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The technique of transfemoral amputation has evolved during the last decade whereby muscle stabilization. Probably the most common cause for transfemoral amputation is severe vascular and diabetic disease in the patient and poor potential of the patient to heal a lower level amputation. The majority of these patients have widespread systematic manifestations of the disease. On average, patients with purely vascular disease tend to have a higher frequency of transfemoral amputation. Pelvic motion in trans-femoral amputees in the frontal and transverse plane before and after special gait re-education. *Prosthet Orthot Int.* 2003 Dec. 27(3):227-37. [Medline]. Frossard L, Stevenson N, Smeathers J, Häggström E, Hagberg K, Sullivan J, et al. Monitoring of the load regime applied on the osseointegrated fixation of a trans-femoral amputee: a tool for evidence-based practice. *Prosthet Orthot Int.* 2008 Mar. 32(1):68-78. [Medline]. McNealy LL, Gard SA. Effect of prosthetic ankle units on the gait of persons with bilateral trans-femoral amputations. (Margaret Parton, NHS 14:10 on post-stroke gait under dual task conditions " a pilot Technology Adoption Hub) study (J McAdam, University of Salford) O1: A pilot investigation into the effects of electrical O12: Electrotactile feedback for trans-femoral muscle stimulation training on physical fitness in an 14:30 14:30 amputee gait re-education (G D Webb, University of adult. Since that time FDA has re-cleared build beyond 400 sessions. the RT300 system on several occasions enhancing the available functionality. 2. Aims This paper briefly describes the development of a prototype stimulator and electrode array that will provide real-time electrotactile feedback to trans-femoral amputees undergoing gait re-education. 3. Method During treadmill training, for example to minimize circumduction or abduction gait patterns, amputees will receive feedback about thigh orientation through an electrode array worn around the circumference of the residual stump. Thigh kinematics will be determined using a ProReflex motion capture system (Qualisys, Sweden). provide real-time electrotactile feedback to trans-femoral amputees undergoing gait re-education. 3. Method. During treadmill training, for example to minimize circumduction or abduction gait patterns, amputees will receive feedback about thigh orientation through an electrode array worn. To determine the effects of a sensory feedback device developed at Sabolich Prosthetic & Research Center for lower-limb amputees, 12 transfemoral (above-knee) and 12 transtibial (below-knee) unilateral amputees were recruited from a convenience population for testing. Pre- and post-testing procedures included: Symmetry of weight distribution, duration of single limb standing balance over the involved side, and symmetry of step length and of stance phase times.