Harris JD, Griesser MJ, et al. Treatment of proximal hamstring ruptures - a systematic review. Int J Sports Med. 2011 Jul;32(7):490-5.

Design: systematic review of orthopedic literature

Purpose of study: to determine if there are differences in outcome of proximal hamstring rupture between surgical vs nonsurgical treatment, and to determine if there are differences between surgery in the first four weeks after injury vs surgery later than four weeks after surgery

Reasons not to cite as evidence:

- All of the 18 studies retrieved from the literature search were case series, and 15 studies had only a surgical group and no patient in a nonsurgical group
- Three case series had patients in both a surgical and a nonsurgical group; one had 9 surgical and 3 nonsurgical patients, one had 1 surgical and 1 nonsurgical patient, and one had 2 surgical and 10 nonsurgical patients
    - In the case series with the most nonsurgical patients (Sallay 1996), 10 waterskiers who were not treated surgically had poor outcomes in terms of return to sport, and this was the study cited as evidence for the superiority of surgical over nonsurgical treatment
    - However, Sallay was focused on the mechanism and location of injury in waterskiing versus other kinds of sports activity, contrasting most athletic injuries with those in waterskiing
        - In most athletes, acute hamstring muscle strains have shown the site of injury to be the myotendinous junction, usually of the biceps femoris muscle alone, and most of these athletes do well with carefully supervised rehabilitation
        - In waterskiers, the injury is an avulsion of the hamstring muscle complex at or near the level of the proximal bone-tendon junction, with partial or complete physiologic disruption of the muscle-tendon unit
        - Thus, it is the anatomic disruption of injury which was the basis for Sallay's observations that an avulsion of the bone-tendon junction is a risk factor for prolonged convalescence and poor return to sports activity
- This systematic review could support an information statement that if a proximal hamstring rupture is at the bone-tendon junction rather than the myotendinous junction, a nonsurgical approach to treatment may lead to a prolonged convalescence, and that a surgical repair option should be strongly considered

Reference:

Sallay P , Friedman R , et al. Hamstring muscle injuries among water skiers . Am J Sports Med 1996;24:130–136