1. Anticoagulants are associated with an increased risk of __?__
   A. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.
   B. Drug-induced skin necrosis
   C. Stroke
   D. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   E. Bleeding or hemorrhage

2. Cholesteramine is associated with __?__.
   A. Drug-induced skin necrosis
   B. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   C. Flatulence, constipation or diarrhea, and it interferes with the absorption of other drugs and vitamins.
   D. An increased risk of bleeding or hemorrhage
   E. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.

3. Cholestyramine may delay or reduce the absorption of other PO medications including warfarin, thiazide diuretics, propranolol, tetracycline, penicillin G, phenobarbital, thyroid preparations, estrogens & progestins, & digitalis as well as fat soluble vitamins (A, D, E, & K). Therefore, it should be taken:
   A. It doesn't matter when you give cholestyramine
   B. 12 hours apart from other medications
   C. 1 hour after or 6 hours before other medications
   D. Actually, you cannot give it with these medications at all. You have to change medications.
   E. At the same time as other medications

4. Dabigatran is associated with __?__
   A. Dyspepsia, nausea, upper abdominal pain, GI hemorrhage and diarrhea
   B. Drug-induced skin necrosis
   C. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.
   D. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   E. Flatulence, constipation or diarrhea, and it interferes with the absorption of other drugs and vitamins.

5. Factor IX complex is derived from pooled human plasma so a risk exists of __?__.
   A. Drug-induced skin necrosis
   B. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.
   C. Transmissible diseases including prion diseases and severe allergic reactions.
   D. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   E. Flatulence, constipation or diarrhea

6. Gemfibrozil bioavailability is decreased by __?__, so take 30 minutes before __?
   A. Food/am and pm meal
   B. GI motility/getting out of bed
   C. Other drugs/taking another drug
   D. Water/drinking anything
   E. All the listed answers are correct
7. Gemfibrozil is associated with __?__.
   A. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia
   B. Drug-induced skin necrosis
   C. Flatulence, constipation or diarrhea, and it interferes with the absorption of other drugs and vitamins.
   D. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.
   E. An increased risk of bleeding or hemorrhage

8. Giving Clopidogrel and any CYP2C19 inhibitor such as omeprazole (a proton pump inhibitor used to treat GERD) will __?__
   A. Increase levels of clopidogrel and increase the risk of bleeding
   B. Decrease clopidogrel levels, but increase the bleeding risk
   C. Decrease clopidogrel levels and increase the risk of clots
   D. Not alter the blood levels of clopidogrel
   E. Increase clopidogrel levels and decrease the risk of clots

9. Giving Warfarin and any CYP2C9 inducer may lead to __?__
   A. Decreased warfarin and improved treatment outcome
   B. Increased warfarin levels which requires more monitoring
   C. Decreased warfarin and treatment failure (increased risk of clotting and embolism)
   D. Decreased warfarin so less monitoring is required
   E. Increased warfarin levels which decreases the risk of bleeding

10. Giving Warfarin and any CYP2C9 inhibitor or any drug heavily PPB will __?__
    A. Decrease warfarin levels and decrease the risk of bleeding
    B. Increase warfarin levels and decrease the risk of bleeding
    C. Decrease warfarin levels, but increase the bleeding risk
    D. Increase levels of warfarin and increase the risk of bleeding
    E. Not alter the blood levels of warfarin

11. If Vitamin K is found in spinach and counters the effects of warfarin, a patient taking warfarin should be educated about:
    A. Limiting their consumption of Vitamin K rich foods.
    B. Keeping their consumption of Vitamin K containing foods, like spinach, consistent.
    C. Never consuming Vitamin K containing foods like spinach.
    D. Eating only Vitamin K rich foods, including spinach.
    E. Eating lots of Vitamin K rich foods, including spinach.

12. In combination with statins, nicotinic acid is associated with __?__.
    A. An increased risk of bleeding or hemorrhage
    B. Drug-induced skin necrosis
    C. GI upset and pain, gallstones and hepatotoxicity as well as myopathies
    D. Flatulence, constipation or diarrhea, and it interferes with the absorption of other drugs and vitamins
    E. An increased risk of risk for hepatotoxicity, Rhabdomyolysis and angioedema
13. Many Anticoagulants are associated with __?__.
   A. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   B. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.
   C. Drug-induced skin necrosis
   D. Back pain
   E. Flatulence, constipation or diarrhea.

