This study is motivated by two research questions 1) What are the independent variables that are associated with performance for first year residents in an Anesthesiology Residency? and 2) What linear combination of factors can predict success (not entering remediation/probation) for the first year of residency? A post-hoc correlational analysis of 3 years of first year resident data was conducted using linear regression to determine any significant predictive relationships. Previous literature has indicated that past test performance is likely to predict future performance and those models of prediction that incorporate both cognitive and non-cognitive attributes tend to be the most successful. Results indicated a strong association between Step 1 scores and minority status for predicting performance on first year examinations with weaker associations for the variables of gestalt and interview scores. Analysis also indicated a strong association between gestalt scores and sex and prediction of whether individuals would end up on remediation or probation within their first year of training.