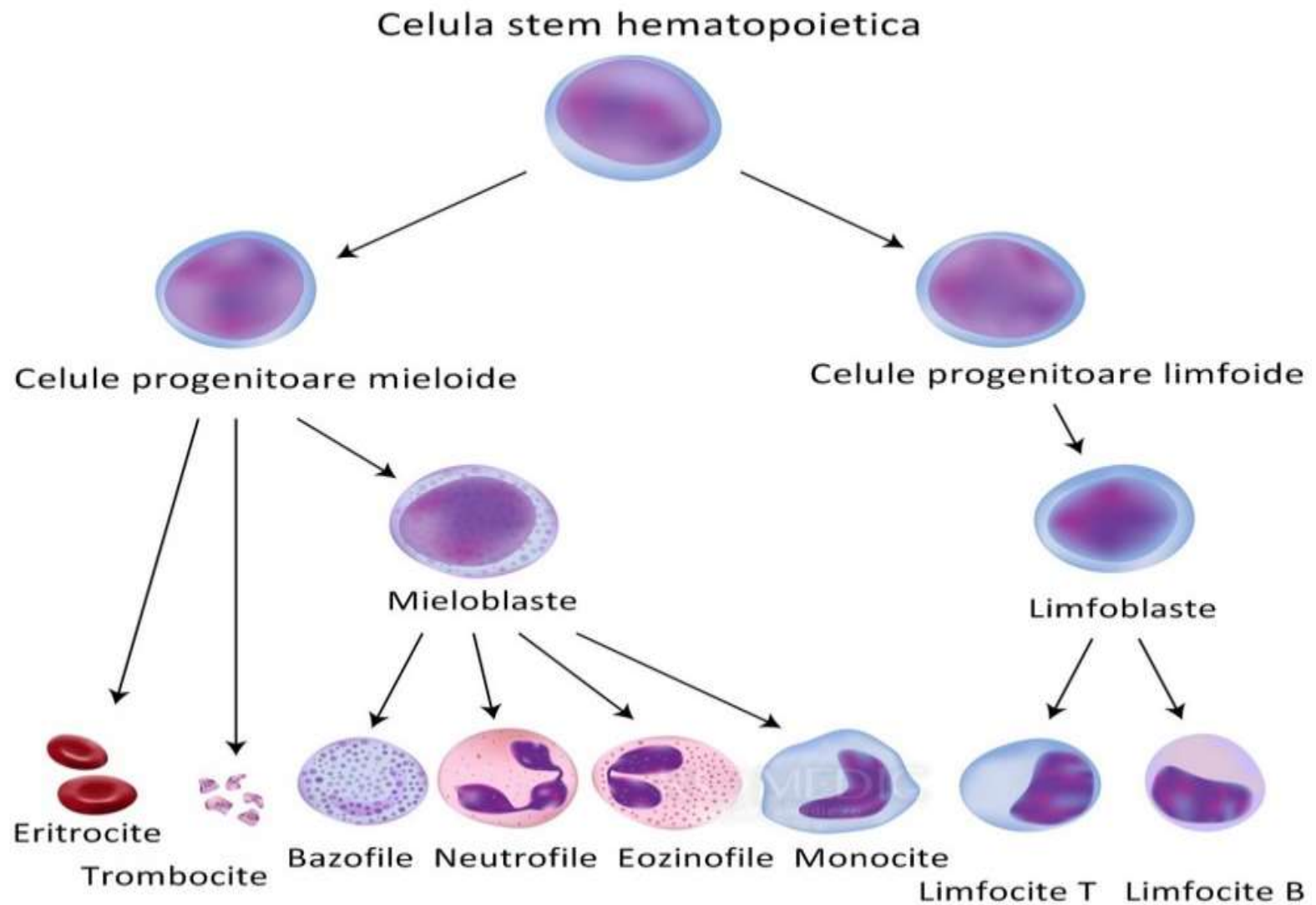
Asist.Univ.Dr. Potre Cristina



De la recoltare la prelucrare



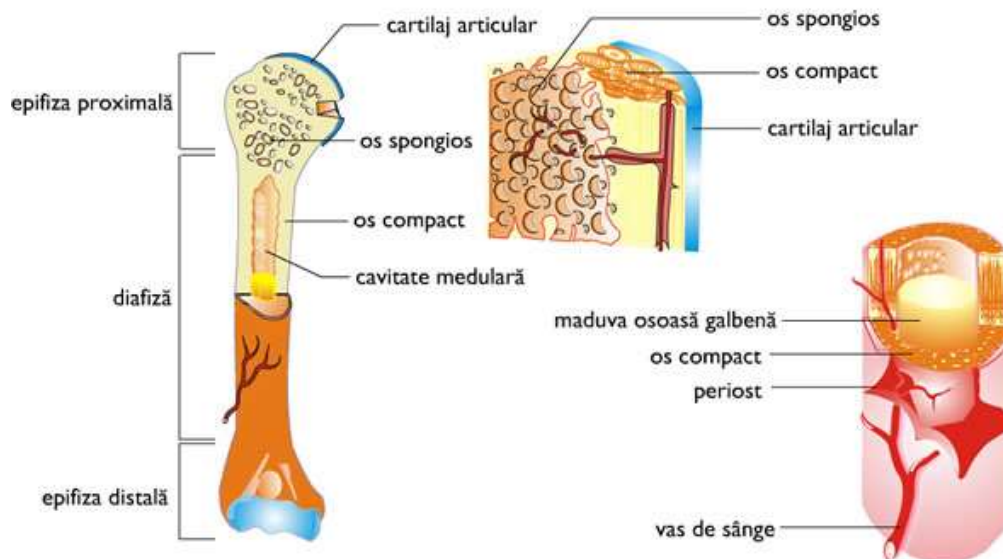
Celulele sangelui



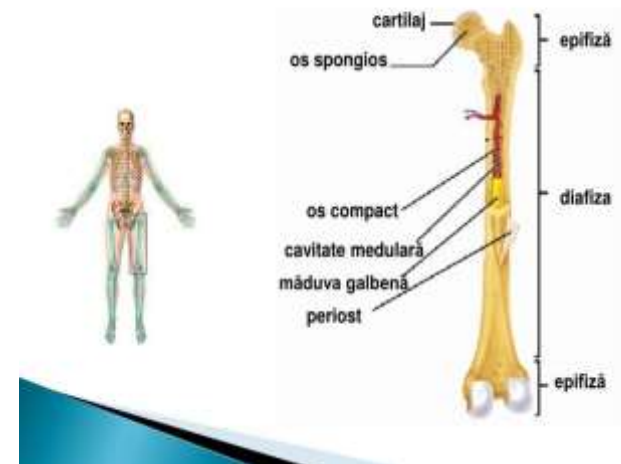
Hematopoieza

- Definitie- ansamblul mecanismelor care asigura inlocuirea continua si regulata a celulelor sanguine
- Postnatal are loc in maduva osoasa
- Dupa adolescenta, capacitatea hematopoietica se restrange la oase late, stern, vertebre si epifizele oaselor lungi