14. Many botanicals contain __?__ or have potential __?__ effects for other reasons (licorice, red clover, aloe, black cohosh, dandelion, feverfew, ginger, ginkgo biloba, ginseng).
   A. Heparin/anticoagulant
   B. Coumarins/anticoagulant
   C. Statins/lipid lowering
   D. None of these answers are correct.
   E. St John’s wort/P450

15. Minimize lapses in therapy with anticoagulants because discontinuing anticoagulants puts patients at increased risk of __?__.
   A. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.
   B. An increased risk of bleeding or hemorrhage
   C. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   D. Stroke
   E. Drug-induced skin necrosis

16. Nicotinic acid is associated with __?__.
   A. Severe flushing, hyperglycemia, hyperuricemia, GI distress, tachycardia, hyperpigmentation of the skin and drug-induced amblyopia.
   B. An increased risk of bleeding or hemorrhage
   C. Drug-induced skin necrosis
   D. Flatulence, constipation or diarrhea, and it interferes with the absorption of other drugs and vitamins.
   E. GI upset and pain, gallstones and hepatotoxicity as well as myopathies.

17. Statins are associated with __?__.
   A. Rhabdomyolysis
   B. Flushing
   C. Gallstones
   D. Hemorrhage
   E. Tachycardia

18. Statins are associated with __?__.
   A. Tachycardia
   B. Increased LDL
   C. Decreased HDL
   D. Gallstones
   E. Memory loss
19. Statins are commonly associated with ___?__.
   A. Headache, flatulence, nausea
   B. Hemorrhage
   C. Suicide
   D. Flushing
   E. Blood dyscrasias

20. Warfarin is associated with ___?__.
   A. Hepatitis, jaundice and cholestatic hepatic injury
   B. Increased risk of hemorrhage or bleeding
   C. Drug-induced skin necrosis
   D. Anaphylactic reactions, hypersensitivity
   E. All the above

21. What is HIT?
   A. Heparin-Induced Thrombocytopenia
   B. Hemorrhage Is Terrible
   C. Hepatic Inversion Test
   D. Heparin-Induced Thirst
   E. Hepatically-Induced Thrombocytopenia

22. Which of the following inhibits ADP receptors on platelets? It may be taken PO SID without regard to food. Indicated for CAD, PVD, and cerebrovascular disease. Patients must be screened for CYP2C19 activity prior to taking this drug.
   A. Clopidogrel
   B. Eptifibatide
   C. Alteplase
   D. Aminocaproic acid
   E. Cilostazol

23. Which of the following inhibits cAMP (3-) PDE? It should be taken PO BID 30 minutes before or 2 hrs after meals. It is indicated for intermittent claudication.
   A. Clopidogrel
   B. Cilostazol
   C. Aspirin
   D. Aminocaproic acid
   E. Eptifibatide

24. Which of the following inhibits cholesterol absorption from the intestines? It is indicated PO SID as an adjunct to diet to decrease total-C, LDL-C, non-HDL-C and apo B.
   A. Nicotinic acid
   B. Ezetimibe
   C. Gemfibrozil
   D. Atorvastatin
   E. Cholestyramine
25. Which of the following inhibits fibrinolysis (prevents the break down of clots)? Given PO or as an IV Infusion with a loading dose and then hourly up to about 8 hours. Indicated for hyperfibrinolytic states (conditions where clots don’t form such as certain cancers, heart surgery etc.)

A. Aminocaproic acid
B. Bivalirudin
C. Alteplase
D. Cilostazol
E. Factor IX complex

26. Which of the following inhibits glycoprotein IIB/IIIA receptors on platelets. Given IV only, it is indicated to prevent clots during angioplasty and in acute coronary syndrome (MI) patients. It is based on an anticoagulant protein found in snake spit.

A. Warfarin
B. Eptifibatide
C. Aminocaproic acid
D. Clopidogrel
E. Alteplase

27. Which of the following is a bile acid sequestrant indicated PO SID or BID as an adjunct to diet to reduce LDL-C and for the relief of pruritus associated with partial bile duct obstruction?

A. Gemfibrozil
B. Ezetimibe
C. Cholestyramine
D. Atorvastatin
E. Nicotinic acid

28. Which of the following is a direct thrombin inhibitor that can be taken orally?

A. Enoxaparin
B. Bivalirudin
C. Heparin
D. Clopidogrel
E. Dabigatran

29. Which of the following is a fibric acid given PO BID 30 minutes before am and pm meals to lower TG levels (and raise HDL-C)?

