

# Morphological variations of the human ejaculatory ducts in relation to the prostatic urethra

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## Abstract

Loss of ejaculation can follow transurethral resection of the prostate (TURP). Periverumontal prostate tissue is preserved in ejaculation-preserving TURP (ep-TURP). Knowledge of ejaculatory duct anatomy in relation to the prostatic urethra can help in ep-TURP. This was evaluated in cross-sections of the prostate using a 3 D model to determine a safe zone for resecting the prostate in ep-TURP. A 3 D reconstruction of the ejaculatory ducts was developed on the basis of six prostate gland cross-sections. The measurements obtained from the 3 D model were standardized according to the maximum width of the prostate. Simple linear regressions were used to predict the relationships of the ejaculatory ducts. The maximum widths of the prostates ranged from 22.60 to 52.10 mm. The ejaculatory ducts entered the prostate with a concavity directed posterolaterally. They then proceeded toward the seminal colliculus in a fairly straight course, and from that point they angulated anteromedially. As they opened into the prostatic urethra they diverged. Significant regression models predicted the relationships of the ejaculatory ducts to the prostatic urethra based on the sizes of the prostates. The 3 D anatomy of ejaculatory ducts can be predicted on the basis of prostate width. The ejaculatory ducts can be preserved with 95% accuracy if a block of tissue 7.5 mm from the midline on either side of the seminal colliculus is preserved, up to 10 mm proximal to the level of the seminal colliculus, during TURP. *Clin. Anat.* 31:456–461, 2018. © 2017 Wiley Periodicals, Inc.