Retrograde menstruation means that there is an inverse flow of menstrual fluid which leaves the uterus through the fallopian tubes into the pelvic cavity (Pic. 1). Regularly most of the menstrual fluid leaves the body through open cervix, vagina and vulva. This regular direction of the flow corresponds with the direction of synchronized uterine contractions. Retrograde menstruation theory suggest that asynchronous contractions can cause endometrial tissue fragments to flow in opposite (retrograde) direction until they reach pelvic cavity (bottom part of abdominal cavity). This theory is the leading one to explain the cause of endometriosis. But it should be clarified that retrograde menstruation is ordinary process happening in almost all menstruating women (up to 90%) so it is considered as physiologic (“natural”) phenomenon and it is usually not followed by the development of endometriosis. Retrograde menstruation is considered to be risky especially in those cases when larger volumes of menstrual fluid reach the pelvic cavity. In other words, retrograde menstruation leads to the presence of menstrual fluid in pelvic cavity. Since the body mechanisms of disposal of the endometrial tissue contained in menstrual fluid present in pelvic cavity are limited, the development of endometriosis depends on the quantity of transported endometrial tissue. Therefore, with larger volume of menstrual fluid transported in retrograde direction, the chances of development of endometriosis are increasing.

The presence of menstrual fluid in pelvic cavity originates an inflammation. Inflammation is usually to be connected with painful feelings due to higher sensitivity of nerves registering the pain and the swelling causing greater pressure in the area. The temperature increases in the area of inflammation because of increased blood flow. Obviously the intensity of painful feelings corresponds with the extension of the inflammation. With respect to observed high volumes of menstrual fluid present in pelvic cavity of women suffering from endometriosis, it can be deduced that this high volumes of menstrual fluid can be the cause of more severe inflammation leading to more intensive pain feelings then during regular menstruation.

As risk factors of the retrograde menstruation should be considered mainly the long duration of menstruation, early age at first menstruation, cervical or vaginal outlet obstructions and alcohol abuse.

Endometriosis

To understand the principle of the relation between the retrograde menstruation and endometriosis little bit more profoundly, some aspects united with the symptom and the disease are needed to be explained. The menstrual fluid present in pelvic cavity because of the retrograde menstruation contains two important components that play main role in the relation, the blood cells (erythrocytes) and endometrial tissue. Obviously endometrial tissue is essential to the disease development. The role of blood cells present in pelvic cavity can be considered as a complementary factor for development of endometriosis. Specifically, increased degradation of blood cells and insufficient inactivation of hemoglobin in pelvic cavity can be important factor for the disease development. Thanks to body’s natural defense mechanisms, the blood cells are being decomposed in pelvic cavity leading to higher levels of hemoglobin (basic structural part of blood cell containing ferrum unit and a protein unit). Hemoglobin overload in peritoneal cavity can have numerous cytotoxic effects to its environment and it is also considered to be inflammatory factor. This negative effects of hemoglobin presence in pelvic cavity include the induction of oxidative stress, stimulation of cell adhesion and induction of increased cytokine and grow factor (HGF) production by macrophages. All these factors contribute to endometriosis development.
**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/organ/fallopian-tubes](http://www.fertilitypedia.org/edu/organ/fallopian-tubes)

**Ovary**
The ovum-producing organs of the internal female reproductive system.
Learn more at: [www.fertilitypedia.org/edu/organ/ovary](http://www.fertilitypedia.org/edu/organ/ovary)

**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/organ/uterus](http://www.fertilitypedia.org/edu/organ/uterus)

**Diagnoses**

**Endometriosis**
A state in which pieces of the tissue alike to the lining of the uterus (endometrium) grow in other parts of the body.
Learn more at: [www.fertilitypedia.org/therapy/diag/endometriosis](http://www.fertilitypedia.org/therapy/diag/endometriosis)

**Gallery**

**Pic**
The menstrual fluid is flowing in retrograde direction through fallopian tubes into the pelvic cavity.

![Image of uterus and Fallopian tubes](image)

**Sources**

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