Secțiune prin os



Osul lung

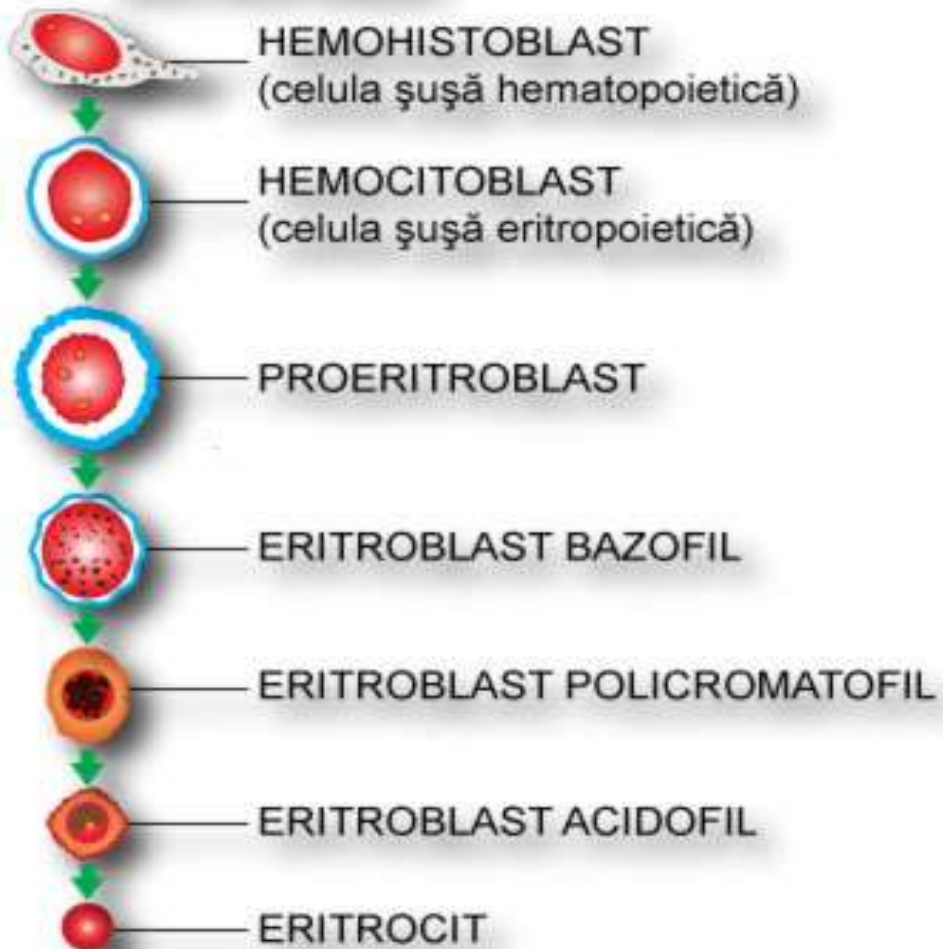


Hematopoieza

- Este asigurata de celulele stem pluripotente care se diferentiaza si dau nastere la toate liniile celulare (limfocite, monocite, granulocite, eritrocite, trombocite)
- In cursul diviziunii, o celula stem da nastere unei celule orientate catre o anumita linie cu capacitate de diferentiere, si unei celule stem identice cu celula mama, care reface rezervorul de celule stem

