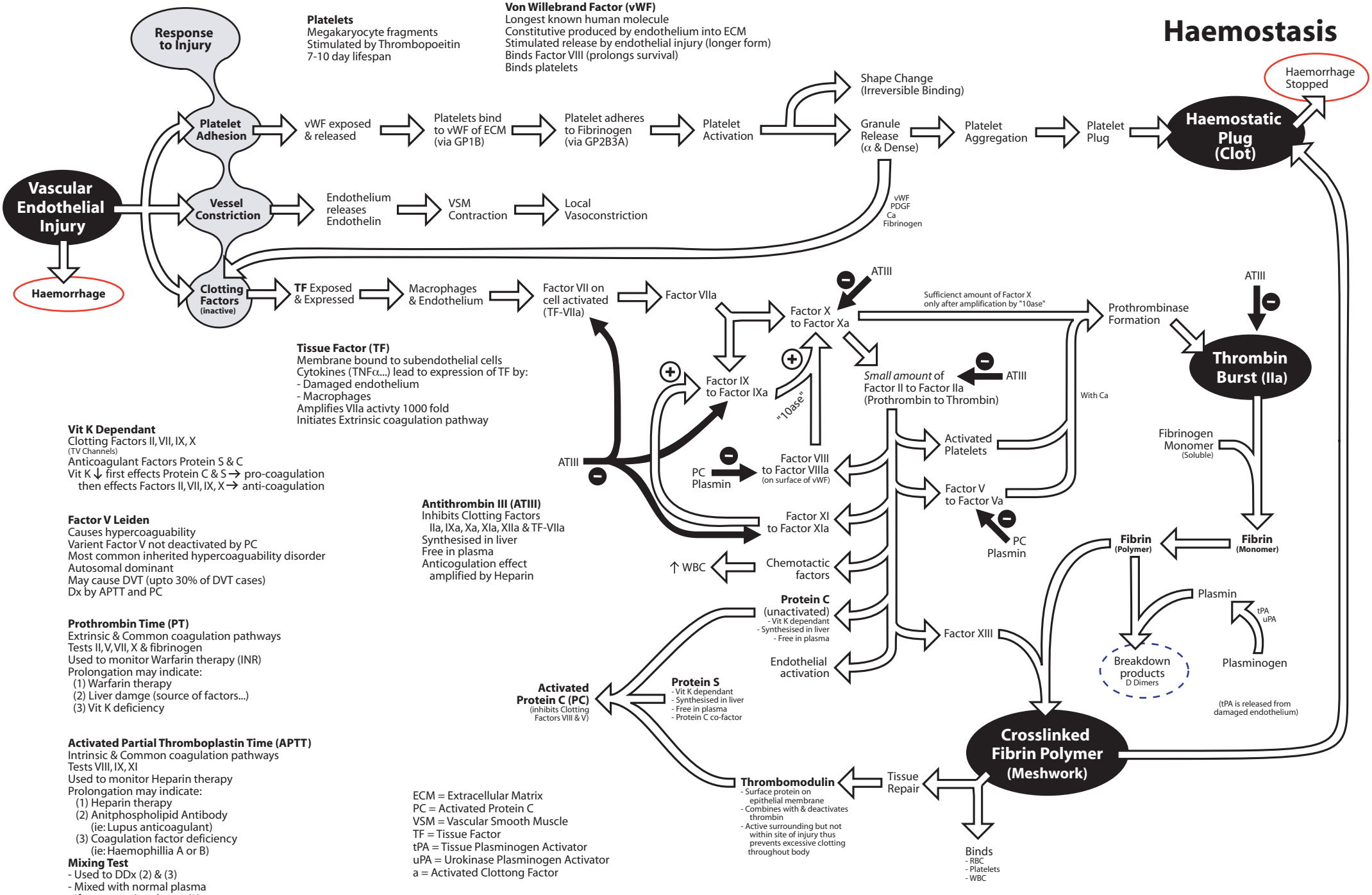
Problem 4.03

Haemostasis



Vit K Dependant
Clotting Factors II, VII, IX, X
(TV Channels)
Anticoagulant Factors Protein S & C
Vit K ↓ first effects Protein C & S → pro-coagulation
then effects Factors II, VII, IX, X → anti-coagulation

Factor V Leiden
Causes hypercoaguability
Varient Factor V not deactivated by PC
Most common inherited hypercoaguability disorder
Autosomal dominant
May cause DVT (upto 30% of DVT cases)
Dx by APTT and PC

Prothrombin Time (PT)
Extrinsic & Common coagulation pathways
Tests II, V, VII, X & fibrinogen
Used to monitor Warfarin therapy (INR)
Prolongation may indicate:
(1) Warfarin therapy
(2) Liver damge (source of factors...)
(3) Vit K deficiency

Activated Partial Thromboplastin Time (APTT)
Intrinsic & Common coagulation pathways
Tests VIII, IX, XI
Used to monitor Heparin therapy
Prolongation may indicate:
(1) Heparin therapy
(2) Anitphospholipid Antibody
(ie: Lupus anticoagulant)
(3) Coagulation factor deficiency
(ie: Haemophillia A or B)
Mixing Test
- Used to DDx (2) & (3)
- Mixed with normal plasma
- If no correction due to (2)

Antithrombin III (ATIII)
Inhibits Clotting Factors
IIa, IXa, Xa, XIa, XIIa & TF-VIIa
Synthesised in liver
Free in plasma
Anticogulation effect
amplified by Heparin

ECM = Extracellular Matrix
PC = Activated Protein C
VSM = Vascular Smooth Muscle
TF = Tissue Factor
tPA = Tissue Plasminogen Activator
uPA = Urokinase Plasminogen Activator
a = Activated Clottong Factor