Glenoid version seems to play an important role in the stability and loading of the glenohumeral joint. The purpose of this study was to compare measurements of glenoid version on axillary views and computed tomography (CT) scans. Radiographs and CT scans of 25 patients evaluated predominantly for glenohumeral joint instability and 25 patients after implantation of a total shoulder prosthesis were analyzed by 3 independent observers. In all patients glenoid version was determined on an axillary view and on a CT scan at the mid-glenoid level. The mean glenoid version measured on CT scans was 3 degrees of retroversion in the instability group (range, 7 degrees of anteversion to 16 degrees of retroversion) and 2 degrees of anteversion in the total shoulder prosthesis group (range, 16 degrees of anteversion to 23 degrees of retroversion). Glenoid retroversion was overestimated on plain radiographs in 86%. The mean difference between measurements of glenoid version on axillary views and CT cuts was 6.5 degrees (range, 0 degrees -21 degrees ), and the coefficient of correlation between these measurements was 0.33 in the instability group and 0.67 in the prosthesis group. In conclusion, glenoid version cannot be determined accurately on standard axillary radiographs, either preoperatively or postoperatively. Studies that assess the role of glenoid component orientation should use a reproducible method of assessment such as CT.

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