Objective: To present our experience with trans-radial left subclavian artery (LSA) embolization after thoracic endovascular aortic repair (TEVAR). Methods: In 2017, 9 patients who had previously undergone TEVAR for aortic dissection or aneurysm underwent LSA embolization via radial access using a 4Fr sheath. Data was collected under an IRB-approved protocol with a waiver of the need for consent and analyzed retrospectively. All results are descriptive measures of mean (standard deviation) or frequency (m/n %). Results: Thoracic endovascular repair was performed for type B aortic dissection (6/9, 67%) or descending aneurysm (3/9, 33%), with proximal landing zones at zone 0 (1/9, 11%), 1 (1/9, 11%), and 2 (7/9, 78%). Repairs were done using Medtronic Valiant (7/9, 78%) and Gore TAG grafts (2/9, 22%). Equal numbers of patients had type 1, 2, and 3 arches (33% each), and 3/9 (33%) had bovine arches. Average LSA size was 10.3(1.3) mm. Most patients (8/9, 89%) underwent carotid-subclavian bypass in the same setting as TEVAR. Eight patients (8/9 89%) had the coil embolization performed as a planned staged procedure. One patient (1/9 11%) presented at 480 days with a type II endoleak and underwent coil embolization of LSA. All cases were done via a 4 French sheath placed in the radial artery. Patients had an average of 5.6 (3.4) coils implanted. All coils used were from the Penumbra Ruby system (standards, softs, and POD packing). Technical success, defined as successful occlusion of the LSA, was 100%. Average time of procedure was 41.2 (14.6) minutes. Patients were followed for a median of 172 days. During this time, no patients had stroke, hand ischemia, myocardial infarction, retrograde type A dissection, graft migration, type Ia endoleak, type II endoleak originating from the LSA, or need for further aortic re-intervention. One patient, who had a history of cocaine and meth use, presented with an acute on chronic complicated TBAD, underwent coil embolization on POD 5, and died suddenly that evening. Conclusion: Trans-radial LSA coil embolization via a 4 French sheath is a safe and efficient procedure. Although more studies are needed with a larger number of patients we feel comfortable recommending this approach to all patients requiring LSA coiling after TEVAR.