

## Coracoid process morphology using 3D-CT imaging in a Malaysian population

### ABSTRACT

**Introduction:** The aims of this study are to define the coracoid process anatomy in a Malaysian population, carried out on patients in Hospital Serdang with specific emphasis on the dimension of the base of coracoid process which is important in coraco-acromial (CC) ligament reconstruction, to define the average amount of bone available for use in coracoid transfer, and to compare the size of coracoid process based on gender and race, and with findings in previous studies. **Materials and Methods:** Fifteen pairs of computed tomography (CT) based 3-dimensional models of shoulders of patients aged between 20 to 60 years old were examined. The mean dimensions of coracoid were measured and compared with regards to gender and race. The data were also compared to previously published studies. **Results:** The mean length of the coracoid process was  $37.94 \pm 4.30$  mm. Male subjects were found to have larger-sized coracoids in all dimensions as compared to female subjects. The mean tip of coracoid dimension overall was  $19.99 + 1.93$ mm length  $\times$   $10.03 + 1.48$ mm height  $\times$   $11.63 + 2.12$ mm width. The mean base of coracoid dimension was  $18.96 + 3.71$ mm length  $\times$   $13.84 + 1.76$ mm width. No significant differences were observed with regards to racial denomination. The overall coracoid size measurements were found to be smaller compared to previous studies done on the Western population. **Conclusion:** This study may suggest that Malaysians have smaller coracoid dimension compared to Caucasians. The findings further suggest that the incidence of coracoid fracture and implants pull out in Malaysian subjects may be higher.

**Keyword:** Coracoid process; Coracoid anatomy; Coracoid dimension; Malaysian population