ASHERMAN’S SYNDROME

*Fritsch Syndrome, Fritsch-Asherman Syndrome, Intrauterine Adhesions, Uterine Synechiae, Sclerotic Endometrium, Endometrial Sclerosis, Traumatic Uterine Atrophy*

A medical condition, where the walls of the uterus stick to one another due to bands of scar tissue.

 DIAGNOSIS  
 Female

**Related Diagnoses:**

- Uterus septus
- Uterus subseptus
- Pelvic adhesions
- Pelvic tuberculosis

**About Asherman’s syndrome**

Asherman’s syndrome (AS) or Fritsch syndrome, is an acquired disorder characterized by adhesions and/or fibrosis of the endometrium most often associated with dilation and curettage of the intrauterine cavity.

The cavity of the uterus is lined by the endometrium. This lining is composed of two layers, the functional layer (adjacent to the uterine cavity) which is shed during menstruation and an underlying basal layer (adjacent to the myometrium), which is necessary for regenerating the functional layer. Trauma to the basal layer, typically after a dilation and curettage (D&C) performed after a miscarriage, or delivery, or for surgical termination of pregnancy, can lead to the development of intrauterine scars resulting in adhesions that can obliterate the cavity to varying degrees. In the extreme, the whole cavity can be scarred and occluded. Even with relatively few scars, the endometrium may fail to respond to estrogen. Often, patients experience secondary menstrual irregularities characterized by a decrease in flow and duration of bleeding (amenorrhea, hypomenorrhea, or oligomenorrhea) and become infertile. Menstrual anomalies are often but not always correlated with severity: adhesions restricted to only the cervix or lower uterus may block menstruation. Pain during menstruation and ovulation is sometimes experienced and can be attributed to blockages. It has been reported that 88% of AS cases occur after a D&C is performed on a recently pregnant uterus, following a missed or incomplete miscarriage, birth, or during an elective termination (abortion) to remove retained products of conception.

AS can result from other pelvic surgeries including cesarean sections, removal of fibroid tumours (myomectomy) and from other causes such as IUDs, pelvic irradiation, schistosomiasis and genital tuberculosis. Chronic endometritis from genital tuberculosis is a significant cause of severe intrauterine adhesions (IUA) in the developing world, often resulting in total obliteration of the uterine cavity which is difficult to treat.
Various classification systems were developed to describe Asherman's syndrome some taking into account the amount of functioning residual endometrium, menstrual pattern, obstetric history and other factors which are thought to play a role in determining the prognoses. With the advent of techniques which allow visualization of the uterus, classification systems were developed to take into account the location and severity of adhesions inside the uterus. This is useful as mild cases with adhesions restricted to the cervix may present with amenorrhea and infertility, showing that symptoms alone do not necessarily reflect severity. **Other patients may have no adhesions but amenorrhea and infertility due to a sclerotic atrophic endometrium. The latter form has the worst prognosis.**

The extent of adhesion formation is critical. Mild to moderate adhesions can usually be treated with success. Extensive obliteration of the uterine cavity or fallopian tube openings (ostia) and deep endometrial or myometrial trauma may require several surgical interventions and/or hormone therapy or even be uncorrectable. If the uterus has been irreparably damaged, surrogacy or adoption may be the only options.

**Diagnosis**

The history of a pregnancy event followed by a D&C leading to secondary amenorrhea or hypomenorrhea is typical. Hysteroscopy is the gold standard for diagnosis. Imaging by sonohysterography or hysterosalpingography will reveal the extent of the scar formation. Ultrasound is not a reliable method of diagnosing Asherman’s Syndrome. Hormone studies show normal levels consistent with reproductive function.

**Associated disease**

- amenorrhea (lack of menstrual periods)
- repeated miscarriages
- infertility

**Complications**

- complications of hysteroscopic surgery are uncommon and include bleeding, perforation of the uterus, and pelvic infection
- in some cases, treatment of Asherman syndrome will not cure infertility

**Risk factors**

- congenital defects of the uterus, like septate uterus or bicornuate uterus
- repeated miscarriages, leading to repeated D&C procedures
- uterine surgery

**Impact on fertility**

Adhesions can obliterate the cavity of the uterus to varying degrees and prevent implantation and pregnancy.

Age is an important factor contributing to fertility outcomes after treatment of AS. For women under 35 years of age treated for severe adhesions, pregnancy rates were 66.6% compared to 23.5% in women older than 35.

If the uterus has been irreparably damaged, surrogacy or adoption may be the only options.
Patients who carry a pregnancy may have an increased risk of having abnormal placentation including placenta accreta where the placenta invades the uterus more deeply, leading to complications in placental separation after delivery. Premature delivery, second-trimester pregnancy loss, and uterine rupture are other reported complications. They may also develop incompetent cervix where the cervix can no longer support the growing weight of the fetus, the pressure causes the placenta to rupture and the mother goes into premature labour.

**Prevention**

Although in majority of cases Asherman’s syndrome cannot be predicted or prevented avoid voluntary surgical termination of pregnancy which can lead to the development of intrauterine scars.

