

## ANTERIOR PROLAPSE (CYSTOCELE AND VAULT) REPAIR WITH MESH: SINGLE INCISION APPROACH WITH NEW MINIMALLY INVASIVE FIXATION SYSTEM

**Synopsis of Video:** A recent Cochrane review revealed that mesh repair in the anterior compartment has been proven to have lower failure rates than traditional repair. However, most current procedures for cystocele repair with mesh do not address vault prolapse, which occurs in many cases concomitantly. Additionally, most current repairs utilize needle passes through the groins and transobturator space. The current video demonstrates a new technique for concomitant cystocele repair and vault suspension with anterior wall mesh through an anterior approach with a single incision, no needle passes through the groin and a new minimally invasive fixation system. A single incision is made in the anterior wall, the bladder dissected away from the sidewalls and the sacrospinous ligaments are isolated bilaterally. Apical arms are attached to the sacrospinous ligaments via a minimally invasive self-fixating tip that is pushed into the ligament with a delivery trocar that causes minimal trauma. The fixation system eliminates the need to “hook” around the ligament with a suture carrier or other device, or pass through the ligament entirely from below which decreases the risk of nerve injury or entrapment. The apex of the graft is then slid up the arms, fixated in place without tension and the distal portion of the graft attached to the levators at the level of the bladder neck with arms that have a similar self-fixating tip attached. The repair results in complete anterior wall and apical support through a single incision vaginally with no needle passes through the groin. **Hypothesis / aims of study:** To demonstrate a new technique to treat cystocele and vault prolapse with a single incision approach through the anterior wall to place an anterior wall mesh graft without any needle passes through the groins and utilizing arms with self-fixating tips to attach the apex of the graft to the sacrospinous ligaments. **Study design, materials and methods:** The patient presented in the video is a 68 year old female with Stage III anterior wall and apical prolapse. The system that is utilized in this surgical video is the Anterior Elevate System (American Medical Systems, Minnetonka, MN, USA). The Anterior Elevate system is comprised of a Type I macroporous soft polypropylene mesh (Intepro Lite) that is fixated distally to the pelvic sidewall at the level of the bladder neck with self-fixating tips and apically to the sacrospinous ligaments with arms that have the same self-fixating tips. The apex of the graft slides over the apical arms and can be adjusted to the patients vaginal length prior to being locked in place. The video demonstrates the anatomy of the procedure and utilizes anatomic drawings throughout to demonstrate key landmarks for placement of the graft and fixation arms and also demonstrates the procedure from in a step-by-step fashion. Key steps are also highlighted to demonstrate ways to maximize results and minimize complications such as mesh extrusion and pain.

**Results:** The procedure results in complete restoration of both Level I and Level II support in the anterior compartment and apex of the vagina and is accomplished through a single incision in the anterior wall and bilateral fixation to the sacrospinous ligaments. Patients completed to date have recovered quickly with minimal post-operative pain and to date we have not had any bladder injuries, post operative pain or other serious complications that have required re-operation. The procedure offers the advantage of eliminating needle passes through the transobturator space as well as offering concomitant vault suspension with anterior wall repair.

**Interpretation of results:** The new Anterior Elevate procedure that is demonstrated in the video is the next step in minimally invasive treatment of cystocele and also gives the advantage of concomitant vault prolapse through the same incision. It appears to achieve excellent fixation of the apex of the vagina with the least invasive technique to fixate to the sacrospinous ligaments to date and the same fixation tips are utilized to anchor the distal portion of the graft to the sidewall at the level of the bladder neck.

**Concluding message:** Video demonstration of a new minimally invasive technique for placement of anterior wall graft for cystocele and vault suspension through single anterior wall incision.

<b>Specify source of funding or grant</b>	American Medical Systems
<b>Is this a clinical trial?</b>	No
<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	No
<b>This study did not require ethics committee approval because</b>	Video demonstration of procedure. Not a study. Patient signed consent to be videotaped and presented at meetings and for education purposes
<b>Was the Declaration of Helsinki followed?</b>	No
<b>This study did not follow the Declaration of Helsinki in the sense that</b>	It is not a study, it is a video demonstration of surgical technique that is FDA approved
<b>Was informed consent obtained from the patients?</b>	Yes