Questions for Pharmacogenomics Talk

1. What is pharmacogenomics?
   a. Branch of pharmacology that studies genes in drug safety
   b. Branch of pharmacology that studies genes in drug efficacy
   c. Branch of pharmacology that allows drug dosing and selection based on genetic makeup of the individual
   d. All of the above

2. Which of the following polymorphisms influence warfarin dosing?
   a. CYP2C9 and VKORC1
   b. CYP2C19 and VKORC1
   c. CYP2D6 and VKORC9
   d. CYP2D6 and VKORC1

3. Which of the following resources is most useful for finding how a genetic variation affects response to a specific medication?
   a. National Institute of Health – National Human Genome Research Institute
   b. PharmGKB or Clinical Pharmacogenetics Implementation Consortium (CPIC®)
   c. FDA Table of Pharmacogenomic Biomarkers in Drug Labeling
   d. B and C

4. A patient’s pharmacogenetic laboratory test report shows that he is a CYP2D6 poor metabolizer. He is prescribed Tylenol with codeine for an ankle sprain. What is the effect of CYP2D6 poor metabolizer phenotype on codeine?
   a. Patient may experience increased side effect
   b. Patient may experience decreased efficacy
   c. Patient may have increased exposure to the metabolite
   d. A and C
5. Pharmacogenomics may optimize drug therapy by:
   a. identifying patients who may have a decreased response to a drug
   b. identifying patients who may have increased metabolism of certain drugs
   c. identifying patients who may be at risk for increased toxicity for certain drugs
   d. all of the above

6. Which of the following therapeutic areas have the most pharmacogenomic biomarkers in drug labeling?
   a. Cardiology
   b. Infectious disease
   c. Oncology
   d. Psychiatry

7. Which of the following is/are true regarding a synonymous single nucleotide polymorphism (SNP)?
   a. A change in a nucleotide in the DNA sequence results in coding of a different amino acid
   b. A change in a nucleotide in the DNA sequence results in coding for the same amino acid
   c. Will always result in a change in function of the protein
   d. A and C
8. The FDA Table of Pharmacogenomic Biomarkers in Drug Labeling provides which of the following information?
   a. Recommendations for genotype based dosing
   b. Genotype biomarker information that may not affect the drug listed
   c. Information on potential drug interactions
   d. All of the above

9. Issues regarding implementation of pharmacogenetic testing include:
   a. Lack of data correlating DNA polymorphisms and efficacy
   b. Lack of data correlating DNA polymorphisms and toxicity
   c. Concerns for inequality in health care
   d. All of the above

10. Which of the following is a true statement regarding polymorphism?
   a. It is a variation in a DNA sequence
   b. It may affect only one nucleotide in a DNA sequence
   c. It may involve deletion of an entire gene
   d. All of the above