Our centre has reported comparably efficacy in the abridged 5-item version of the International Index of Erectile Function questionnaire referred to as the Sexual Health Inventory of Men (SHIM) between phosphodiesterase 5 (PDE5) inhibitors, yet patients with same SHIM scores, have often reported a difference in efficacy. Our objective was to assess the effectiveness of SHIM questionnaire, in comparing efficacy of PDE5 inhibitor, and if an additional rigidity question, increased its sensitivity. In this prospective study, 23 men with erectile dysfunction after nerve sparing radical prostatectomy who responded efficacy to 100mg sildenafil were given 20mg tadalafil for 5 weeks and then 20mg vardenafil for 5 weeks. After 5 weeks of each PDE5 inhibitor, patients had one week without a PDE5 inhibitor. After 5 weeks of each PDE5 inhibitor, each patient completed a SHIM questionnaire. An additional question assessing rigidity of erection was obtained, using a scale of 0-4. Patients were asked if one drug was more potent than others. Of the 23 sildenafil responding patients, 20 had completed a five week course of tadalafil, and 13 completed a five week course of vardenafil. Of the 20 patients that completed 20mg tadalafil, 12 patients had equal SHIM scores for efficacy of sildenafil and tadalafil. When the rigidity score results where added to the SHIM scores, only 4 patients had equal scores, the 8 patients that previous had equal SHIM scores now had scores that reflected one drug more efficacy, which was consistent with patients selection of the more potent medication. Of the 13 patients that completed 20mg of vardenafil, 9 patients had equal SHIM scores. After adding the rigidity score results to the SHIM score, 4 of the 9 patients showed one drug more efficacy than other, which was consistent with the patients choice of most potent medication. A rigidity question when added to the SHIM questionnaire was more effective at differentiating potency of PDE5 inhibitor medication, than SHIM score alone.