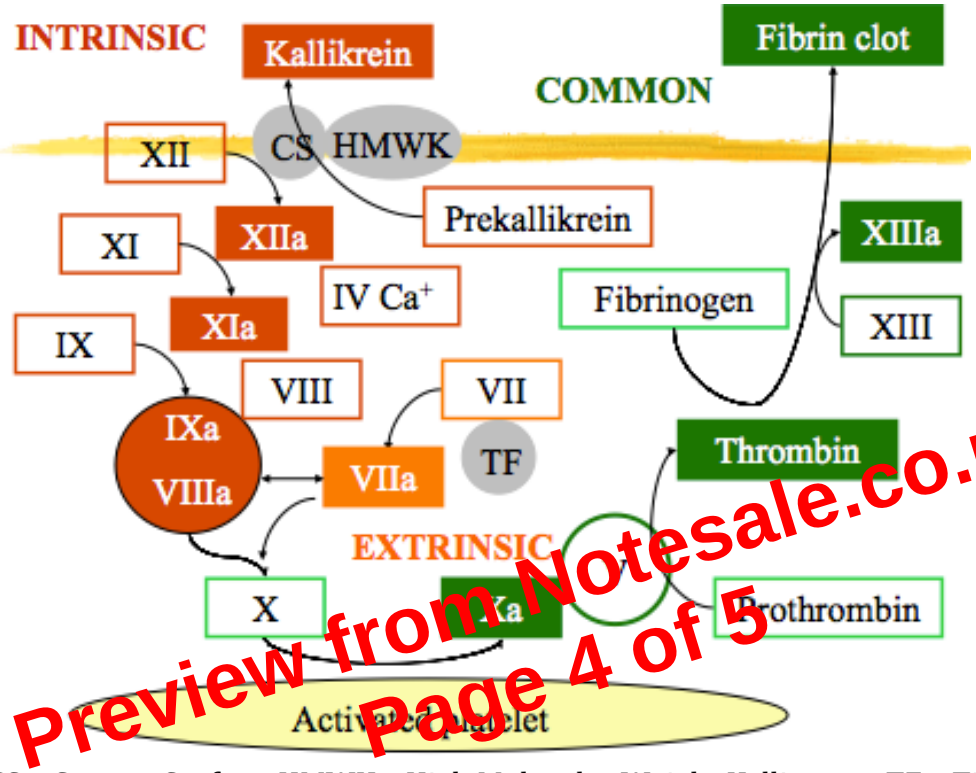
Prothrombin, F VII, F IX and F X produced in liver require vitamin K to be active. Warfarin competes with sites that bind vitamin K reducing these clotting factors.

International Normalised Ratio

This is the ratio of patient prothrombin time - standard plasma prothrombin time. Normally this is 1.0 – 1.2 and the Therapeutic levels are 2.0 – 3.0.

Vitamin K Deficiency

This results in increased INR e.g. in liver disease, poor diet, poor absorption, antibiotics. Treated using Vitamin K, which reverses warfarin anticoagulation.



CS – Contact Surface, HMWK – High Molecular Weight Kallinogen, TF – Tissue Factor.

Disseminated Intravascular Coagulation

This is an acute stimulation of clotting cascade e.g. sepsis, trauma, obstetric causes, malignancy. Clotting factors and platelets are depleted through intravascular process, resulting in uncontrolled bleeding. Also results in a reduction in fibrinogen and is monitored through thrombin time.

Thromboembolism

This accounts for almost 50% of adult deaths in UK. Arterial thrombosis (platelet rich) is associated with atheroma in arteries and leads to occlusion or embolism in arterial circulation. Venous thrombosis (fibrin rich) is associated with venous stasis or hypercoagulability and leads to thrombus in deep leg veins.