A. Atorvastatin
B. Gemfibrozil
C. Ezetimibe
D. Nicotinic acid
E. Cholestyramine

30. Which of the following is a HMG-CoA reductase inhibitor (statin) taken PO SID and indicated as an adjunct to diet to reduce the risk of MI/stroke/angina; to reduce levels of total cholesterol (C), LDL-C, Apo B and TG and to increase levels of HDL-C?

A. Atorvastatin
B. Cholestyramine
C. Gemfibrozil
D. Nicotinic acid
E. Ezetimibe
31. Which of the following is a LMWH given SC or IV SID for 7-17 days for DVT, and thrombosis/ischemia related to angina or MI?
   A. Warfarin
   B. Heparin
   C. Enoxaparin
   D. Cilostazol
   E. Bivalirudin

32. Which of the following is a parenteral anticoagulant given IV to prevent thrombosis during cardiac procedures and in patients who can’t take heparin? It is based upon an anticoagulant protein found in leech spit.
   A. Eptifibatide
   B. Heparin
   C. Cilostazol
   D. Bivalirudin
   E. Warfarin

33. Which of the following is a recombinant tissue plasminogen activator (t-PA) fibrinolytic drug? It activates a natural enzyme (plasminogen) that breaks apart clots. Given IV, it is indicated for acute MI, unstable angina, and lysis of objectively diagnosed thrombi in lungs or deep veins.
   A. Alteplase
   B. Aspirin
   C. Clopidogrel
   D. Warfarin
   E. Aminocaproic acid

34. Which of the following is an anti-hemophilic agent (replaces clotting factors)? It is given IV only to control bleeding in hemophilia type B as well as for peri-operative management of bleeding in hemophilia type B.
   A. Coumadin
   B. BeneFIX
   C. Angiomax
   D. Amicar
   E. Lovenox

35. Which of the following is an oral anticoagulant available IV/IM/PO? Individualized therapy is required based on PT/INR response. It is indicated for venous thrombosis and pulmonary embolism, thromboembolism associated with atrial tachyarrhythmias or cardiac valve replacement. Given chronically SID/BID PO.
   A. Cilostazol
   B. Warfarin
   C. Clopidogrel
   D. Eptifibatide
   E. Bivalirudin

36. Which of the following is given IV or deep SC to prevent thrombosis? It is known to cause thrombocytopenia and with long-term use, osteoporosis.
   A. Clopidogrel
   B. Warfarin
   C. Aspirin
   D. Bivalirudin
   E. Heparin
37. Which of the following is niacin? The PO doses BID/TID must be individualized up to 2 grams/day. It is an adjunct to diet and usually another drug (Questran) to lower LDL-C and TG?
   A. Nicotinic acid
   B. Cholestyramine
   C. Atorvastatin
   D. Ezetimibe
   E. Gemfibrozil

38. Which of the following was developed based on research into a fungal toxin that poisoned a herd of cattle in Wisconsin?
   A. Warfarin
   B. Heparin
   C. Eptifibatide
   D. Cilostazol
   E. Bivalirudin

39. Which of the following was developed based on research into leech spit?
   A. Eptifibatide
   B. Bivalirudin
   C. Cilostazol
   D. Heparin
   E. Warfarin

40. Which of the following was developed based on research into Southeastern Pigmy Rattlesnake spit?
   A. Bivalirudin
   B. Eptifibatide
   C. Warfarin
   D. Cilostazol
   E. Heparin

41. Which of these sets has anticoagulant properties due to effects on platelets? In other words, they ARE anti-platelet anticoagulants.
   A. Dabigatran, Cilostazol, and Clopidogrel
   B. Warfarin, Heparin, Enoxoparin, Bivalirudin and Dabigatran
   C. Alteplase, Aminocaproic acid and BeneFIX
   D. Enoxoparin, Aspirin, and Eptifibatide
   E. Clopidogrel, Aspirin, Eptifibatide, and Cilostazol

42. Which of these sets has anticoagulant properties due to effects on the activity of clotting cascade proteins? In other words, they are not anti-platelet anticoagulants.
   A. Enoxoparin, Aspirin, and Eptifibatide
   B. Clopidogrel, Aspirin, Eptifibatide, and Cilostazol
   C. Dabigatran, Cilostazol, and Clopidogrel
   D. Alteplase, Aminocaproic acid and BeneFIX
   E. Warfarin, Heparin, Enoxoparin, Bivalirudin and Dabigatran
43. Which pair is most alike?

A. Warfarin and Heparin  
B. Aspirin and Eptifibatide  
C. Heparin and Enoxaparin  
D. Cilostazol and Bivalirudin  
E. Dabigatran and Clopidogrel