Osteoarthritis (OA) is the most frequent joint disease causing pain and functional disability in middle-aged and elderly persons. As OA is not curable, treatment is mainly symptom driven and consist of pharmacological and non-pharmacological therapies. Treatments are focused on alleviating pain, maintenance of activities in daily life, enhancing quality of life and postponing the moment of total joint replacement. The aim of this thesis is to improve our understanding of the reported severity of pain due to OA. In the first part of this thesis, the results of a clinical trial on the effectiveness of pain medication in treating knee pain due to clinical OA in general practice are presented. In addition, the results of a systematic review on the heterogeneity of studies assessing the effectiveness of pain medication in OA are presented. In the second part of this thesis, longitudinal pain trajectories of patients with hip OA are described. Furthermore, data are reported on the specific features of the knee assessed with MRI and its associations with both weight-bearing and non-weight-bearing pain.