ERITROCITUL

ERITROPOIEZA

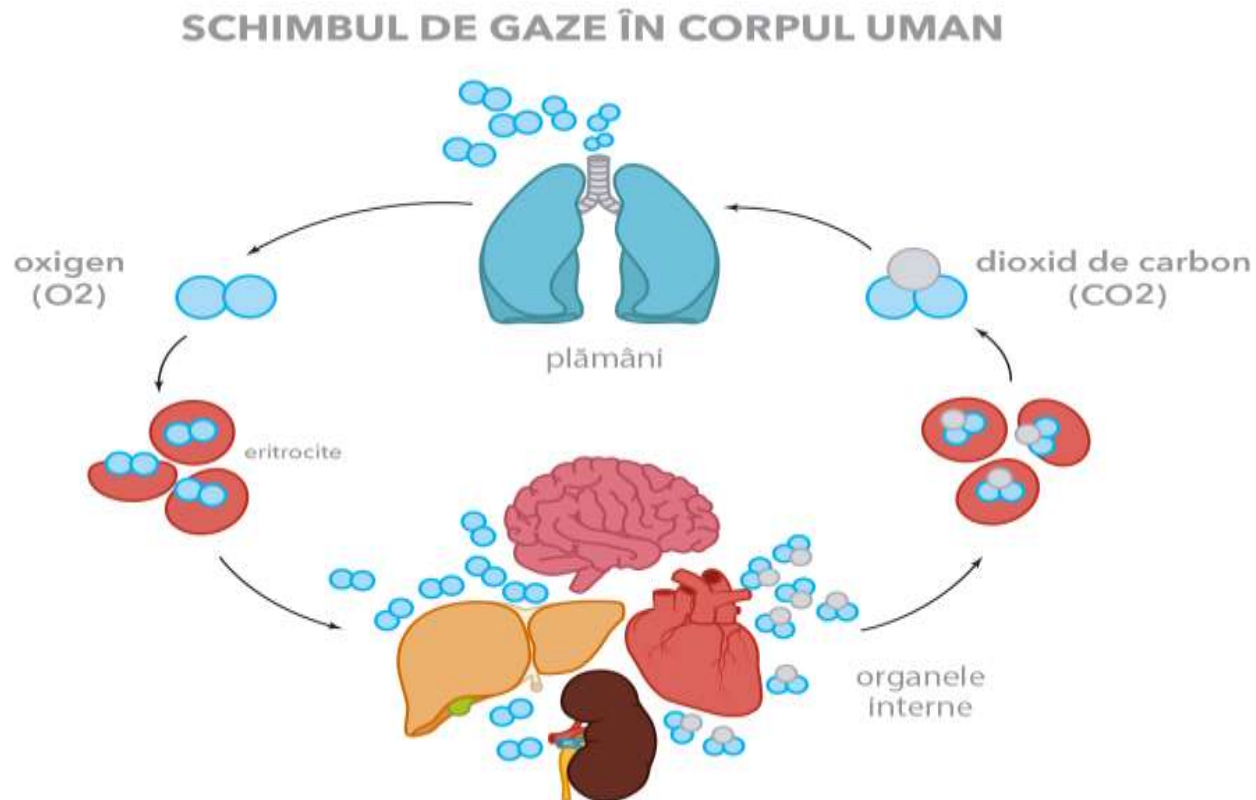


ERITROCITE



ERITROCITUL

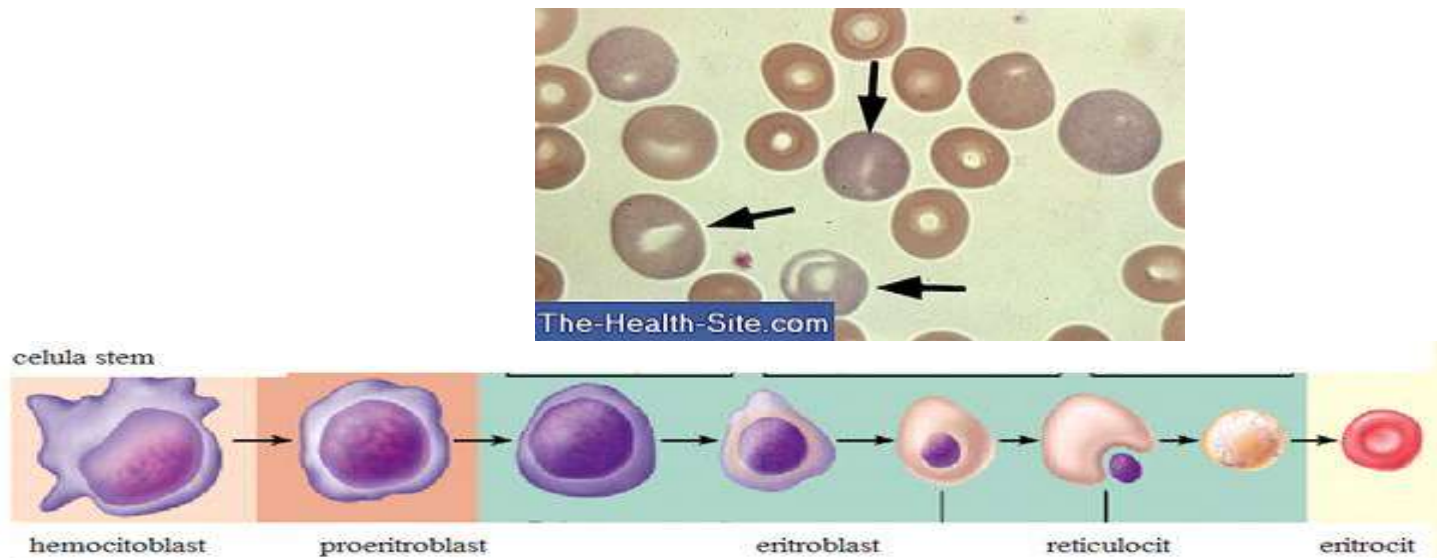
- Rol- transporta oxigen si dioxid de carbon
- Hemoglobina-proteina transportoare a O_2 (da culoarea rosie) de la plamani catre tesuturi si a CO_2 de la tesuturi la plamani



