Background and Purpose: Multi-ligament knee injuries (MLKI) can be debilitating and often career ending injuries for athletes. Current literature reports on outcomes following these injuries for return to activities of daily life; however, there is a paucity of evidence evaluating the return to sport following a MLKI. The purpose of this case report is to describe the treatment and outcome following a MLKI and novel meniscus radial repair technique in which the athlete returned to compete in the 2018 Winter Olympic Games 14 months postoperatively.

Study Design: Case Report.

Case Description: A healthy 28-year-old female Olympic alpine skier who sustained a deep knee flexion with varus force injury to her right knee during a competitive skiing event. Examination and imaging revealed a completely torn anterior cruciate ligament (ACL) and lateral collateral ligament (LCL), complex radial tear of the lateral meniscus, medial meniscus tear, popliteofibular ligament tear, proximal tibiofibular joint ligament tear, and a common peroneal nerve neuropraxia. The athlete underwent an anatomic single-stage, multi-ligament knee reconstruction surgery which consisted of a novel meniscus radial repair technique.

Outcomes: A return to snow progression was initiated at seven months postoperatively. At 10 months postoperatively, a physical exam revealed trace effusion, no joint line tenderness, and negative stability tests. A repeat MRI revealed adequate healing of the lateral meniscus radial repair. The athlete passed a functional sports test at 10-months postoperatively and was cleared to return to ski with no restrictions. At 12 months postoperatively, the athlete placed in an Olympic qualifying ski race. At 14 months postoperatively, the athlete competed in the 2018 Olympic Winter Games.

Discussion: This case report highlights the ability of an athlete to return to elite level of competition following an anatomic single-stage, multi-ligament knee reconstruction with a novel meniscus radial repair technique in a safe but timely manner.

Level of Evidence: 4

Key Words: Meniscal repair, Multi-ligament knee injury, Olympics, return to sport