so now you want to look at the platelet count if immature platelet count is more meaning it's not a problem with the bone marrow bone marrow is just doing fine it's somebody else who's eating them up so this is your autoimmune disorder itp immune mediated thrombocytopenic purpura wherein you have antibodies against gp2b3a okay so this is what you want to remember that this is also associated with some diseases like hiv hcv so you can have underlying disease but this is basically an autoimmune disorder where the immature platelet count is going to be higher all right meaning the bone marrow is responding but if the bone marrow is low then you think in terms of aplastic anemia it's the problem with the bone marrow it says there the immature platelet count is low so this is about platelet side when they tell you there is ecchymosis hemarthrosis clotting time is increased now the factor is with the second aspect we saw which is the coagulation cascade so there you look at pta ptt this is how your approach is going to be if isolated pt is raised it is extrinsic pathway so it is isolated factor seven deficiency so isolated deficiency is very rare this was something that could be seen in early vitamin k deficiency so can somebody tell me the vitamin k related factors we have already seen this in biochemistry it is factor two seven nine ten which are activated because of vitamin k so now here you want to remember that seven has the shortest half life so in warfarin or vitamin k deficiency essentially the same thing seven is going to be affected the first right so that is why in warfarin or vitamin k deficiency early change is going to be in factor seven that is pt being raised on the other hand if a ptt is raised then you have to start thinking in terms of intrinsic pathway the common diseases would be hemophilia so if they give you a child look at the inheritance if it's a male patient it is likely to be x-linked hemophilia so what are the x-linked hemophilia the common one is hemophilia a and then you have b so factor eight christmas disease is hemophilia a most common factor nine is hemophilia b if you have a girl child autosomal recessive is hemophilia c which is factor 11 deficiency all right so first dd is going to be hemophilia if it is a child if it is an adult patient there has to be two differentials that you have to rule out one is apla we have already studied it anti-phospholipid syndrome second is what is known as an acquired hemophilia where you have factor inhibitors this is frequently seen in patients who had repeat transfusions so the factors get these inhibitors all right so this is how you approach a ptt being raised if both are normal i've already told you the only factor which is factor 13 is deficient and when both are raised you have a downstream problems it could be dic it could be factor 10 deficiency which is common to both or it could be deficiency of fibrinogen so it could be a fibrinogenemia all right so this is how we are going to approach all bleeding disorders in one slide okay so this is about bleeding now let's just finish a pharmacology of anticoagulants so here you could have parenteral versus oral let's first look at the parenteral anticoagulants okay so here you have three main categories the first one are unfractionated and low molecular weight heparin these bind to factor 2 as well as 10 so they activate antithrombin antithrombin has an ability to inactivate both of these so they inactivate both factor 2 and 10 so unfractionated heparin remember one side effect one advantage advantage is that it is safe in renal failure this advantage is heparin induced thrombocy-