**Symptoms**

- sudden reduction in menstrual flow
- absence of menstruation, a lot more brown blood/less red blood
- pain or cramping at the time of menstruation with little or no blood
- endometriosis, unexplained infertility
- repeated miscarriage which is unexplained
- invasive placenta in a past pregnancy

Some patients with Asherman’s syndrome may have no symptoms whatsoever.

**Therapies**

**Self therapy**

Acupuncture - could help relieve the symptoms of Asherman’s syndrome.

**Conventional medicine**

**Pharmacotherapy**

Antibiotic prophylaxis is necessary in the presence of mechanical barriers to reduce the risk of possible infections. A common pharmacological method for preventing reformation of adhesions is sequential hormonal therapy with estrogen followed by a progestin to stimulate endometrial growth and prevent opposing walls from fusing together.

**Surgical therapy**

Treatment involves surgery to cut and remove the adhesions or scar tissue. This can usually be done with hysteroscopy, which uses small instruments and a camera.
placed into the uterus through the cervix. In more severe cases, adjunctive measures such as laparoscopy are used in conjunction with hysteroscopy as a protective measure against uterine perforation. After scar tissue is removed, the uterine cavity must be kept open while it heals to prevent adhesions from returning. Methods to prevent adhesion reformation include the use of mechanical barriers (Foley catheter, saline-filled Cook Medical Balloon Uterine Stent, IUCD) and gel barriers (Seprafilm, Spraygel, autocrosslinked hyaluronic acid gel Hyalobarrier) to maintain opposing walls apart during healing, thereby preventing the reformation of adhesions.

Assisted reproduction

The extent of adhesion formation is critical. Mild to moderate adhesions can usually be treated with success. Extensive obliteration of the uterine cavity or fallopian tube openings (ostia) and deep endometrial or myometrial trauma may require several surgical interventions and/or hormone therapy or even be uncorrectable. If the uterine cavity is adhesion free but the ostia remain obliterated, IVF/ICSI remains an option. In case where the uterus has been irreparably damaged, surrogacy or adoption may be the only options.

Find more about related issues

Diagnoses

Uterus septus
A form of a congenital malformation where the uterine cavity is partitioned by a longitudinal septum. It is one of Müllerian duct anomalies.
Learn more at: [www.fertilitypedia.org/therapy/diag/uterus-septus](http://www.fertilitypedia.org/therapy/diag/uterus-septus)

Uterus subseptus
A form of a congenital malformation where the uterus is partially divided by a longitudinal septum. It is one of Müllerian duct anomalies.
Learn more at: [www.fertilitypedia.org/therapy/diag/uterus-subseptus](http://www.fertilitypedia.org/therapy/diag/uterus-subseptus)

Pelvic adhesions
A form of abdominal adhesions in the pelvis.
Learn more at: [www.fertilitypedia.org/therapy/diag/pelvic-adhesions](http://www.fertilitypedia.org/therapy/diag/pelvic-adhesions)

Pelvic tuberculosis
An infectious disease caused by the bacterium Mycobacterium tuberculosis and one of cause female infertility.
Learn more at: [www.fertilitypedia.org/therapy/diag/pelvic-tuberculosis](http://www.fertilitypedia.org/therapy/diag/pelvic-tuberculosis)

Organs

Cervix
The narrow inferior portion of the uterus that projects into the vagina.
Learn more at: [www.fertilitypedia.org/edu/organs/cervix](http://www.fertilitypedia.org/edu/organs/cervix)
**Fallopian tubes**
Two very fine tubes that transport sperm toward the egg, and allow passage of the fertilized egg back to the uterus for implantation.
Learn more at: [www.fertilitypedia.org/edu/organs/fallopian-tubes](http://www.fertilitypedia.org/edu/organs/fallopian-tubes)

**Uterus**
The uterus is the largest and major organ of the female reproductive tract that is the site of fetal growth and is hormonally responsive.
Learn more at: [www.fertilitypedia.org/edu/organs/uterus](http://www.fertilitypedia.org/edu/organs/uterus)

**Reproductive cells**

**Endometrial cell**
Cells composing an inner layer of the uterine lining.
Learn more at: [www.fertilitypedia.org/edu/reproductive-cells/endometrial-cell](http://www.fertilitypedia.org/edu/reproductive-cells/endometrial-cell)

**Endometrium**
The innermost layer of uterus forming the uterine lumen where the implantation of an oocyte happens.
Learn more at: [www.fertilitypedia.org/edu/reproductive-cells/endometrium](http://www.fertilitypedia.org/edu/reproductive-cells/endometrium)

**Reproductive functions**

**Implantation**
The very early stage of pregnancy at which the embryo adheres to the wall of the uterus.
Learn more at: [www.fertilitypedia.org/edu/reproductive-functions/implantation](http://www.fertilitypedia.org/edu/reproductive-functions/implantation)

**Risk factors**

**Cesarean section**
A surgical procedure in which one or more incisions are made through a mother's abdomen and uterus to deliver one or more babies.
Learn more at: [www.fertilitypedia.org/therapy/rf/cesarean-section](http://www.fertilitypedia.org/therapy/rf/cesarean-section)

