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学位の種類	博士 (医学)
報告番号	甲第1559号
学位記番号	第1114号
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授与年月日	平成 29年 3月 24日
学位論文の題名	Postoperative evaluation of drill holes for arthroscopic Bankart repair with suture anchors by the use of computed tomography (鏡視下バンカート修復術におけるアンカー挿入時の骨孔の術後画像評価)  Journal of Orthopaedic Science. Vol. 20 (6):P. 481-487, 2015
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## **Postoperative evaluation of drill holes for arthroscopic Bankart repair with suture anchors by the use of computed tomography**

### **Abstract**

(Aim) The aim of this study is to investigate the angle and placement of bone holes for suture anchors using postoperative computed-tomography scapula scans.

(Methods) The study group comprised 20 shoulders from 20 consecutive patients (13 males and seven females; mean age 23.4 years) who underwent arthroscopic Bankart repair. All anchors were inserted through the anterior portal after establishing a bone hole at the edge of the glenoid articular surface using a drill. Computed tomography images of the scapula were taken 1 month postoperatively and used to create three-dimensional scapula models with Mimics and Magics software. Bone holes in the anterior–inferior (3:00–6:00) position were assigned either to the non-perforated group if they were positioned entirely inside the glenoid bone or to the perforated group if the far cortex of the glenoid was penetrated by the drill. The angle between the glenoid articular surface and the bone hole was measured in the oblique coronal and transverse plane views. The length of the bone hole was also assessed.

(Results) Of the 85 bone holes investigated, 42 were in the 3:00–6:00 position.

Perforation was detected in 16 of these 42 holes (38.2 %). The angle in the oblique coronal plane view and the length of the bone hole were significantly larger in the non-perforated group than in the perforated group; however, the angle in the transverse plane view did not significantly differ between the two groups.

(Conclusions) Before inserting an implant in the anterior–inferior area, the angle between the drill guide and the glenoid surface in the oblique coronal plane view should be carefully checked to ensure that the length of the hole inside the glenoid bone is adequate.