

## COURSE OF THE DORSAL NERVE OF THE CLITORIS

### Hypothesis / aims of study

The dorsal nerve of the clitoris is a target of sacral neuromodulation for voiding dysfunction. Knowledge of the anatomic pathway of the dorsal nerve of the clitoris (DNC) is important for safe surgical implantation of electrode leads.

### Study design, materials and methods

Ten intact vulva specimens were obtained from cadaveric anatomy labs. Specimens were treated with various solvents including an ethanol-based solvent, which provided excellent hydration and preservation of the nerve. A chloroform-based solvent best preserved the muscle layers, and a xylene-based solvent clarified the fat and skin, making them translucent. Dissections were performed under 2X loupe magnification and microscopy. The dorsal nerve was confirmed by histological H&E staining. The pathway of the DNC and branches were visualized.

### Results

The DNC, after piercing the perineal membrane, travels along the superior and posterior edge of the clitoral crus. The DNC travels inferior to the inferior pubic ramus. At the angle of the clitoral body, and inferior to the pubic symphysis, the DNC enters the deep component of the suspensory ligament, which attaches to clitoral body to the pubic symphysis. The dorsal nerves at the angle of the clitoral body travel along on the dorsal aspect of the clitoral body at the 1 o'clock and 11 o'clock positions. At the base of the clitoral body, the DNC is found 4 mm to 8 mm superior to the tunica. Distally along the clitoral body, the DNC descends and runs close to the tunica towards the glans.

### Interpretation of results

The dorsal nerves of the clitoris course along the dorsal surface of the clitoral body within the deep component of the suspensory ligament, at the 11 o'clock and 1 o'clock positions. Based on our dissections, neuromodulation access to both DNC can be obtained by tunnelling the neuromodulator lead anterior to the pubic symphysis and within the suspensory ligament along the midline.

### Concluding message

The DNC of the clitoris is an important target for neuromodulation. Based on our anatomic studies of the distal course of the DNC, we propose a pathway for lead placement which allows bilateral access to the trunks of the DNC.

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