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### Conclusion

The TVT has a high cure rate for stress incontinence (SI). Both in success and failure it resembles traditional slings. It seems to be an obstructive procedure. Ultrasonic findings vary depending on dissection, placement, tensioning and coexisting cystourethrocele. In many patients hypermobility persists, and continence seems to be achieved by a kinking effect, with the urethra rotating horizontally and being compressed against and kinked around the tape. Often there is no effect on the bladder neck, as shown by a high incidence of funnelling. A "loose" tape seems to increase the risk of recurrent SI. "Tight" tapes, on the other hand, compress the urethra against the symphysis pubis (a "pinching" effect), potentially causing increased obstruction but making recurrence of SI highly unlikely.

Both position and mobility of the TVT vary considerably, and this variability seems to influence outcome. There is a need for further research regarding a reproducible tightening mechanism.

### References

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Author(s):

N Kuuva, C-G Nilsson

Institution, city, country:

Department of Obstetrics and Gynaecology, Helsinki University Central Hospital, Helsinki, Finland

Title (type in CAPITAL LETTERS, leave one blank line before the text):

A NATIONWIDE ANALYSIS OF COMPLICATIONS ASSOCIATED WITH THE TENSION-FREE

VAGINAL TAPE (TVT) PROCEDURE

Aims of Study: To evaluate therapy-associated morbidity of all patients who underwent a TVT operation by the end of the year 1999. Methods: Retrospective questionnaires about number of operations per hospital as well as intraoperative and postoperative complications were sent to every Finnish hospital where TVT operations had been independently performed after the obligatory TVT training period. The information from 38 hospitals was analyzed. One hospital which did not use the standard TVT set and the largest TVT center which functioned as the primary training center were excluded. Results: Among the 38 hospitals there were 4 university hospitals, 13 central hospitals and 21 local hospitals. The total amount of TVT operations was 1455 and in 40 cases (2.7%) one or several other operations were performed at the same time. There were 27 cases (1.9%) of intraoperative blood losses over 200 ml: eight patients were managed by a vaginal tamponade and/or manual compression, one arterial bleeding behind the symphysis required laparotomy and tape removal. There were 56 cases (3.8%) of bladder perforations: (a) forty-eight perforations were detected during the operation, in 40 cases the needle was withdrawn and reinserted more laterally, in five cases the TVT tape was completely or partially removed, in two cases the operation was interrupted, one case was treated only with catheterization; (b) four cases of perforations were detected within a few hours up to four days after the operation, in all of these cases the tape was totally or partially removed and in one case of removal a cystotomy was needed; (c) in four cases of perforations the time of the observation has not been stated, in one of these cases an open exploration of the cavum Retzii was performed and in one case the tape was removed from the bladder by laparotomy, two cases were treated only with catheterization. Only one case (0.1%) of injury on a major vessel (epigastric) was reported and it was treated by ligation. Three cases (0.2%) of various intraoperative complications were reported: (a) an injury of

the obturator nerve led to limping and adhesion formation on the Achilles tendon and an adhesiotomy was required; (b) a vaginal haematoma was treated by surgical evacuation; (c) a possible urethra lesion was detected and the procedure was interrupted. There were 34 cases (2.3%) of complete postoperative urinary retentions (range of duration 6 hours - 6 months): (a) in one case the tape had to be cut off; (b) twenty-nine cases were managed by catheterization; (c) one case was spontaneously cured; (d) in three cases the intervention used was not reported. There were 109 cases (7.5%) of minor postoperative voiding difficulties with a residual urine volume more than 100 ml after the first postoperative day (range of duration 48 hours - 4 months): in two cases the tape had to be cut off and 107 cases were treated with conservative methods or spontaneously cured. There were 27 cases (1.9%) of retropubic haematomas (range of size 3-10 centimetres): three cases were punctured, two cases were evacuated by surgery, three cases required blood transfusion. There were 12 cases (0.8%) of wound infections: eight cases were treated with antibiotics, four cases of abscess formations needed drainage. There were 10 cases (0.7%) of defect healings of the vaginal incision: four cases were resuturated, in two cases the tape was partially removed. There were 59 cases (4.1%) of urinary tract infections. No case of tape rejection occurred. The total amount of some other kind of postoperative complications was 33 (2.3%): (a) in 13 cases de novo urge symptoms occurred, the old urge component became worse or there were some kind of voiding discomfort; (b) seven haematomas were found outside the retropubic area; (c) a vesicovaginal fistula was discovered which led to tape removal and fistulectomy; (d) there was one case of urinary retention where a rudimentary kidney and a double ureter system were detected which led to cutting of the tape, ureterolysis and unilateral removal of the rudimentary kidney and the double ureter system; (e) three cases of pain in the region of the gluteal muscle and the thigh occurred, two cases were cured by anti-inflammatory drugs, in one case there was a suspicion of compression on the obturator nerve but a laparoscopic exploration showed no evidence of nerve compression and the pain disappeared after cutting of the tape; (f) there was one case of venous thrombosis which was treated with anticoagulants; (g) one seroma formation around the tape which needed drainage was found; (h) there were six cases of various minor complications. All together the majority of complications were mild complications such as minor postoperative voiding difficulties or urinary tract infections and only five cases (0.3%) of major complications requiring laparotomy occurred. Conclusions: The TVT procedure is a safe method for the treatment of stress urinary incontinence.

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Author(s):

M. Halaska, M. Otcenasek, J. Zizka\*, A. Martan, J. Masata

Institution, city, country:

Dept. of Obstet. and Gynecol., 1<sup>st</sup> Medical Faculty, Charles University, Prague, Czech Republic.

Department of Radiodiagnosics, Hradec Kralove, Czech Republic\*.

CHANGE OF THE MOBILITY OF THE FEMALE URETHRA AFTER TVT PROCEDURE - COMPUTER ANALYSIS OF DYNAMIC MRI

### Aims of Study

Insertion of Tension Free Vaginal Tape (TVT) has proved to be effective method for treatment of genuine urinary stress incontinence (GSI). The procedure was designed to support middle urethra on behalf of defective pubourethral ligaments (PUL). Because there is no accord about the role of normal PUL and discussion about continence mechanisms is far from its end, new methods for evaluation of anatomy, function and its changes after different procedures need to be introduced. Our aim was to study the mobility and shape of urethra and bladder