- Hb- valori normale- Barbati: 13,8 – 17,2 g/dl
Femei: 12,1 – 15,1 g/dl
- Ht- procentul de globule rosii (Barbati: 40,7 – 50,3 % , Femei: 36,1 – 44,3 %)
- MCV- volumul eritrocitar mediu (80-95/fL)
- MCH- Hb eritrocitara medie (27-31 pg/celula)
- MCHC- concentratia medie de Hb (31-36 g/dl)
- RDW-SD/CV: largimea distributiei eritrocitare
- Indicii eritrocitari contribuie la stabilirea tipului de anemie si la orientarea diagnosticului

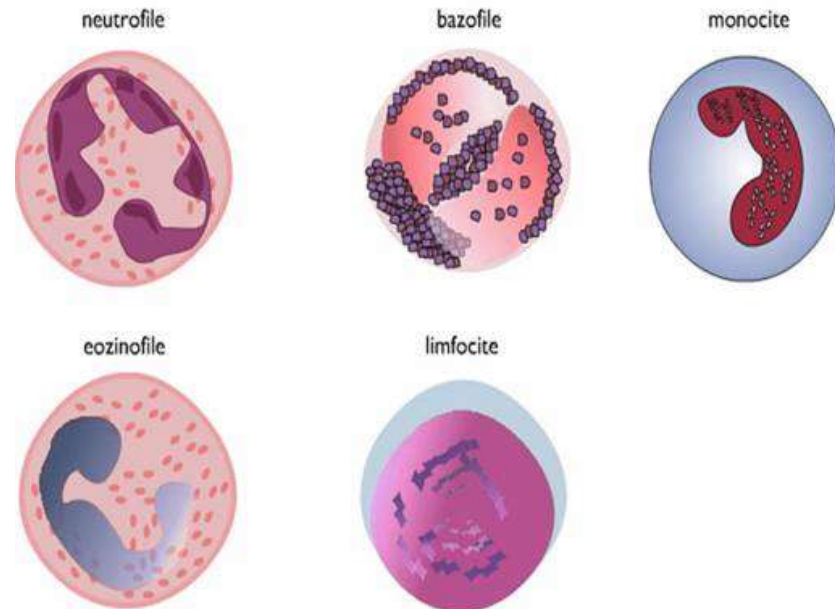
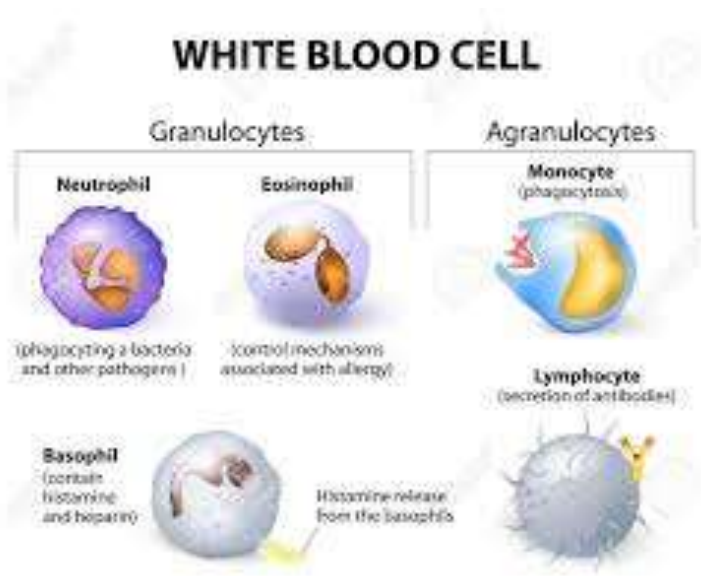
Reticulocitele

- Sunt eritrocite imature anucleate formate in maduva hematogena care ajung in circulatie cu o cantitate reziduala detectabila de ARN; ARN-ul rezidual permite continuarea sintezei de hemoglobina si dupa pierderea nucleului de catre eritroblast.
- In procent scazut, de aprox 1 %, reticulocitele se regasesc in circulatie pentru una-doua zile, apoi se transforma in eritrocit matur



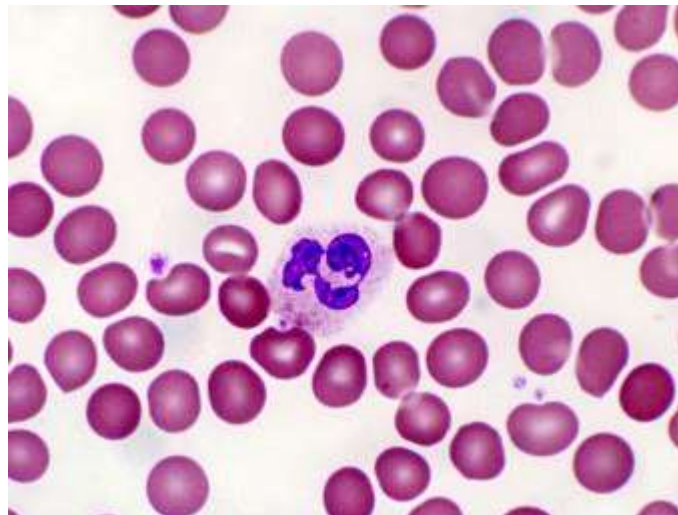
LEUCOCITELE

- Rol fundamental in apararea organismului
 - **direct** prin intermediul granulocitelor si monocitelor
 - **indirect** prin intermediul anticorpilor (limfocitele)
- Val.normale: 7000-10000/mm³



