The patient was a 33-year-old man currently serving in the military as a radio operator, who had a chief complaint of right knee pain. Initial symptom onset occurred 5 months prior in a remote deployed location following a pivoting injury. After the initial injury, the patient was evaluated by a physician and diagnosed with a right knee sprain. He was issued a knee brace, prescribed a nonsteroidal anti-inflammatory medication, and given a reduced activity waiver. After the patient returned from his deployment, he continued to have right knee pain, with mechanical symptoms of instability and catching. Therefore, he sought further medical care and was referred to a physical therapist.

Visual observation revealed right quadriceps muscle atrophy, mild right knee effusion, and decreased duration of terminal stance phase for the right lower extremity during gait. During range-of-motion assessment, the patient was unable to fully extend his right knee due to a mechanical limitation. There was also a positive Lachman test, a positive McMurray test for pain and clicking, and tenderness to palpation over the medial joint line.

Due to concern for an anterior cruciate ligament tear and a medial meniscal tear, the physical therapist referred the patient to an orthopaedic surgeon for additional evaluation. Magnetic resonance imaging revealed a complete rupture of the anterior cruciate ligament (FIGURE 1) and a double posterior cruciate ligament sign, suggestive of a bucket handle tear of the medial meniscus (FIGURES 2 and 3). The patient subsequently underwent surgical reconstruction of the anterior cruciate ligament and repair of the medial meniscus. 

Rupture of the Anterior Cruciate Ligament and Bucket Handle Tear of the Medial Meniscus

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FIGURE 1. Sagittal, fat-suppressed, proton density–weighted magnetic resonance image of the right knee demonstrating a complete tear of the anterior cruciate ligament (arrow). A small joint effusion is also present.

FIGURE 2. Sagittal, fat-suppressed, proton density–weighted magnetic resonance image of the right knee demonstrating a double posterior cruciate ligament sign formed by the posterior cruciate ligament (orange arrow) and the displaced portion of the medial meniscus (white arrow). A small joint effusion is also present.

FIGURE 3. Coronal, fat-suppressed, proton density–weighted magnetic resonance image of the right knee identifying a displaced portion of the medial meniscus (orange arrow) lying adjacent to the posterior cruciate ligament (white arrow) in the intercondylar notch. The intact lateral meniscus (blue arrow) is seen, as is a truncated medial meniscus (green arrow), which is consistent with a centrally displaced bucket handle tear.

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