

To report the healing rate of stable femoral condyle OCD in adolescents managed with a hinged knee brace locked in extension, activity restriction, and physical therapy and assess factors that may influence healing. We hypothesized that less severe, smaller lesions, and younger age would be associated with healing. The medical records of patients 5-18 years old diagnosed with femoral condyle OCD were reviewed. Patients who presented with an unstable lesion necessitating surgery, lacked follow-up >6 months or to symptom resolution, or were non-compliant with treatment were excluded. Patients were placed in a hinged knee brace locked in extension for 6 weeks or until pain free, restricted from activities, and began physical therapy at 6 weeks post-diagnosis if pain free. We assessed progression to surgery, and the association between surgery and lesion size, lesion grade, symptoms, laterality, and patient factors. Sixty-four patients were included: 12.5% (n=8; 50% female; mean age=12.5±1.0 years) required surgery and 87.5% (n=56; 20% female; mean age=11.5±1.9 years) healed. The surgical group was braced for longer (72.6±51.4 vs. 54.9±23.2 days; p=0.09), presented with a larger lesion (322.5±298.7 vs. 211.2±178.4 mm²; p=0.14), and had a lower proportion of Grade 1 lesions (63% vs. 85%; p=0.11). Female sex (p=0.04) and longer bracing time (p=0.04) were associated with surgery. Managing stable OCD lesions in adolescents with a hinged knee brace locked in extension, activity restriction, and physical therapy seems is effective.