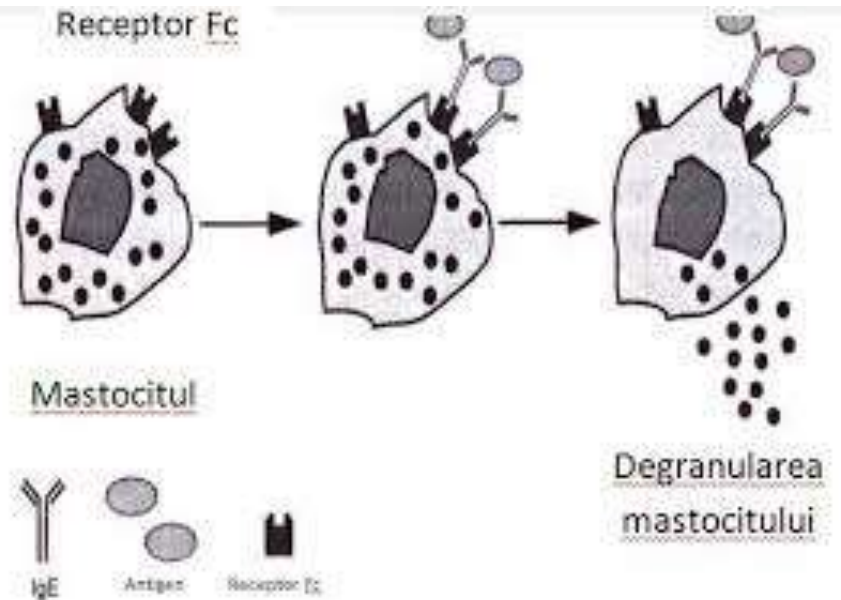
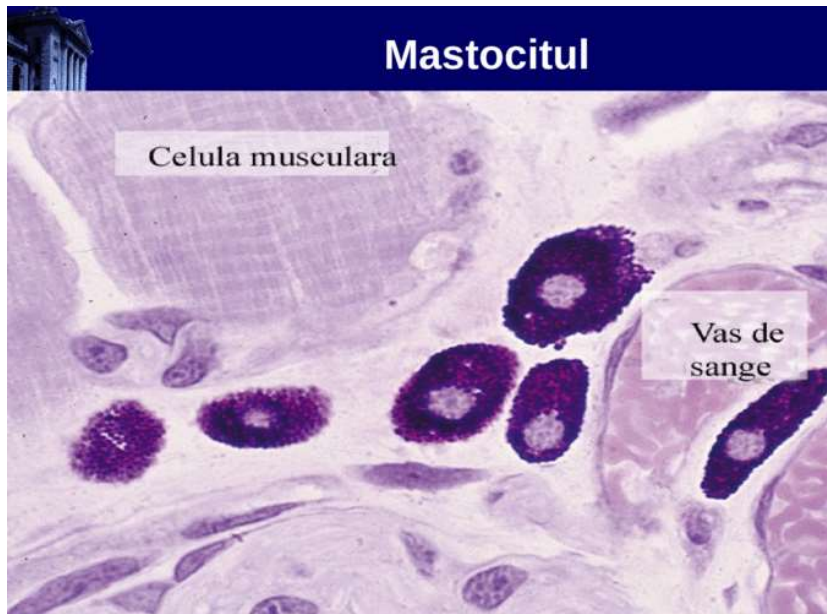
Neutrofilele

- Sunt primele care intervin in aparare, in procese acute sau cronice
- Constituie 60-70% din leucocite si au un turnover ridicat (durata de viata scurta)
- Capacitate crescuta de locomotie
- Digera bacteriile, fungi, unele virusuri in totalitate



