

**Supplemental Material 1** Post-hoc sample size calculation details.

We reversely used the sample size estimation formula to check the precision of our scleral spur localization model powered by our samples size. Similar to the previous study by Xu et al. [2], we reversed the calculation in the sample size estimation formula,

$$n = \left[ \frac{(t_{\alpha/2} + t_{\beta/2})}{\delta/\sigma} \right]^2 + \frac{1}{2} t_{\alpha/2}^2, \quad (1)$$

$$\delta = \frac{\sigma(t_{\alpha/2} + t_{\beta/2})}{\sqrt{n - \frac{1}{2} t_{\alpha/2}^2}}. \quad (2)$$

where  $n$  denotes the test sample size,  $\sigma$  is the standard deviation of difference,  $\alpha$  and  $\beta$  are the predefined type I & II error,  $t_{\alpha/2}, t_{\beta/2}$  denote the t-scores, to calculate the relative accuracy of our purposed scleral spur localization error  $\delta$ .

In our study, we known  $n = 10332, \sigma = 74.07 \mu m$ , two-tailed  $\alpha = 0.05$ , and two-tailed  $\beta = 0.2$ , the corresponding t-scores are  $t_{0.05/2} = 1.96, t_{0.2/2} = 1.282$ , we obtained  $\delta$  with equation (2):

$$\delta = \frac{74.07 \times (1.96 + 1.282)}{\sqrt{10332 - \frac{1}{2} \times 1.96^2}} \mu m, \quad (3)$$

$$\delta \approx 2.362 \mu m. \quad (4)$$