Objective(s): This report examines carotid endarterectomy restenosis rates after Acuseal PTFE (PTFE) and Bovine Pericardium (BP) patch angioplasty. Methods: From January 2009 to May 2014, the author performed 209 carotid endarterectomies. All patients had either PTFE, #124, or BP, #85, patch angioplasty. The procedures were performed consecutively. Criteria for significant restenosis was defined as peak systolic velocity (PSV) greater than 200 cm/sec on carotid ultrasound (CUS). Those patients underwent confirmatory carotid CTA. All patients were maintained on Aspirin post-operatively with Clopidogrel or Warfarin use as predicated by the patient's Cardiologist or Internist. Recurrent stenosis was assessed by Kaplan-Meier analysis. The data was compiled retrospectively.

Results: There were no 30 day peri-operative deaths or strokes in either group. In the PTFE group, 109 patients returned for CUS at 4-8 weeks post-op. There was one asymptomatic occlusion and no patient with PSV > 200. In the BP group, 81 patients returned for CUS post-op. There were no occlusions and no patient with PSV > 200.

At one year follow-up, 85 PTFE patients returned and one had an asymptomatic PSV > 200. At 2 year follow-up, 66 patients returned with none having a PSV > 200. In the BP group, 73 patients returned and 5 had asymptomatic PSV > 200, with 4 > 250 cm/sec. At two year follow-up, 59 patients returned with 2 additional asymptomatic patients having a PSV > 200 that were previously less. During the study period, no infections, patch rupture or pseudoaneurysms occurred in either group. There were 14 deaths in the PTFE group and 8 in the BP group. No patient succumbed to ipsilateral stroke. There were 39 patients lost to follow-up in the PTFE group and 19 in the BP group.

Conclusions: The re-stenosis rate was 1 of 66 patients (1.5%) in the PTFE group versus 7 of 59 patients (11.8%) in the BP group. Carotid endarterectomy with either PTFE or BP patch angioplasty, in this 2 year experience of one surgeon, is comparable in several parameters except re-stenosis rate, which is significantly higher with BP patching.