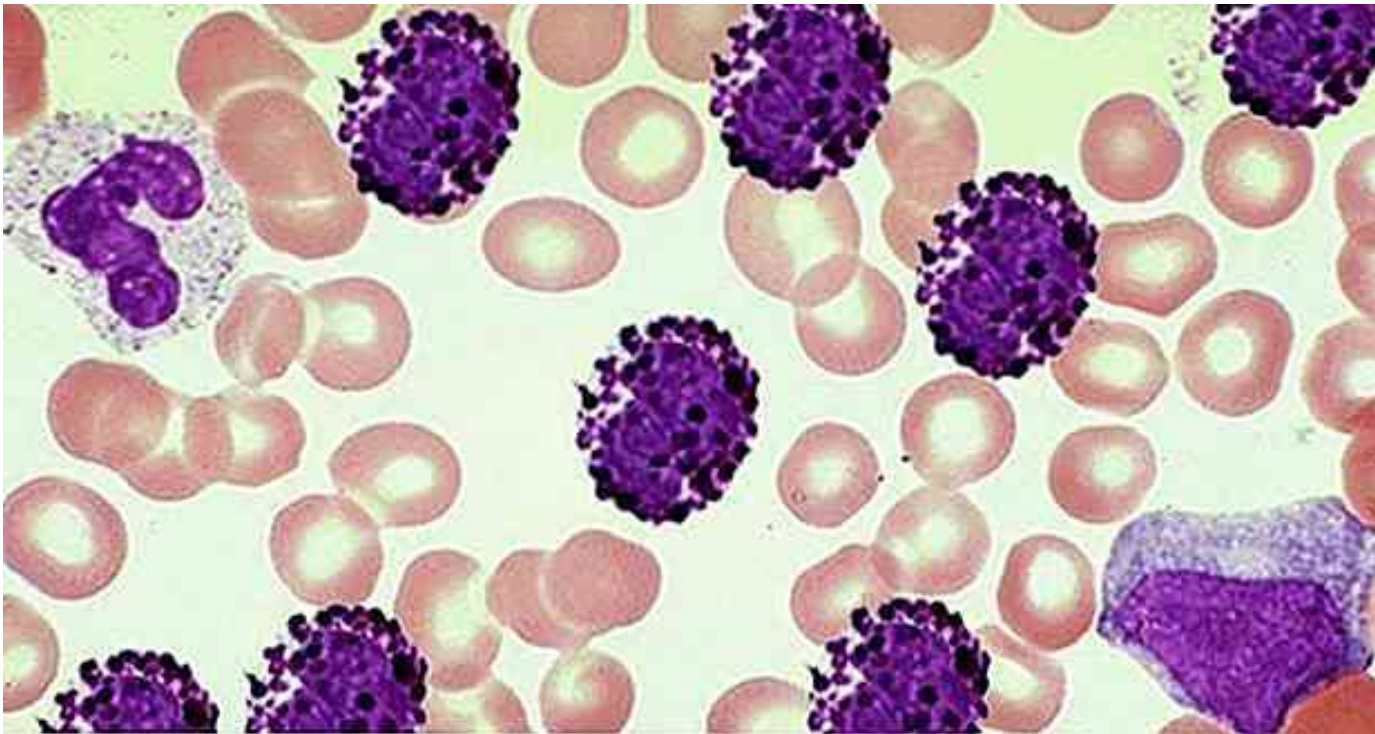
Mastocitele

- Rol in special in procesele alergice prin eliberarea din granule a unor mediatori chemotactici



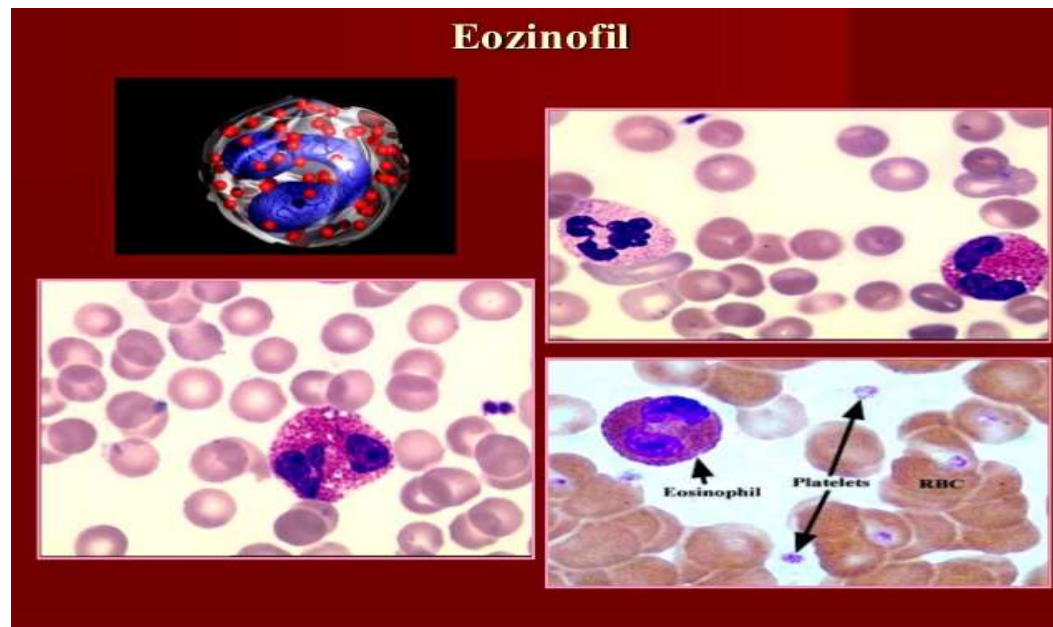
Bazofilele

- Rare in sangele periferic (0,5% din leucocite)
- Proprietati asemanatoare cu ale mastocitelor



Eozinofilele

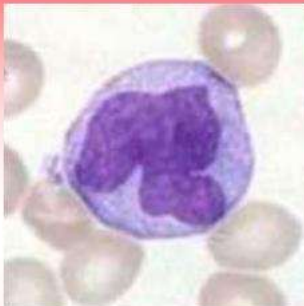
- 2-3% din totalul leucocitelor
- Rol in- apararea antiparazitara
 - in procese inflamatorii, cu efect citotoxic direct prin continutul granulelor si mediatorilor chemotactici eliberati



