

PAIN-CONTROLS was a comparative effectiveness study utilizing a Bayesian adaptive design with response adaptive randomization to one of four drugs for cryptogenic sensory polyneuropathy (CPSN) patients. The outcome of the study was a utility function that combined efficacy and quit rates for each drug at endpoint. We calculated the posterior probability that a drug was best (pp) by comparing utility functions of all four drugs. After a 'burn-in', an interim analysis that provided new allocation probabilities was performed quarterly. The updated probabilities were driven by the drug's sample size and performance. The trial could stop early after 100 patients had endpoint data and if the  $pp > 0.925$  (success) or  $< 0.01$  (failure). Six interim analyses were performed until the maximum accrual was reached. The pp fluctuated for nortriptyline and duloxetine being the best with fewer patients being allocated to pregabalin and mexiletine. At the final analysis, a drug was best if  $pp > 0.925$  or a "loser" if  $pp < 0.01$ . While there was no best, nortriptyline, and duloxetine outperformed pregabalin and mexiletine. Mexiletine is defined as a loser, the probability it is the best was  $< 0.01$ . This talk will detail the conduction of the trial and the adaptive randomization interim