Sports-related shoulder pain and injuries represent a common problem. In this context, glenohumeral instability is currently believed to play a central role either as a recognized or as an unrecognized condition. Shoulder instabilities can roughly be divided into traumatic, atraumatic, and microtraumatic glenohumeral instabilities. In athletes, atraumatic and microtraumatic instabilities can lead to secondary impingement syndromes and chronic damage to intraarticular structures. Magnetic resonance (MR) arthrography is superior to conventional MR imaging in the diagnosis of labro-ligamentous injuries, intrinsic impingement, and SLAP (superior labral anteroposterior) lesions, and thus represents the most informative imaging modality in the overall assessment of glenohumeral instability. This article reviews the imaging criteria for the detection and classification of instability-related injuries in athletes with special emphasis on the influence of MR findings on therapeutic decisions.