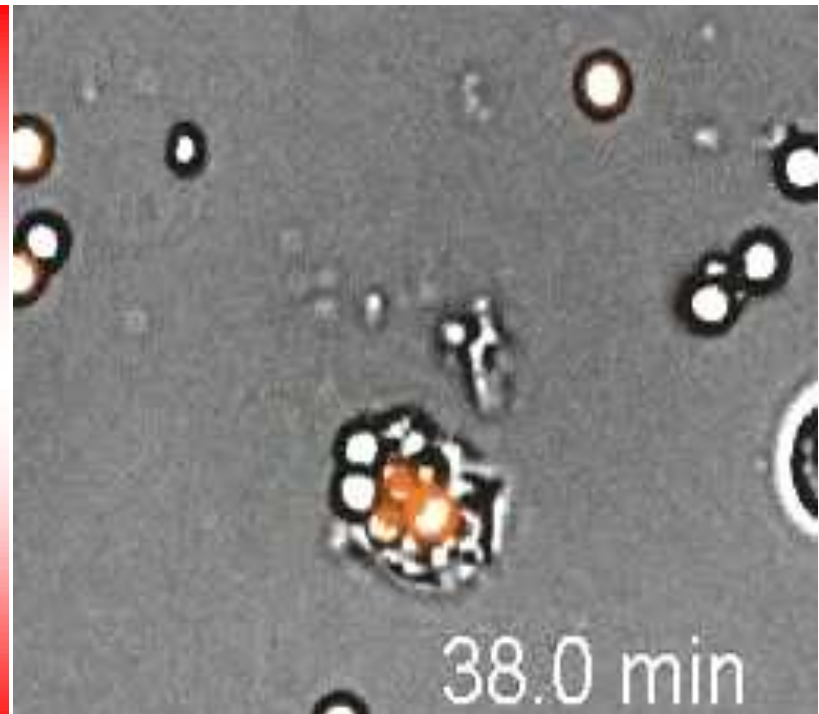
Monocyte-macrofage

- Produc factori imuni (IL-2, TNFalfa, componente ale sistemului complementar, radicali liberi de O_2 , factori chemotactici)
- Produc citokine, chemokine
- Valori crescute se intalnesc in general infectii cronice

Monocyte



Macrofage



Limfocitele

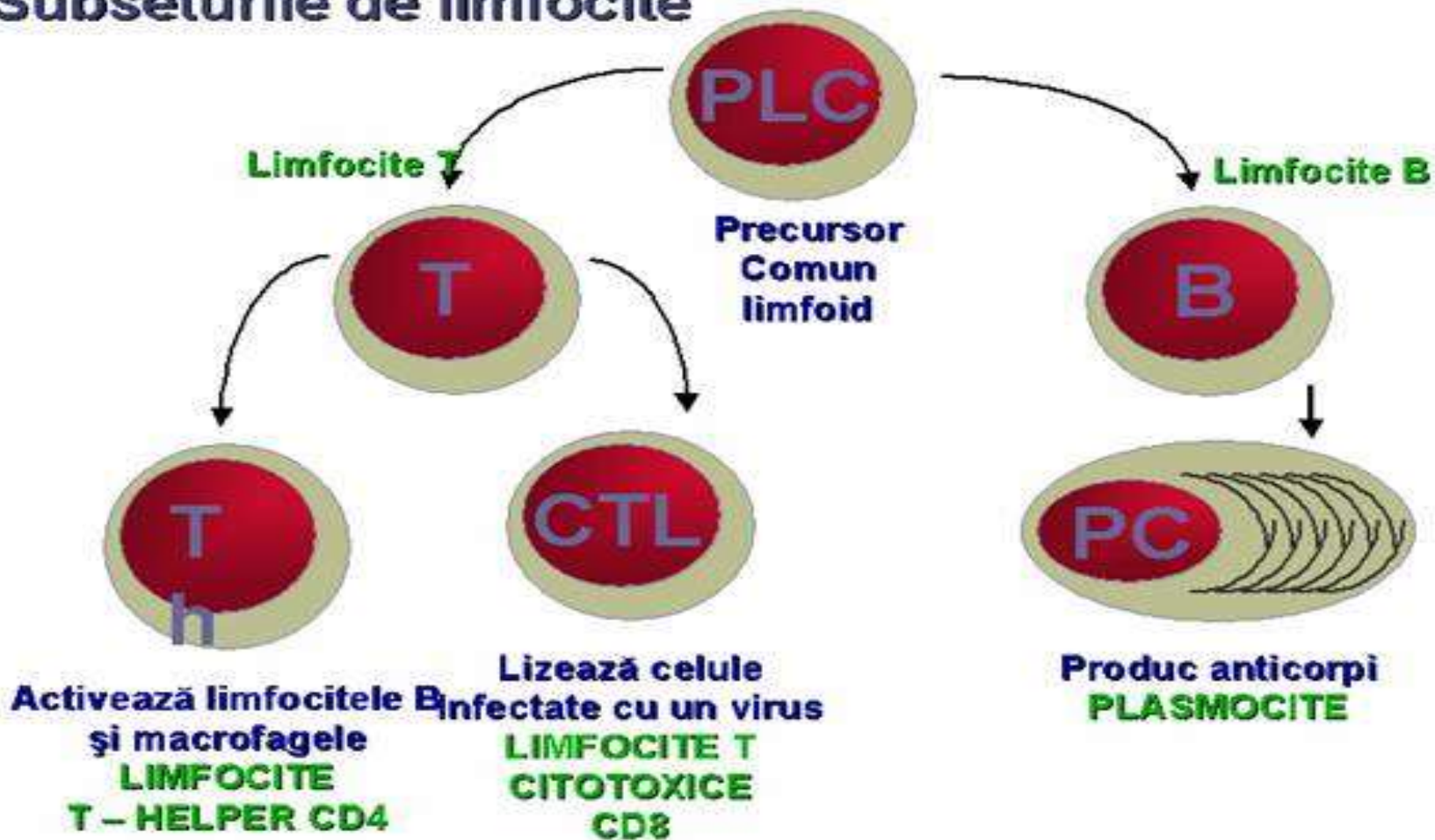
- Pot fi- mici, medii si mari
- In sangele periferic- limfocite mici, rar limf medii
- In limfa- limfocite mari: limfocite activate (limfoblaste), limfocite natural killer (NK)
- 3 categorii: limf B, T si NK
- Unele limfocite migreaza in timus si devin limfocite T
- Alte limfocite se diferentiaza in maduva hematogena devenind limfocite B

