Two-Year Outcomes for the Altis® Adjustable Single Incision Sling System for Treatment of Stress Urinary Incontinence

ABSTRACT

Aims: Evaluate the Altis® single-incision sling for treatment of female stress urinary incontinence through 24 months.

Methods: This was a prospective, multi-center, industry-sponsored (Coloplast Corp.), single-arm trial with primary efficacy defined as ≥50% reduction in 24 h pad weight from baseline at 6-months. Device- and procedure-related complications were collected for safety. Secondary measures included cough stress test, Urogenital Distress Inventory-Short Form, Incontinence Impact Questionnaire-Short Form, and Patient Global Impression of Improvement.

Results: Of the 113 women implanted, 94 remained at 24-months. The average procedure time was 12.8 ± 8.4 min across all settings. Of those with paired baseline and follow-up data at 24-months, 90.0% (81/90) achieved ≥50% reduction in pad weight, 81.1% (73/90) were dry (pad weight ≤4.0 g), and 87.9% (80/91) had a negative cough stress test. Significant median reductions of 44.4 in Urogenital Distress Inventory (P-value <0.0001) and 52.0 in Incontinence Impact Questionnaire scores (P-value <0.0001) were observed. Additionally, 90.4% (85/94) of subjects reported “very much better” or “much better” on the Patient Global Impression of Improvement. No new device- or procedure-related adverse events occurred between the 12 and 24 month visits.

Conclusion: The Altis® single-incision sling is a durable and effective treatment with a favorable safety profile for surgical treatment of women with stress or stress-predominant mixed urinary incontinence.
COLOPLAST KEY TAKEAWAYS

- Altis® is the only sling with a premarket IDE study.
- 90.4% of patients reported “very much better” or “much better” improvements.
- 90.0% of patients demonstrated ≥50% reduction in 24-hour pad weight.
- 87.9% of patients with negative CST (cough stress test).
- 81.1% of patients were dry at 24 months.
- Altis® is a durable, efficacious and safe surgical treatment option for SUI.
- No new-device or procedure-related adverse events reported during 12-month and 24-month follow-up visits during prospective, 17-center, single-arm trial.
- Emotional impact of incontinence (52.0 median reduction in IIQ-7 scores) and overall improvement in urinary symptoms (44.4 median reduction in UDI-6 scores) were significantly improved following Altis® implant.

Indications
The Altis® Single Incision Sling System is indicated for the treatment of female stress urinary incontinence (SUI) resulting from urethral hypermobility and/or intrinsic sphincter deficiency (ISD).

Contraindications
It is the responsibility of the physician to advise the prospective patients or their representatives, prior to surgery, of the contraindications associated with the use of this product. The Altis® Single Incision Sling System is contraindicated for use in patients with the following conditions:
- Pregnancy or desire for future pregnancy
- Potential for further growth (e.g., adolescents)
- Known active urinary tract infection and/or infection in operative field
- Taking coagulation therapy
- Abnormal urethra (e.g., fistula, diverticulum)
- Intersphincteric urethral injury
- Any condition, including known or suspected pelvic pathology, which could compromise implant or implant placement
- Sensitivity/allergy to polypropylene

Warnings and Precautions
It is the responsibility of the physician to advise the prospective patients or their representatives, prior to surgery, of the warnings and precautions associated with the use of this product and the associated surgical risks.

Warnings
- The Altis® Single Incision Sling System should only be used by physicians familiar with the surgical procedures and techniques involving transvaginal placement of non-absorbable, synthetic mesh slings and who have adequate education and experience in the treatment of female SUI.
- A thorough assessment of each patient should be made to determine the suitability of a synthetic mesh sling procedure.
- The patient should be counselled that alternative incontinence treatments may be appropriate, and the reason for choosing a mesh sling procedure should be explained.
- Obtain patient consent prior to surgery and ensure that the patient has an understanding of the postoperative risks and potential complications of transvaginal mesh sling surgery.
- Patient counseling should include a discussion that the sling to be implanted is a permanent implant and that some complications associated with the implanted mesh sling may require additional surgery; repeat surgery may not resolve these complications. Serious adverse tissue responses or infection may require removal of mesh, and complete removal of the sling may not always be possible. Individuals may have varying degrees of collagen laydown that may result in scarring.
- As with all surgical procedures, patients with certain underlying conditions may be more susceptible to postoperative bleeding, impaired blood supply, compromised/delayed healing, or other complications and adverse events.
- The risks and benefits of using Altis® should be considered in patients.
- Any future pregnancy could negate the benefits of this surgical procedure. Patients should report any bleeding, pain, abnormal vaginal discharge or sign of infection that occur at any time.
- Do not use product that has damaged or opened packaging, or has expired, as sterility may be compromised.
- The procedure to insert the Altis® sling requires good knowledge of pelvic anatomy and the correct use of the introducer needles in order to avoid damage to adjacent anatomic structures.
- Cystoscopy should be performed to confirm bladder and urethral integrity.
- Avoid placing excessive tension on the Altis® sling during placement and adjustment to maintain sling integrity and to avoid compression of the urethra when tensioning.

Precautions
- The Altis® Sling and Altis® introducers are provided sterile (ethylene oxide sterilization) and are for single-use only.
- Use caution to prevent intraoperative injury to adjacent pelvic structures.
- Do not let the Altis® sling come into contact with sharp objects (e.g., staples, clips, or clamps) which could cause damage to the mesh, suture and anchors.

Potential Complications
- Potential complications include mesh extrusion, pelvic/vaginal pain, groin pain, hip pain (may be related to patient positioning), urinary retention, bleeding, de novo urgency, delayed wound healing, dyspareunia, hip/groin pain, inflammation, nausea, overactive bladder, pain, pelvic hematoma, reaction to antibiotic, slight discomfort upon return to work, urinary tract infection, urine stream decreased, and voiding dysfunction.
- Adverse events are known to occur and voiding dysfunction.
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- Adverse events are known to occur and voiding dysfunction.
- Additional potential complications include, but are not limited to, abscess (acute or delayed), adhesion/scar formation, allergy, hypersensitivity or other immune reaction, bleeding, hemorrhage or hematoma, dehiscence, delayed wound healing, extrusion, erosion or exposure of mesh sling into the vagina or other structures or organs, fistula formation, infection, inflammation (acute or chronic), local irritation, necrosis, de novo and/or worsening dyspareunia, neuromuscular symptoms (acute or chronic), partner pain and/or discomfort during intercourse, perforation or injury of soft tissue (e.g., muscles, nerves, vessels), structures, or organs (e.g., bone, bladder, urethra, ureters, vagina), seroma, sling migration, suture erosion, bladder storage dysfunction (e.g., increased daytime frequency, urgency, nocturia, overactive bladder, urinary incontinence), urethral obstruction, voiding symptoms (e.g., dysuria, urinary retention, incomplete emptying, straining, positional voiding, weak stream), granulation tissue formation, palpable mesh (patient and/or partner), sexual dysfunction, vaginal discharge (abnormal) and vaginal scarring or tightening.
- The occurrence of these events may require one or more revision surgeries, including removal of the sling.
- Complete removal of the sling may not always be possible, and additional surgeries may not always fully correct the complications.
- There may be unresolved pain with or without mesh sling explantation.

The information provided is not comprehensive with regard to product risks. For a comprehensive listing of indications, contraindications, warnings, precautions, and adverse events refer to the product’s Instructions for Use. Alternatively, you may contact a Coloplast representative at 1-800-258-3476 and/or visit the company Website at www.coloplast.com.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician.