“Lymphedema” is a commonly used term to describe any patient with extremity overgrowth. Approximately 25% of individuals referred to a Lymphedema Program do not have lymphedema. Lymphoscintigraphy is safe and the gold-standard test to diagnose lymphedema. Historically, a standard test procedure has not existed. We developed an evidence-based protocol obtaining images 45 minutes and 120 minutes following injection of radiolabeled tracer. The test is very sensitive and specific for lymphedema; false-negative results can occur with primary disease. Lymphoscintigraphy effectively confirms the lymphedema, categorizes patients with an equivocal diagnosis, and rules-out the condition for subjects with a low-suspicion of the disease.