**Dilatation and currattage**
A procedure to remove tissue from inside the uterus.
Learn more at: [www.fertilitypedia.org/therapy/rf/dilatation-and-currattage](http://www.fertilitypedia.org/therapy/rf/dilatation-and-currattage)

**Intrauterine device**
A small birth control device that is inserted into a woman's uterus to avoid unintended pregnancy.
Learn more at: [www.fertilitypedia.org/therapy/rf/intrauterine-device](http://www.fertilitypedia.org/therapy/rf/intrauterine-device)

**Miscarriage**
Pregnancy loss is the natural death of an embryo or fetus before it is able to survive independently.
Learn more at: [www.fertilitypedia.org/therapy/rf/miscarriage](http://www.fertilitypedia.org/therapy/rf/miscarriage)
**Myomectomy**  
A surgical removal of uterine fibroids.  
Learn more at: [www.fertilitypedia.org/therapy/rf/myomectomy](http://www.fertilitypedia.org/therapy/rf/myomectomy)

**Surgical termination of pregnancy**  
The termination of pregnancy by removing a fetus or embryo before it can survive outside the uterus that is performed by surgery.  
Learn more at: [www.fertilitypedia.org/therapy/rf/surgical-termination-of-pregnancy](http://www.fertilitypedia.org/therapy/rf/surgical-termination-of-pregnancy)

### Symptoms

**Absence of menstrual periods**  
The absence of a menstrual period in a woman of reproductive age.  
Learn more at: [www.fertilitypedia.org/edu/symptoms/absence-of-menstrual-periods-1](http://www.fertilitypedia.org/edu/symptoms/absence-of-menstrual-periods-1)

**Infertility**  
The failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.  
Learn more at: [www.fertilitypedia.org/edu/symptoms/infertility](http://www.fertilitypedia.org/edu/symptoms/infertility)

**Infrequent menstruation**  
The medical term for infrequent, often light menstrual periods (intervals exceeding 35 days).  
Learn more at: [www.fertilitypedia.org/edu/symptoms/infrequent-menstruation-1](http://www.fertilitypedia.org/edu/symptoms/infrequent-menstruation-1)

**Irregular menstruation**  
Irregular menstruation is a menstrual disorder whose manifestations include irregular cycle lengths as well as metrorrhagia  
Learn more at: [www.fertilitypedia.org/edu/symptoms/irregular-menstruation](http://www.fertilitypedia.org/edu/symptoms/irregular-menstruation)

**Painful menstruation**  
Dysmenorrhea is a pain during menstruation. It is the most common menstrual disorder.  
Learn more at: [www.fertilitypedia.org/edu/symptoms/painful-menstruation](http://www.fertilitypedia.org/edu/symptoms/painful-menstruation)

**Recurrent miscarriage**  
A disease distinct from infertility, defined by two or more failed pregnancies.  
Learn more at: [www.fertilitypedia.org/edu/symptoms/recurrent-miscarriage](http://www.fertilitypedia.org/edu/symptoms/recurrent-miscarriage)

### Therapies

**Acupuncture**  
A form of alternative medicine and a key component of traditional Chinese medicine involving thin needles inserted into the body at acupuncture points  
Learn more at: [www.fertilitypedia.org/edu/therapies/acupuncture](http://www.fertilitypedia.org/edu/therapies/acupuncture)

**Egg donation**  
Process by which a woman donates eggs for purposes of assisted reproduction or biomedical research.  
Learn more at: [www.fertilitypedia.org/edu/therapies/egg-donation](http://www.fertilitypedia.org/edu/therapies/egg-donation)
ICSI
A micromanipulative fertilization technique in which a single sperm is injected directly into an egg.
Learn more at: www.fertilitypedia.org/edu/therapies/icsi

Pharmacotherapy of Asherman syndrome
An adjuvant treatment (hormonal, antibiotics) used with surgical therapy in order to promote regeneration of endometrium and to prevent infections.
Learn more at: www.fertilitypedia.org/edu/therapies/pharmacotherapy-of-asherman-syndrome

Sperm donation
The procedure in which a man (sperm donor) provides his sperm for fertility treatment.
Learn more at: www.fertilitypedia.org/edu/therapies/sperm-donation

Standard IVF
A process in which an egg is fertilised by sperm outside the body: in vitro. Own or donated gametes may be used.
Learn more at: www.fertilitypedia.org/edu/therapies/standard-ivf

Surgical therapy of Asherman's syndrome
The surgical removal of uterine adhesions.
Learn more at: www.fertilitypedia.org/edu/therapies/surgical-therapy-of-asherman-s-syndrome

Surrogacy
The embryo is gestated in a third party's (surrogate) uterus.
Learn more at: www.fertilitypedia.org/edu/therapies/surrogacy

Gallery

Hysteroscopy of Asherman's syndrome
Hysteroscopic view of adhesions. a)entrance to cervix b)inside uterus

HSG Asherman's syndrome
HSG of uterus with corporal adhesions (red bracket).

Sources
“ Asherman's syndrome (https://en.wikipedia.org/wiki/Asherman%27s_syndrome)” —sourced from Wikipedia licensed under CC BY-SA 3.0
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