A colectomy is a procedure in which part of the colon is surgically removed. The impact of a past colectomy on postoperative outcomes of patients undergoing Primary Shoulder Arthroplasty (PSA) is misunderstood. This study compared postoperative outcomes in PSA patients who did and did not undergo previous colectomy. The National Inpatient Sample was retrospectively queried from 2005 - 2012 to identify patients who underwent PSA. Incidence rates of colectomy patients were reported from 2005 - 2012. Patients were stratified into two cohorts based on prior colectomy status and 1:1 propensity score matched for age, sex, and obesity status. Univariate analysis was used to compare differences in postoperative outcomes, revision of shoulder arthroplasty, and mortality between the two cohorts. A multivariate logistic regression model controlling for age, sex, and obesity status was used to determine the independent risk of a colectomy on postoperative complications. Two cohorts of 231 colectomy patients and 231 non-colectomy patients were identified. The cohorts had similar sex (57.1% vs 61.5% female), age (72.16 vs 72.80 years) and obesity (16.5% vs 13.9%) distributions. Incidence rates of colectomy patients increased by 25.78% with an average rate of 0.95 (95%CI: 0.53- 1.38) per 1,000,000 person-years. Colectomy patients who had PSA had higher rates of overall surgical complications, medical complications, and transfusions (all, p<0.05). Also, multivariate logistic regression showed colectomy to be an independent predictor of increased risk for surgical complications (OR=2.435, 95%CI=1.360-4.360, p=0.003), medical complications (OR=2.726, 95%CI=1.220 - 6.039, p=0.013), and transfusions (OR=2.710, 95%CI=1.400 - 5.246, p=0.003). Colectomy patients who underwent PSA experienced higher rates and increased odds of developing surgical complications, medical complications, and transfusions. This should be taken into consideration to optimize these patients prior to PSA.