Haemostatic plug formation

- Amplification - once it's on it's on

Learn:

- PI (Platelet membrane phospholipid)
Physiology of PE symptoms

- Symptoms and signs determined by **thrombus size and burden**
- Multiple small peripheral thrombi produce a different clinical picture to large proximal thrombus
- Pulmonary infarction is not common – remember the bronchial circulation
  - Tissue oedema and hypoxia causing infarction

Filling Defect vs Thrombus

Long term consequences of VTE

- 10% of all hospital deaths
- 30% recurrence at 10 years
- 30% post phlebitic syndrome at 10 years
  - Previous damage can lead to more damage due to stasis
- Chronic pulmonary hypertension
  - PE and fibrinolysis not working --> increased pressure for right heart --> dyspnoea --> compression hosiery to aid muscle pump
Treatments of VTE

- Anticoagulants
  - Prevents an increase in clot size and more clots
- Thrombolysis
  - Active dissolution of thrombus
- (Surgery)
  - Take out Thrombus and endothelium (on anticoagulants for life)
- (Compression hosiery)

Ideal Anticoagulant

- Rapid onset of action
- Predictable pharmacokinetics
- Predictable anticoagulant response
- No food or drug interactions
- Rapid offset of action
- Availability of a safe antidote
- No off-target effects
- Reasonable cost
- Mechanisms to ensure good compliance (can’t take erratically)

Treatment of VTE cont.

- Heparin then warfarin
  - Acute VTE
    - Immediate anticoagulant effect
- Thrombolysis
  - Circulatory collapse due to PE
    - Alteplase (tissue plasminogen activator)
    - Streptokinase
    - Followed by heparin and warfarin
- NO MORTALITY BENEFIT TO THROMBOLYSIS UNLESS JUST ABOUT TO ARREST

Investigations pre Rx

- Clotting screen
  - Prothrombin time (INR)
  - Partial thromboplastin time
  - Thrombin time
- Full blood count
- Urea and electrolytes
  - If for LMWH for >4 days
- Liver function tests
  - If clinical suspicion of liver disease