The hamstrings are the most commonly injured muscle group among athletes who sprint regularly, and thus represent a particular burden in sports such as football, soccer and track and field. Effective treatment and rehabilitation of individuals with hamstring strains remains a challenge, as demonstrated by an approximately one-third rate of recurrent injuries. Suggestions for preventing hamstring re-injury are often generic and broad due, in part, to a limited understanding of the effects that a previous strain injury has on the mechanics and function of the hamstring muscle. Dr. Heiderscheit will explain a series of studies, using a combination of human motion analysis and biomechanical modeling, as well as discuss a clinical trial, comparing the influence of two rehabilitation programs on specific neuromuscular factors that contribute to re-injury risk.