Nov 19
Research

- Anatomy
  - ➔ Carbon monoxide poisoning
  - ➔ Leukemia
  - ➔ Production of red blood cells
  - ➔ Structure of red blood cells
  - ➔ Shape of red blood cells
  - ➔ Hemophilia
  - ➔ How covid affects white blood
  - ➔ clotting cascade
  - ➔ Drugs that affect clotting cascade
  - ➔ Radiation poisoning
  - ➔ Bone marrow transplants
  - ➔ liabetes
  - ➔ Thrombophilia
  - ➔ Iron deficiency
  - ➔ Vitamin k deficiencyExperiments

Nov 29

Platelets & Blood clotting | Biology | FuseSchool

https://www.youtube.com/watch?v=gExUCrpAKyQ

Steps to clotting

1. When you get an injury
2. You blood is exposed to colegens
3. You platelets become sticky and make a plug
4. Fibrinogen gets exposed to outside chemicals and makes a fibrin mesh that holds together platelets
5. clots prevent pathogens from entering you body and prevents blood from leaving it
6.
7.

cologins platelets plug your broken blood vessels
Fibrinogens hold platelets in place

https://www.youtube.com/watch?v=DKFSH5MMPLM

Coagulation Cascade Explained thrombosisadvisor.com

Hemostasis is the fancy word for blood clotting
Platelets chemically Signal other platelets to come
Then thrombin activates more platelets and thus starts the clotting cascade
Xa makes a crap ton of thrombin and boosts the cascade
Thrombin makes soluble fibrinogen into insoluble fibrin that makes a mesh and strengthens the clot
Factor XIII is created by thrombin and crosslinks links fibrin strands making the mesh
Fibrinolisis is the breaking down of a clot
Fibrinolisis only happens when the blood vessel is fixed
Endothelial cells sends out tissue plasminogen activator to activate plasmin which breaks down fibrin and breaks down the clot into your bloodstream

Feb 5 2024

- ➔ What is chemical platelet signal called_ADP TxA >national library of medicine <
- ➔ How is knowing the blood clot cascade_
  - ◆ Apart from that it’s cool
- ➔ What things can go wrong_ your blood can clot in your vain (in small arteries your endothelial cells can break and cause an unnecessary clot which can lead to a heart attack or stroke > national institutes of health <) , or it won't clot (hemophilia is when your blood doesn't clot at the normal speed or will not clot which can be dangerous >mayo clinic<)

Hibruden
Bivalirudin

https://medlineplus.gov/ency/patientinstructions/000100.htm#:~:text=Antiplatelet%20drugs%20work%20to%20make,another%20group%20of%20antiplatelet%20drugs.
Antiplatelets make platelets le§ sticky witch makes a clot harder to creat

Fundamentals of Anatomy physiology sixth edition byFrederic H.martini 2004

Aspirin,clopidogrel, ticlopidine, ticagrelor, prasugrel, and cangrelor.

anemia, cirrhosis of the liver, HIV, leukemia, and vitamin K deficiency are some causes to himofillia

TRI FOLD

fgghghjhjhjvjvvvvvvvvvvvvvvvvvv

Steps to clotting

8. When you get an injury

- You blood vessel gets broken
- your blood vessel contracts,reducing blood flow and the hole gets smaller
- your endothelium is the inside layer of your blood vessel
- Endothelial cells make up your endothelium
- The endothelial cells contract
- Endothelial cells break open
- They relais collagen and ,adp,tissue factor,prostacyclin,endothelins,
- Endothelins contracts the muscle surrounding your blood vessel and stimulate division in endothelial and smooth muscle cells which starts the repair of your vessel
- Platelet ***adhesion and aggregation***
- ***Platelets change shape , get sticky and send chemicals to other platlets wen exposed to collagen and adp***

9. You blood is exposed to colegens

- The collagen activates platelets by activating prothrombin into thrombin and thrombin activates fibrinogen
- You platelets become sticky and make a plug

10. Fibrinogen gets exposed to outside chemicals and makes a fibrin mesh that holds together platelets and red blood cells in the mesh
11. clots prevent pathogens from entering you body and prevents blood from leaving it

How come whenever we form a plug it doesn't get excessively big?
•the healthy endothelial cells send a prostacyclin message to platelets not activate
When a clot forms it separates circulating platelets from injured tissue
Negative Feedback

Extrinsek pathway

1 dameged cells release tishue factor wich binds with cloting factorvii in the presens of celcium ions forming factorvii tishue factor coplex wich actovates factorx into prothrombinase ,prothrombinase chops prothrombin into thrombin and thrombin actonates fibrinegen into fibrin forming a clot

Intrinsek path way

Dameged cells expose cloegen actovating factor xii. sombind wth platlet fator and cloting factors viii ix they form factor x actovator complex actovating factorx into prothrombinase ,prothrombinase chops prothrombin into thrombin and thrombin actonates fibrinegen into fibrin forming a clot

Common pathway

factorx into prothrombinase ,prothrombinase chops prothrombin into thrombin and thrombin actonates fibrinegen into fibrin forming a clot

Fun fact the extrinsek pathway is faster but dos not actovates as much factorx
On the ather hand the intrinsek pathway takes longer but actovatess more factorx

clotting factor

khan academy

secondary hemostasis

platelet plug

primary hemostasis

common pathway

intrinsic

fibrin

clotting factor

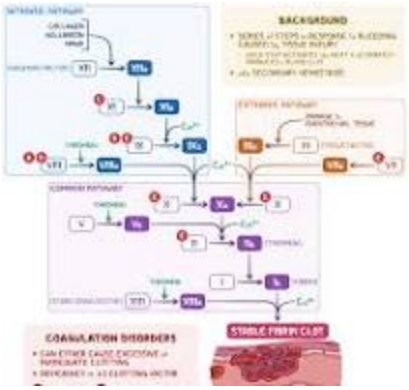
extrinsicosmosis

tissue factor

clotting mechanism

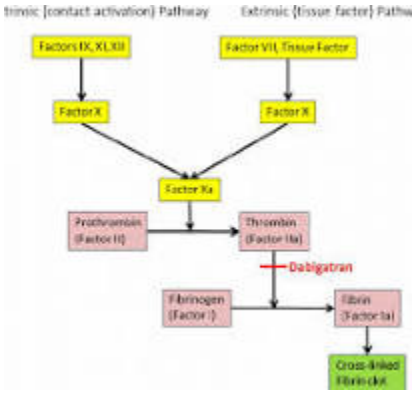
thrombin

clot formation



Coagulation Cascade: What Is It, Steps, and More | Osmosis

Osmosis



khan academy

secondary hemostasis

platelet plug

primary hemostasis

common pathway

intrinsic

fibrin

clotting factor
extrinsicosmosis
tissue factor
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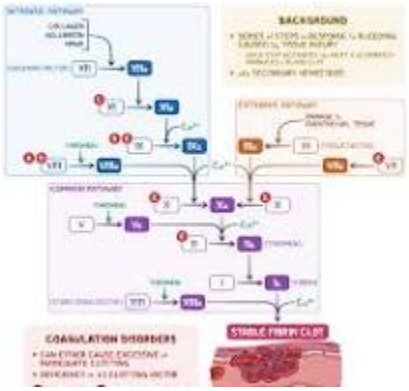
thrombin
clot formation



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