**Reconstruction of Symptomatic Congenital Anterior Cruciate Ligament Insufficiency**

**Brant Sachleben, MD**  
**Adam Nasreddine, MA**  
**Jeffrey Nepple, MD**  
**Frances Tepolt, BS**  
**James Kasser, MD**  
**Mininder Kocher, MD**

1. Arkansas Children’s Hospital, Little Rock, AR  
2. Children’s Hospital of Boston, Boston, MA, 3. St. Louis Children’s Hospital, St. Louis, MO

### BACKGROUND

Hypoplasia or congenital absence of the anterior cruciate ligament is a rare disorder occurring in approximately one in every 6000 births. Despite having hypoplasia or agenesis of the ACL, some patients may not complain of instability. However, many patients that were previously unable to participate in ACL demanding activities are now more active and complain of instability. There are limited reports of surgical treatment of this patient population. The purpose of this study was to report on a case series of ACL reconstruction in patients with symptomatic congenital ACL deficiency.

### METHODS

A retrospective review of the surgical treatment of congenital absence of the ACL at a tertiary care institution from 1995 to 2012 was performed. Fourteen knees (13 patients) underwent surgical reconstruction for congenital insufficiency of the ACL. All patients reported persistent knee instability preoperatively despite conservative treatment measures. Patients with a minimum of one year of clinical follow-up were eligible for inclusion in the current study. All surgeries were performed by one of two surgeons.

### RESULTS

The mean age at time of surgery was 12.6 (range 3 to 22), including 6 patients < 12 y/o. Mean follow-up was 2.9 years (range 1 to 6.6). Ten patients out of 13 (77%) had underlying congenital abnormalities-associated syndromes. Preoperative Lachman and pivot shift examination was IKDC grade C or D in all but one patient. ACL reconstruction was performed with combined intra-articular extra-articular physeal-sparing reconstruction with iliotibial band (n=5), autograft hamstring (n=2), autograft bone-patellar tendon-bone (n=3), or allograft (n=4). Reconstruction of associated ligamentous deficiency was performed in 7 knees (50%). Postoperative Lachman and pivot shift testing was IKDC grade A or B in all but one knee. There was one revision reconstructive surgery.

### DISCUSSION

Patients with congenital ACL insufficiency can present with symptomatic instability at a wide range of ages, as well as a variety of associated ligamentous deficiencies. Surgical stabilization of symptomatic congenital ACL insufficiency results in improved stability and symptoms in this population at early follow-up, with low complication rates. The present study demonstrates that surgical treatment for congenital ACL insufficiency is a safe and beneficial treatment option.

### CONCLUSIONS

Surgical stabilization of symptomatic congenital ACL insufficiency results in improved stability and symptoms in this population at early follow-up, with low complication rates.

**Correspondence**: BCSachleben@uams.edu