Bony deficiency of the anterior glenoid rim may significantly contribute to recurrent shoulder instability. Today, based on clinical and biomechanical data, a bony reconstruction is recommended in patients with bone loss of greater than 20-25 % of the glenoid surface area. Recent advances in arthroscopic instruments and techniques presently allow minimally invasive and arthroscopic reconstruction of glenoid bone defects and osteosynthesis of glenoid fractures. This article underlines the role of glenoid bone deficiency in recurrent shoulder instability, provides an update on the current management regarding this pathology and highlights the modern techniques for surgical treatment. Therefore, it can help orthopaedic surgeons in the treatment and decision-making when dealing with these difficult to treat patients in daily clinical practice.