Since the completion of the human genome project in 2001, our understanding of and ability to identify disease-causing genes has greatly increased. Genetics has become “a thread throughout all of health care” and this knowledge should be understood by health professionals among most medical specialties and especially those providing primary care. Individuals with a heritable condition are most likely to initially present to their primary care physician. Thus, it is important for all health professionals to be knowledgeable regarding genetics and genomics. Previous studies have shown a deficit in genetics knowledge among medical residents and have suggested that a comprehensive genetics curriculum would be beneficial. This study was undertaken to assess the knowledge of adult female-related genetic issues by medical residents in Family Practice, Obstetrics/Gynecology and Internal Medicine residency programs at the University of Texas Medical School at Houston and Baylor College of Medicine. An anonymous survey/questionnaire was distributed to residents via Survey Monkey and/or a hard copy. This questionnaire included 9 demographic items and 18 genetics knowledge-assessment questions. Of the 410 residents who received the survey, 70 (17.1%) elected to participate. Study results showed that this group of residents lack sufficient genetics knowledge, particularly in the areas of cancer genetics, chromosomes and genetic testing. Using a pass/fail rate of 70%, a quarter of participants (25.7%) failed the test. Of those who passed, the majority passed by only 1 or 2 questions. Overall scored differed significantly by medical specialty (p=0.0004), which may reflect differences in genetics curriculum guidelines or requirements between specialties. All medical specialties passed the topics of inheritance patterns and pregnancy health, while no specialty group passed the topics of chromosomes and cancer. Findings from this study support previous findings, that the knowledge of medical residents is inadequate. An overall assessment of the genetics knowledge among residents correlated with their genetics education is needed. Based on these results, training programs should implement improved medical genetics education to medical students, residents and practicing physicians.