Following injury to the anterior cruciate ligament (ACL) and subsequent ACL reconstruction (ACLR), patients undergo a period of rehabilitation that often concludes with a return to sport (RTS) testing. RTS testing has been historically structured around time after surgery and sport relevance.[1] In the context of actual sport, the individual is constantly undergoing motor challenges while under cognitive load. For example, decision making and divided attention between multiple tasks have been shown to change lower limb biomechanics such as reduced knee flexion at initial contact, increased vertical ground reaction force, and reduced stability during landing and cutting.[2] This study aimed to analyze the impact of cognitive load on reaction time for individuals who've undergone ACLR. Participants (14 males and 14 females; age: 19.97 ± 4.01) were asked to perform physical tasks under cognitive load and without cognitive load. Reaction time data was measured and compared between ALCR and control groups using mixed ANOVAs. Only the single hop task under no cognitive conditions was found to be statistically significant. Looking forward, further research with larger sample sizes and less variability in timing post clearance for return to sport post-ACLR is warranted to better inform differences in reaction time compared to healthy controls.

1. Burgi CR, et al. Br J Sports Med. 2019.
2. Hughes G, et al. Sports Biomech. 2023.