

CHAPTER 7:

SNPS and Drug Metabolism

INTRODUCTION

By working through the activities in this module, you have learned why genetic variation is important in medicine, how this variation is detected, and options healthcare practitioners have for treating patients whose genetic variations affect how they metabolize drugs.

In this chapter, you will return to the case of Renee Jackson, whose medical history you reviewed in Chapter 1. You will learn her genotype for the CYP2C19 gene and make a recommendation regarding her treatment. You will also explore other genes relevant to pharmacogenomics and begin to consider other diagnostic methods used in genotyping.

Finally, you and your classmates will discuss the pros and cons of using genetic information to improve patient care.

ACTIVITY: Pharmacogenomics of Clopidogrel

1. Review the diagnostic tests you explored in Chapter 6. As a review, recall that you could use PCR to amplify a portion of Exon 5 of the cytochrome P450 gene CYP2C19, and restriction enzyme digestion, followed by gel electrophoresis, to distinguish between normal (CYP2C19*1) and mutant (CYP2C19*2) alleles at the SNP rs4244285.
2. Examine the gel image (**Figure 7.1** on the following page), which shows the results of Renee Jackson's genotyping test. Then answer the questions on **Pharmacogenomics and Patient Care (RM 7.1)**.

Figure 7.1: Results of Renee Jackson's genotyping test

