

INTRAURETHRAL INJECTION WITH THE ZUIDEX™ SYSTEM

Synopsis of Video

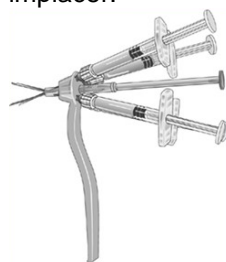
Stress urinary incontinence (SUI) affects a large proportion of middle-aged and elderly women, considerably lowering their quality of life and causing major economical costs to the society. When all conservative means are ineffective, a surgical treatment is contemplated, including retropubic suspension, pubo-vaginal and tension-free slings. Tension-free tapes are considered minimally invasive procedures, yielding a lesser degree of discomfort and a faster return to normal daily activities for the patients, but they still require the use of the operating room, troncular anesthesia, and an overnight hospital stay in most instances. Intra-urethral injections with bulking agents have been used as an alternative to the mentioned surgical procedures with alternate results, also due to the different characteristics of the various agents utilized, the most common shortcomings being lack of biocompatibility, allergenicity and short permanence in the tissue.

Zuidex™ gel is a Dextranomer/hyaluronic acid (Dx/HA) copolymer.

Dextranomer (Dextran 2.3 dihydropropyl 2-hydroxy-1.3 propane-diethylethers) is made by hydrophylic dextran polymer particles (microspheres 80-120 micron), configured as a network. It acts as a cell carriers, recruiting connective fibers from the surrounding tissues. It is non-allergic, as it has no free dextran molecules. Hyaluronic Acid is a 1% solution, highly viscous, highly molecular weight polysaccharide. It is non-immunogenic as it is not extracted from animals but from bacteria.

Zuidex™ has recently been introduced for SUI treatment, but it has long been successfully used in the treatment of vesico-ureteral reflux.

This VIDEO illustrates the technique of intraurethral implant of Zuidex™ gel with the Zuidex implanter.



The figure shows how the Zuidex System is composed: 4 pre-filled syringes, each containing 0.7 mL of Zuidex™ gel; a Zuidex implanter. The latter is a plastic device that consists of i) one hand piece, ii) a head with 4 thin channels where the 21 needles of the 4 syringes are passed and iii) a specially designed sliding cannula. The cannula covers the needles for the smooth insertion into the urethral lumen and once withdrawn, enables the prick of the urethral mucosa in 4 sites.

The procedure does not require the use of the operating room and is made on an out-patient basis, in the office, under local anesthesia.

The first step is the urethral length measurement. This is done by means of a Foley catheter with the filled balloon gently snuggled against the bladder neck, by marking the catheter surface at the exit from the external meatus. Then 5 mg of anaesthetic gel (Emla™) are instilled into the urethra and left in place for 10 minutes. The implanter and the four syringes are assembled as shown in the figure. The needles are thereafter covered by the cannula pushed to its bottom position. At this point the distal tip of the cannula is advanced through the meatus as far as the mid-urethra, and is firmly kept in this position throughout the rest of the procedure. The cannula is slid backward to uncover the needles in the urethral lumen. Each needle is withdrawn 1 cm and push forward again to perforate the urethral mucosa and the Zuidex gel is injected into the urethral wall. Subsequently all the syringes and the implanter itself are removed. No transurethral catheter is used after the procedure. The patient is observed until she voids with no significant residual urine.

The intraurethral injection of Zuidex with the implanter is an easy and quick outpatient procedure performed under local anaesthesia. The important steps necessary to perform the procedure efficiently and safely are shown in detail.