Limfocitele



In faza finala de diferentiere, limfocitul B se transforma in plasmocit

Subseturile de limfocite



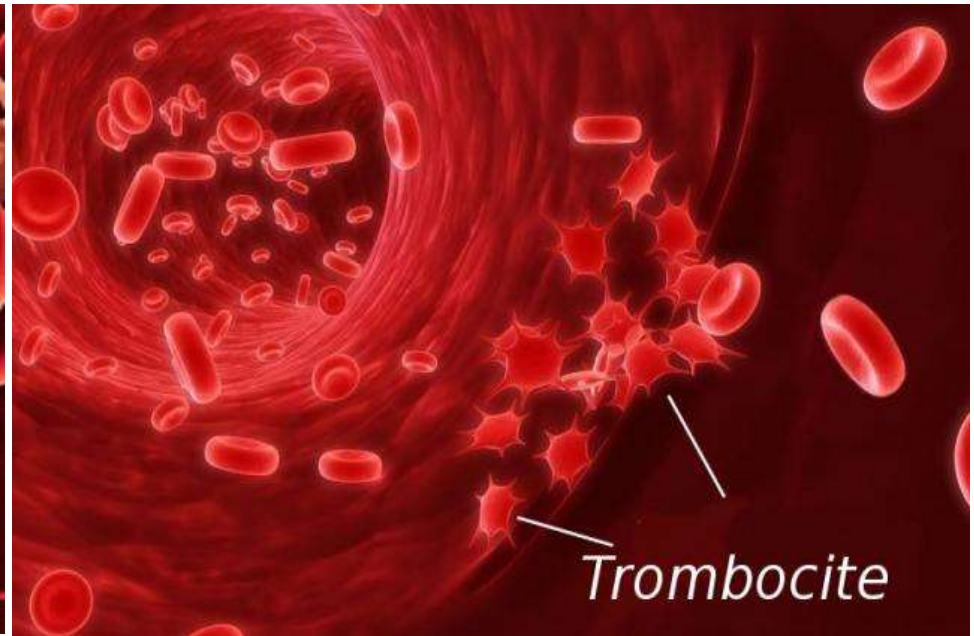
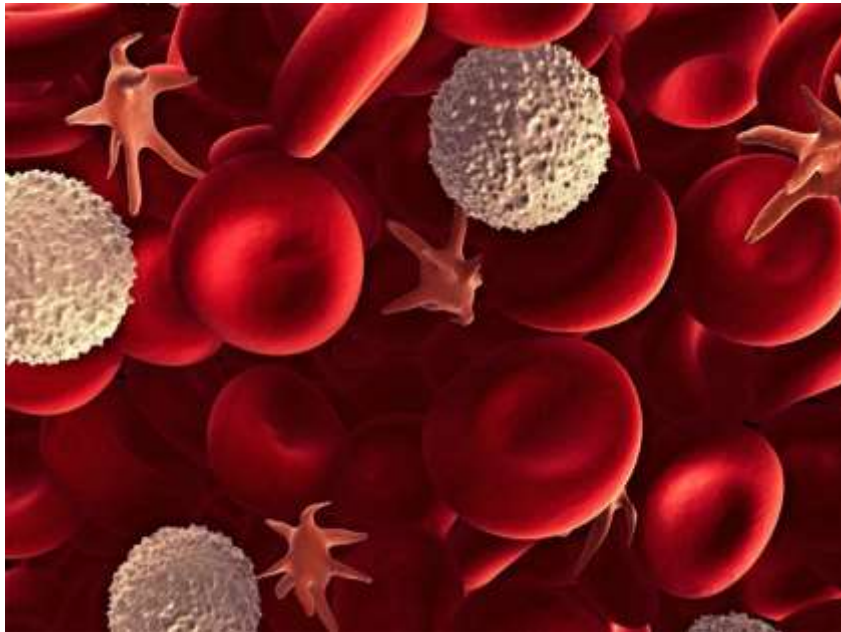
Trombocitele

- Sunt fragmente citoplasmatiche anucleate provenite din megakariocit
- Rol esential in hemostaza primara prin initierea formarii trombului la locul lezarii endoteliului vascular
- Crescute: risc de tromboza
- Scazute: risc de sangerare
- MPV-volumul trombocitar mediu- in general in relatie invers proportionala cu nr.de trombocite
- PDW- marimea trombocitelor analizate

De ex. un **numar crescut de macrotrombocite** (MPV↑) la o persoana trombocitopenica sugereaza o hiperproductie trombocitara cu eliberare rapida in circulatia periferica (e.g purpura trombocitopenica idiopatica, sindroame mieloproliferative)

Trombocitele

- MPV↓ la o persoana trombocitopenica sugereaza o disfunctionalitate in productia medulara de trombocite.
- PDW normal indica trombocite de aceeasi talie
- PDW crescut sugereaza o anizocitoza trombocitara



VA MULTUMESC!