

Study on the stability of reverse shoulder arthroplasty

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As the world becoming an aging society, patients who suffer from shoulder-related diseases are increasing. To treat these diseases, many kinds of artificial joints are operated to patients. Following this trend, various studies on artificial joints have been conducted actively to improve the shape and stability of implants. Despite such improvements, more than 60% of patients are suffering from many complications after operation. The typical complication is a dislocation of the artificial joint. Therefore fixing the joint substantially is one of the most important factors in implant surgery. In this study, tilted angle and overhanging of baseplate were selected as representative parameters for artificial joint operation, and various finite element models were developed for each case of insertion. Using these models, internal stresses and relative displacement between the bone and artificial joint are analyzed through finite element analysis.

Keywords: shoulder arthroplasty, stability, tilt, overhanging, finite element analysis